

The University of New Mexico



CATALOG 2010 - 2011

THE UNIVERSITY OF NEW MEXICO DEGREE PROGRAMS

Baccalaureate Degree Programs

Anderson Schools of Management

Business Administration (B.B.A.), 90

School of Architecture and Planning

- Architecture (B.A.A.), 113
Environmental Planning & Design (B.A.E.P.D.), 121

College of Arts and Sciences

- Africana Studies (B.A.), 138
American Studies (B.A.), 141
Anthropology (B.A., B.S.), 147
Art (B.A.), 158
Asian Studies (B.A.), 236
Astrophysics (B.S.), 275
Biochemistry (B.A., B.S.), 159
Biology (B.A., B.S.), 161
Chemistry (B.A., B.S., B.S.Ed.), 168
Classical Studies (B.A.), 205
Communication (B.A.), 172
Comparative Literature & Cultural Studies (B.A.), 206
Criminology (B.A.), 299
Earth and Planetary Sciences (B.A., B.S., B.S.Ed.), 180
Economics (B.A.), 187
Economics-Philosophy (B.A.), 191
English (B.A., B.A.Ed.), 192
English-Philosophy (B.A.), 202
Environmental Science (B.S.), 186
European Studies (B.A.), 237
French (B.A.), 208
Family Studies (B.A.), 202
Geography (B.A., B.S.), 215
German (B.A.), 210
Health, Medicine, and Human Values (B.A.), 219
History (B.A.), 222
International Studies (B.A.), 238
Journalism and Mass Communication (B.A.), 172
Languages (B.A.), 213
Latin American Studies (B.A.), 242
Linguistics (B.A.), 247
Mathematics (B.S.), 255
Philosophy (B.A.), 269
Physics (B.S.), 275
Physics and Astrophysics (B.A.), 275
Political Science (B.A.), 281
Portuguese (B.A.), 305
Psychology (B.A., B.S.), 286
Religious Studies (B.A.), 294
Russian (B.A.), 214
Russian Studies (B.A.), 241
Signed Language Interpreting (B.S.), 247
Sociology (B.A.), 298
Spanish (B.A.), 305
Speech and Hearing Sciences (B.A.), 311
Statistics (B.S.), 257
Women Studies (B.A.), 317

College of Education

- Art Education (B.A.Ed.), 328
Athletic Training (B.S.), 373
Early Childhood Multicultural Education (B.S.), 334
Elementary Education (B.S.Ed.), 392
Exercise Science (B.S.), 375
Family Studies (B.S.), 346
Health Education (B.S.Ed.), 352
Human Development and Family Relations (B.S.), 347
Nutrition and Dietetics (B.S.), 364
Physical Education (B.S.Ed.), 372
Secondary Education (B.S.Ed., B.A.Ed.), 395
Special Education (B.S.Ed.), 385
Technology and Training (B.S.), 367
Theatre (B.A.Ed.), 397

School of Engineering

- Chemical Engineering (B.S.Ch.E.), 411
Civil Engineering (B.S.C.E.), 424
Computer Engineering (B.S.Cp.E.), 444
Computer Science (B.S.C.S.), 433
Construction Engineering (B.S.Cn.E.), 424

- Construction Management (B.S.C.M.), 424
Electrical Engineering (B.S.E.E.), 443
Mechanical Engineering (B.S.M.E.), 453
Nuclear Engineering (B.S.N.E.), 414

College of Fine Arts

- Art History (B.A.F.A.), 468
Art Studio (B.F.A., B.A.F.A.), 468
Dance (B.A.), 511
Interdisciplinary Film and Digital Media (B.F.A.), 466
Design for Performance (B.A.), 510
Media Arts (B.A.), 486
Music (B.A., B.M.), 480, 489
Music Education (B.M.E.), 491
Theatre (B.A.), 510

Health Sciences

- Dental Hygiene (B.S.D.H.), 552
Emergency Medical Services (B.S.), 556
Medical Laboratory Sciences (B.S.M.L.), 560
Radiologic Sciences (B.S.), 557

College of Nursing

- Nursing (B.S.N.), 585

University College

- Native American Studies (B.A.), 621
University Studies (B.U.S.), 616

Master Degree Programs

Anderson Schools of Management

- Accounting (M.Acct.), 96
Business Administration (M.B.A.), 94

School of Architecture and Planning

- Architecture (M.Arch., M.S.), 115, 116
Community and Regional Planning (M.C.R.P.), 122
Landscape Architecture (M.L.A.), 128

College of Arts and Sciences

- American Studies (M.A.), 142
Anthropology (M.A., M.S.), 148
Biology (M.S.), 162
Chemistry (M.S.), 169
Communication (M.A.), 174
Comparative Literature and Cultural Studies (M.A.), 206
Creative Writing (M.F.A.), 195
Earth and Planetary Sciences (M.S.), 181
Economics (M.A.), 188
English (M.A.), 193
French (M.A.), 209
Geography (M.S.), 216
German Studies (M.A.), 211
History (M.A.), 223
Latin American Studies (M.A.), 243
Linguistics (M.A.), 248
Mathematics (M.S.), 256
Nanoscience and Microsystems (M.S.), 639
Optical Science and Engineering (M.S.), 643
Philosophy (M.A.), 269
Physics (M.S.), 275
Political Science (M.A.), 281
Portuguese (M.A.), 306
Psychology (M.S.), 287
Sociology (M.A.), 300
Spanish (M.A.), 306
Speech-Language Pathology (M.S.), 312
Statistics (M.S.), 257

College of Education

- Art Education (M.A.), 329
Counseling (M.A.), 332
Educational Leadership (M.A.), 338
Educational Psychology (M.A.), 344
Elementary Education (M.A.), 392
Family Studies (M.A.), 348
Health Education (M.S.), 353
Language, Literacy and Sociocultural Studies (M.A.), 356
Nutrition (M.S.), 365

THE UNIVERSITY OF NEW MEXICO DEGREE PROGRAMS

Organizational Learning and Instructional Technology (M.A.), 367

Physical Education (M.S.), 376
 Secondary Education (M.A.), 398
 Special Education (M.A.), 386

School of Engineering

Chemical Engineering (M.S.), 415
 Civil Engineering (M.S.), 427
 Computer Engineering (M.S.), 445
 Computer Science (M.S.), 436
 Construction Management (M.C.M.), 428
 Electrical Engineering (M.S.), 445
 Hazardous Waste Engineering (M.E.H.W.E.), 407
 Manufacturing Engineering (M.E.M.E.), 407
 Mechanical Engineering (M.S.), 456
 Nanoscience and Microsystems (M.S.), 639
 Nuclear Engineering (M.S.), 415
 Optical Science and Engineering (M.S.), 643

College of Fine Arts

Art History (M.A.), 474
 Art Studio (M.F.A.), 471
 Dance (M.F.A.), 573
 Dramatic Writing (M.F.A.), 513
 Music (M.Mu.), 495
 Theatre and Dance (M.A.), 514

Health Sciences

Biomedical Sciences (M.S.), 531
 Clinical Laboratory Sciences (M.S.), 561
 Dental Hygiene (M.S.), 554
 Occupational Therapy (M.O.T.), 564
 Physician Assistant Studies (M.S.), 571
 Public Health (M.P.H.), 537

College of Nursing

Nursing (M.S.N.), 588

College of Pharmacy

Pharmaceutical Sciences (M.S.), 608

School of Public Administration

Public Administration (M.P.A.), 611

University College

Water Resources (M.W.R.), 627

Doctoral Degree Programs— Research

College of Arts and Sciences

American Studies (Ph.D.), 142
 Anthropology (Ph.D.), 150
 Biology (Ph.D.), 162
 Chemistry (Ph.D.), 169
 Communication (Ph.D.), 174
 Earth and Planetary Sciences (Ph.D.), 181
 Economics (Ph.D.), 188
 English (Ph.D.), 195
 French Studies (Ph.D.), 209
 History (Ph.D.), 223
 Latin American Studies (Ph.D.), 243
 Linguistics (Ph.D.), 248
 Mathematics (Ph.D.), 256
 Nanoscience and Microsystems (Ph.D.), 639
 Optical Science and Engineering (Ph.D.), 643
 Philosophy (Ph.D.), 269
 Physics (Ph.D.), 275
 Political Science (Ph.D.), 281
 Psychology (Ph.D.), 287
 Sociology (Ph.D.), 300
 Spanish and Portuguese (Ph.D.), 305
 Statistics (Ph.D.), 257

College of Education

Counselor Education (Ph.D.), 332
 Educational Leadership (Ed.D.), 339
 Educational Linguistics (Ph.D.), 342

Educational Psychology (Ph.D.), 344
 Family Studies (Ph.D.), 349
 Language, Literacy and Sociocultural Studies (Ph.D.), 359
 Multicultural Teacher and Childhood Education (Ed.D., Ph.D.), 399
 Organizational Learning and Instructional Technology (Ph.D.), 367
 Physical Education, Sports and Exercise Science (Ph.D.), 378
 Special Education (Ed.D., Ph.D.), 386

School of Engineering

Computer Science (Ph.D.), 436
 Engineering (Ph.D.), 408
 Nanoscience and Microsystems (Ph.D.), 639
 Optical Science and Engineering (Ph.D.), 643

College of Fine Arts

Art History (Ph.D.), 476

College of Nursing

Nursing (Ph.D.), 590

Health Sciences

Biomedical Sciences (Ph.D.), 531

College of Pharmacy

Pharmaceutical Science (Ph.D.), 608

Doctoral Degree Programs— Professional Practice

School of Law

Law (J.D.), 523

School of Medicine

Medicine (D.M.), 529
 Physical Therapy (D.P.T.), 567

College of Pharmacy

Doctor of Pharmacy (Pharm.D.), 600

Other Award and Degree Programs

Associate Programs

Radiography (ASR), 579

Certificate Programs

Computed Tomography (CERT), 578
 Nuclear Medicine Imaging (CERT), 576
 Magnetic Resonance Imaging (CERT), 578
 Peace & Justice Studies (CERT), 268
 Positron Emission Tomography Computed Tomography (CERT), 577

Graduate and Post-Graduate Certificate Programs

Computational Science and Engineering (GCERT), 408
 Historic Preservation and Regionalism (GCERT), 110
 Instruction for Students with Intensive Social, Language and Behavioral Needs (GCERT), 387
 Post-Master's Certificate in Management (MGTCP), 97
 Post-Master's Certificate in Nursing (NURCP), 590
 Systems Engineering (GCERT), 408
 Town Design (GCERT), 111
 University Science Teaching in Biomedical Sciences (GCERT), 532
 Women Studies (GCERT), 317

Educational Specialist

Curriculum and Instruction (Ed.Spc.), 399
 Educational Leadership (Ed.Spc.), 339
 Organizational Learning and Instructional Technology (Ed.Spc.), 368
 Special Education (Ed.Spc.), 387

POLICIES

Applicability

These policies apply to recruitment, admission, extracurricular activities, housing, facilities, access to course offerings, counseling and testing, financial assistance, employment, health and insurance services, and athletic programs for students. These policies also apply to the recruitment, hiring, training and promotion of University employees (faculty, staff, and students) and to all other terms and conditions of employment. The University strives to establish procedures, which assure equal treatment and access to all programs, facilities and services.

Anti-Harassment

It is the policy of the institution to prevent and eliminate forms of unlawful harassment in employment and educational settings. The University prohibits harassment of employees by supervisors or co-workers and harassment of students on the basis of race, color, religion, national origin, physical or mental disability, age, sex, sexual orientation or gender identity, ancestry, medical condition, spousal affiliation or other protected status. The University makes special efforts to eliminate both overt and subtle forms of sexual harassment.

Equal Education Policy

The University of New Mexico is committed to providing equal educational opportunity and forbids unlawful discrimination and/or harassment on the basis of race, color, religion, national origin, physical or mental disability, age, sex, sexual orientation or gender identity, ancestry, spousal affiliation, medical condition, or veteran status. Equal educational opportunity includes: admission, recruitment, academic endeavors, extracurricular programs and activities, housing, health and insurance services and athletics. In keeping with this policy of equal educational opportunity, the University is committed to creating and maintaining an atmosphere free from all forms of harassment.

Equal Employment Opportunity

University policy, state, and federal law and regulations forbid unlawful discrimination on the basis of race, color, religion, national origin, physical or mental disability, age, sex, sexual orientation or gender identity, ancestry, spousal affiliation, medical condition, or veteran status in recruiting, hiring, training, promoting and all other terms and conditions of employment. The University of New Mexico commits itself to a program of affirmative action to increase access by, and

participation of traditionally underrepresented groups in the University's work force.

ADA Compliance and Reasonable Accommodation

The University of New Mexico is committed to the recognition and the proactive pursuit of compliance with the Americans with Disabilities Act of 1990 (ADA). The University makes reasonable accommodation to the religious observances/national origin practices of a student, an employee or prospective employee, and to the known physical or mental limitations of a qualified student, employee, applicant or program user with a disability, unless such accommodations have the end result of fundamentally altering a program or service or placing an undue hardship on the operation of the University. Qualified students, employees or program users with disabilities should contact the Office of Equal Opportunity or Accessibility Resource Center for information regarding accommodations in the employment and/or academic setting. To comply with the ADA and the Rehabilitation Act of 1973, UNM provides the information in this publication in alternative formats. If you have a special need and require an auxiliary aide and/or service, contact Accessibility Resource Center at (505) 277-3506 or at Mesa Vista Hall 2021, Albuquerque, New Mexico 87131-2101.

Non-Discrimination

If you believe you have been discriminated against and/or harassed on the basis of your race, religion, color, national origin, physical or mental disability, age, sex, sexual orientation or gender identity, ancestry, spousal affiliation, medical condition, or veteran status you should contact the Director of Equal Opportunity, who serves as the Coordinator for the Americans with Disabilities Act of 1990 (prohibiting discrimination on the basis of disability) and Title IX of the Education Amendments Act of 1972 (prohibiting discrimination on the basis of sex in federally funded programs). The Director can be reached at the Office of Equal Opportunity (OEO), 609 Buena Vista NE, University of New Mexico 87131, telephone number: (505) 277-5251. You can also access information on the OEO web site: <http://www.unm.edu/~oeounm/>.

Applicable University of New Mexico Policies

UNM policies regarding Equal Opportunity, Affirmative Action, discrimination, reasonable accommodations, sexual harassment, and other related subjects listed above can be viewed at the following web site: <http://www.unm.edu/~ubppm/> or can be reviewed at the Office of Equal Opportunity located at 609 Buena Vista NE, University of New Mexico 87131-0001.

Directions for Correspondence

All departments of the University receive mail through a central post office. Address any correspondence to a specific department or individual as follows:

Name of Individual and Department
Mail Stop Code (MSCXX XXXX)
1 University of New Mexico
Albuquerque, New Mexico 87131-0001

For prospective students, and other general information, write to Recruitment Services at MSC11 6305.

The University of New Mexico office hours are, in general, 8:00 a.m. to noon and 1:00 p.m. to 5:00 p.m. Monday through Friday. However, the Career Counseling and Placement, Dean of Students, and the Mesa Vista North One-Stop, and, are open from 8:00 a.m. through the noon hour to 5:00 p.m. Monday through Friday.

About This Catalog

This volume was produced by The University of New Mexico, Office of the Registrar; cover photo and design by Gabriel T. Mendez. Photography by Tom Brahl Photography, David Groth, and Barry Staver.

The catalog is the student's guide to the programs and regulations of the University. The student must be familiar with University regulations and assume responsibility for complying with them.

The University of New Mexico Catalog is intended to provide and describe a summary of the undergraduate and graduate programs, courses of instruction, and academic regulations of the University, as well as a guide to policies and services affecting undergraduate and graduate students. The provisions of this catalog are not to be regarded as a contract between the student and the University. The University reserves the right to change any provisions or requirements at any time within the student's term of residence.

For information about University programs and policies not included in this catalog, contact individual departments or administrative offices.

TABLE OF CONTENTS

Academic Calendar	6	Teacher Education	392
Administration	8	School of Engineering	403
General Information	9	Chemical and Nuclear Engineering	409
Admissions	17	Civil Engineering	424
The Undergraduate Program	29	Computer Science	433
Undergraduate Academic Advisement	29	Electrical and Computer Engineering	441
Student Services Information	35	Manufacturing Engineering	307
The Graduate Program	57	Mechanical Engineering	453
Robert O. Anderson School of Management	89	College of Fine Arts	463
School of Architecture and Planning	109	Art and Art History	467
Architecture	112	Cinematic Arts	485
Community and Regional Planning	121	Music	488
Landscape Architecture	128	Theatre & Dance	509
College of Arts and Sciences	133	School of Law	523
Africana Studies	138	University of New Mexico	
American Studies	141	Health Sciences Center	529
Anthropology	146	Clinical Science	530
Art	158	Anesthesiology, Biochemistry and Molecular Biology, Cell Biology and Physiology, Dermatology, Family and Community Medicine, Medicine, Molecular Genetics and Microbiology, Neurological Surgery, Neurology, Neurosciences, Obstetrics and Gynecology, Orthopaedics and Rehabilitation, Pathology, Pediatrics, Psychiatry, Radiation Oncology, Radiology, Surgery	
Arts and Sciences	158	Biomedical Sciences	531
Biochemistry	159	Master of Public Health	537
Biology	160	Diagnostic and Therapeutic Sciences:	
Chemistry and Chemical Biology	168	Dental Hygiene	552
Communication and Journalism	172	Emergency Medicine	556
Earth and Planetary Sciences	179	Medical Laboratory Sciences	559
Economics	187	Occupational Therapy	563
Economics-Philosophy	191	Physical Therapy	566
English	191	Physician Assistant Studies	571
English-Philosophy	202	Radiologic Sciences	575
Family Studies	202	College of Nursing	583
Foreign Languages and Literatures	203	College of Pharmacy	599
Geography	215	School of Public Administration	611
Health, Medicine and Human Values	219	University College	613
History	222	Bachelor of University Studies	616
International Studies	236	Aging Studies	618
Latin American Studies	241	Chicano Hispano Mexicano Studies	618
Linguistics	247	Student Academic Choices	619
Mathematics and Statistics	254	Introductory Studies	620
Medieval Studies	266	Native American Studies	621
Peace Studies	266	University Honors	628
Philosophy	268	Water Resources Program	627
Physics and Astronomy	272	Undergraduate Interdisciplinary Studies	631
Political Science	280	University Libraries	631
Psychology	285	Interdisciplinary Film and Digital Media	631
Religious Studies	293	Military Studies	633
Science, Technology and Society	297	Graduate Interdisciplinary Studies	639
Sociology	297	Nanoscience and Microsystems	639
Spanish and Portuguese	304	Optical Science and Engineering	643
Speech and Hearing Sciences	311	Special Programs	627
Sustainability Studies	314	Division of Continuing Education and Community Services	645
Women Studies	316	Extended University	645
College of Education	321	Branch Campuses	646
Art Education	328	Evening and Weekend Degree Programs	648
Counselor Education	331	Key to Symbols Used in Course Descriptions	653
Early Childhood Multicultural Education	334	Campus Map	654
Educational Leadership	337	Index	658
Educational Linguistics	342		
Educational Media/Library Science	342		
Educational Psychology	343		
Family Studies	346		
Health Education	352		
Language, Literacy and Sociocultural Studies	356		
Nutrition and Dietetics	363		
Organizational Learning and Instructional Technology	366		
Professional Physical Education	371		
Special Education	385		

2010–2011 ACADEMIC CALENDAR UNIVERSITY OF NEW MEXICO

2010 Spring Session *(Dates subject to change.)*

Undergraduate applications and credentials due in the Office of Admissions	November 15, 2009
Pre-registration for current students begins	November 23, 2009
Registration for new students begins	December 7, 2009
Martin Luther King Jr. Day, holiday	January 18
Instruction begins	January 19
Registration closes; 16-week term, last day to add courses or to change sections	January 29
First 8-week term	January 22
Second 8-week term	March 26
Last day to change grading options; 16-week term	February 12
First 8-week term	January 29
Second 8-week term	April 2
Last day to drop course without a grade; 16-week term	February 5
First 8-week term	January 29
Second 8-week term	April 2
Mid-semester (eighth week)	March 13
Spring Break (no classes)	March 14-21
Last day to withdraw without approval of college dean; 16-week term (end of twelfth week)	April 16
First 8-week term (end of sixth week)	February 26
Second 8-week term (end of sixth week)	April 30
Last day to withdraw with approval of college dean; 16-week term	May 7
First 8-week term	March 12
Second 8-week term	May 7
Last day of instruction; 16-week term	May 8
First 8-week term	March 13
Second 8-week term	May 8
Final examination period (Monday–Saturday)	May 10-15
Last day to report removal of incomplete grade; 16-week term	May 14
Session ends; 16-week term	May 15
First 8-week term	March 13
Second 8-week term	May 15
Commencement (subject to change)	May 15

2010 Summer Session *(Dates subject to change.)*

Undergraduate applications and credentials due in the Office of Admissions	May 1, 2010
Pre-registration for current students begins	April 19, 2010
Registration for new students begins	May 3, 2010
Instruction begins; 8-week term	June 7
First 4-week term	June 7
Second 4-week term	July 5
Registration closes; last day to add courses or to change sections.	
8-week term	June 11
First 4-week term	June 8
Second 4-week term	July 6
Last day to change grading options.	
8-week term	June 18
First 4-week term	June 11
Second 4-week term	July 9
Last day to drop course without a grade.	
8-week term	June 18
First 4-week term	June 11
Second 4-week term	July 9
Independence Day, holiday	July 5
Last day to withdraw without approval of college dean.	
8-week term	July 16
First 4-week term	June 25
Second 4-week term	July 23
Session ends; 8-week term	July 31
First 4-week term	July 3
Second 4-week term	July 31

2010–2011 ACADEMIC CALENDAR UNIVERSITY OF NEW MEXICO

2010 Fall Semester (based on 16-week session) *(Dates subject to change.)*

Undergraduate applications and credentials due in the Office of Admissions	June 15, 2010
Pre-registration for current students begins	April 19, 2010
Registration for new students begins	May 3, 2010
Instruction begins	August 23
Registration closes; 16-week term, last day to add courses or change sections	September 3
First 8-week term	August 27
Second 8-week term	October 22
Labor Day; holiday	September 6
Last day to change grading options; 16-week term (end of fourth week)	September 3
First 8-week term (end of second week of course)	August 27
Second 8-week term (end of second week of course)	October 22
Last day to drop a course without a grade; 16-week term (end of third week)	September 10
First 8-week term (end of second week of course)	September 3
Second 8-week term (end of second week of course)	October 29
Mid-semester (eighth week)	October 18
Fall Break (no classes)	October 14-15
Last day to withdraw without approval of college dean; 16-week term (end of twelfth week)	November 12
First 8-week term (end of sixth week of course)	October 1
Second 8-week term (end of sixth week of course)	December 3
Thanksgiving, holiday	November 25-28
Last day to withdraw from a course with approval of college dean; 16-week term	December 10
First 8-week term	October 15
Second 8-week term	December 10
Last day of instruction; 16-week term	December 11
First 8-week term	October 16
Second 8-week term	December 11
Final examination period (Monday–Saturday)	December 13-18
Last day to report removal of incomplete grade; 16-week term	December 17
Semester ends; 16-week term	December 18
First 8-week term	October 16
Second 8-week term	December 18
Commencement (subject to change)	December 17

2011 Spring Session *(Dates subject to change.)*

Undergraduate applications and credentials due in the Office of Admissions	November 15, 2010
Pre-registration for current students begins	November 28, 2010
Registration for new students begins	December 12, 2010
Martin Luther King Jr. Day, holiday	January 17
Instruction begins	January 18
Registration closes; 16-week term, last day to add courses or to change sections	January 28
First 8-week term	January 21
Second 8-week term	March 25
Last day to change grading options; 16-week term	February 11
First 8-week term	January 28
Second 8-week term	April 1
Last day to drop course without a grade; 16-week term	February 4
First 8-week term	January 28
Second 8-week term	April 1
Mid-semester (eighth week)	March 12
Spring Break (no classes)	March 13-20
Last day to withdraw without approval of college dean; 16-week term (end of twelfth week)	April 15
First 8-week term (end of sixth week)	February 25
Second 8-week term (end of sixth week)	April 29
Last day to withdraw with approval of college dean; 16-week term	May 6
First 8-week term	March 11
Second 8-week term	May 6
Last day of instruction; 16-week term	May 7
First 8-week term	March 12
Second 8-week term	May 7
Final examination period (Monday–Saturday)	May 9-14
Last day to report removal of incomplete grade; 16-week term	May 13
Session ends; 16-week term	May 14
First 8-week term	March 12
Second 8-week term	May 14
Commencement (subject to change)	May 14

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Paul Krebs, M.A.	Vice President Athletics
Roger Lujan, A.I.A.	Interim, University Architect
Brian Malone, M.B.A.	Student Financial Aid
Stephen McKernan, M.A.	CEO, The University of New Mexico Hospital
Susan McKinsey, B.A., M.A.	Director University Communication & Marketing
Walter Miller, Ed.D.	Associate Vice President, Student Development/Director, New Mexico Union
Rosalie Otero, Ph.D.	University Honors and Undergraduate Seminar Program
K. Lee Peifer, J.D.	Interim, University Counsel
Curtis Porter, M.A.	Associate Vice President Planning, Budget & Analysis
Marc Saavedra, B.A.	Director, Office of Government Affairs
Kathleen F. Sena, B.S.	Registrar
Melanie Sparks, B.A.	Director of Bookstores, Lobo Card
Tom Tkach, B.S.	Director, Popejoy, Public Events
Vivian Valencia, B.B.A.	Secretary of the University
Mary Vosevich, B.S.	Director, Physical Plant Department
Cheryl Willman, M.D.	Director, The University of New Mexico Cancer Research and Treatment Center
Luther Wilson, B.A.	University Press

GENERAL INFORMATION

VISION, MISSION, VALUES, AND STRATEGIES

Mission

UNM's statement of mission articulates our highest purposes for existing:

The mission of the University of New Mexico is to serve as New Mexico's flagship institution of higher learning through demonstrated and growing excellence in **teaching, research, patient care, and community service**.

UNM's ongoing commitment to these **cornerstones of purpose** serves to:

- Educate and encourage students to develop the values, habits of mind, knowledge, and skills that they need to be enlightened citizens, contribute to the state and national economies, and lead satisfying lives.
- Discover and disseminate new knowledge and creative endeavors that will enhance the overall well-being of society.
- Deliver health care of the highest quality to all who depend on us to keep them healthy or restore them to wellness.
- Actively support social, cultural, and economic development in our communities to enhance the quality of life for all New Mexicans.

Vision

UNM's vision describes the future state to which we, as an institution, aspire. Our aim is for this to be a vision that is "alive," serving to inform and align all of our goals, activities, decisions, and resources, as well as inspiring and encouraging initiative, innovation, and collaboration.

The greatest opportunity for excellence at UNM is to produce from the unique mix of New Mexico's diverse population the workforce, leaders, health care providers and scholars that will contribute to the social and economic vitality of our state, region and nation.

We aspire to a future in which we are known for:

Strength through Diversity

We lift up our cultural and ethnic diversity as the unique strategic advantage it is, providing the environment in which our students learn with one another to generate new knowledge that helps the world's people leverage and celebrate the value of difference.

Student Success through Collaboration

We are seen as committed partners with those whose mission it is to educate New Mexico's citizens, helping to assure that each individual has the opportunity and resources to develop the confidence and skills that open the door to higher learning.

Vital Academic Climate

We are known for our dynamic, interactive, and passionate academic climate, punctuated by the virtue of academic freedom that is a hallmark of all the world's great universities.

Excellence through Relevance

We are seen as the university of choice for the brightest students, offering nationally-recognized programs at the undergraduate, graduate, and professional levels that will remain relevant throughout the 21st century and beyond.

Research for a Better World

We utilize the geography of our southwestern landscape and culture, as well as our expansive international con-

nections, as important platforms for research that lead to economic development and improved quality of life; from sources of sustainable energy to cures for disease; from state-of-the-art digital and film technologies to nano-technologies.

Health and Wellness Leadership

We are an unmatched health and wellness resource in New Mexico, ensuring access to all, providing state-of-the-art facilities and care, and engaging in research that leads to new ways to preserve wellness, as well as treat and cure disease.

International Engagement

We recognize and maximize the value of our location in the United States and the western hemisphere and are seen as a hub for international initiatives that touch all parts of the globe.

As a result of achieving this vision, UNM will become the first minority/majority university in the country to attain membership in the prestigious Association of American Universities (AAU).

Values

UNM's values describe the "evergreen" principles that guide our decisions, actions, and behaviors. These are essential and enduring tenets, not to be compromised for short-term expediency. By stating these values publicly, we are openly committing to upholding them and to be held accountable accordingly.

Excellence demonstrated by our people, programs, and outcomes, as well as by the quality of our decisions and actions.

Access with Support to Succeed that gives all who desire the opportunity to take full advantage of the wealth of resources at UNM and to be fully included in the UNM community.

Integrity that holds us accountable to our students, the community, and all who serve UNM's mission, to manage our resources wisely and keep our promises.

Diversity that enlivens and strengthens our university, our community, and our society.

Respectful Relationships that build trust, inspire collaboration, and ensure the teamwork that is essential to UNM's success.

Freedom of speech, inquiry, pursuit of ideas, and creative activity.

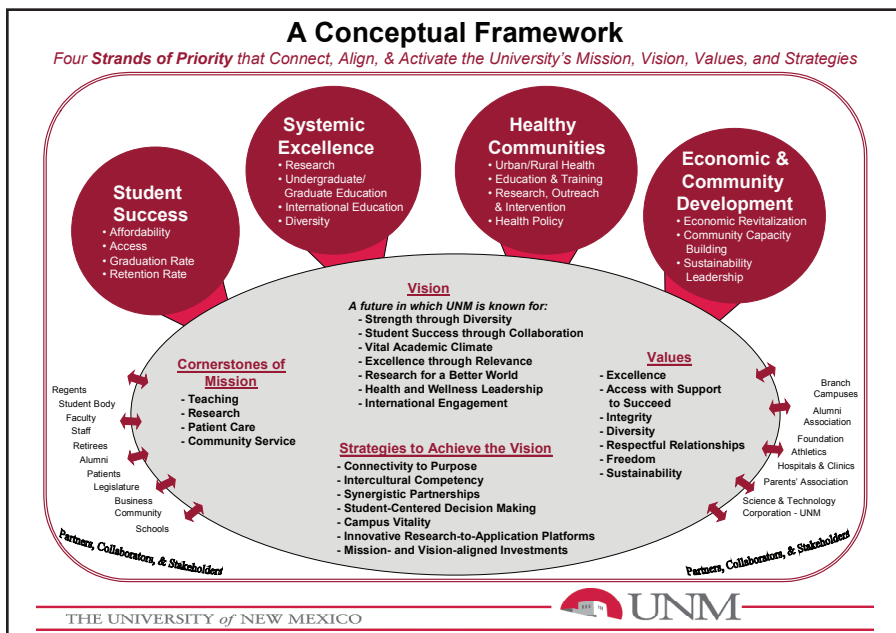
Sustainability so that as we meet the needs of the present, we are not compromising the well being of future generations.

Institution-Wide Strategies

UNM's institution-wide strategies describe a few critical commitments and areas of focus that are necessary to achieving our vision and fully activating the mission. Some of our strategies will build the infrastructure and culture necessary for sustainable success, while others will propel us ever closer to achieving our highest aspirations.

Connectivity to Purpose

Every member of the campus community will gain understanding of, connect with, and take accountability for his or her individual contributions to our mission, vision, values, and strategies.



Intercultural Competency

Actively deepen and share our understanding of the diverse cultures that come together at the University of New Mexico and the value they add to society.

Synergistic Partnerships

Identify, nurture, and strengthen partnerships with those institutions and individuals in the community whose missions are aligned with and complement our own, with the result of becoming stronger and more successful collectively than we could have become individually.

Student Centered Decision-Making

Every major decision made will begin with the question: "How does this enhance the ability of our students to be successful?"

Campus Vitality

Students, faculty, and staff will be encouraged, supported, and rewarded for contributing to the energy and vitality of our university community by enthusiastically engaging in the exploration and exchange of ideas.

Innovative Research-to-Application Platforms

Create and sustain the conditions under which the brightest and best innovative research will be conducted and applied for the benefit of New Mexico, the country, and the world.

Mission- and Vision-Aligned Investments

All investments of time, energy, and resources will be made with clear understanding and articulation of how the investment serves the mission and contributes to achieving the vision.

Four Strands of Priority

If we are to be successful in achieving the vision for UNM's future, priorities must be identified that will inform our decisions, align our activities, and drive everything from our conversations to our resource investments. For each of the following "strands of priority", major milestones must be identified and met, serving as indicators that we are making progress toward attaining our highest aspirations for UNM.

- Student Success**
- Systemic Excellence**
- Healthy Communities**
- Economic and Community Development**

Accreditation

UNM is institutionally accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools (<http://www.ncahigherlearningcommission.org>). Other programmatic accreditations are listed below.

Anderson Schools of Management: The Association to Advance Collegiate Schools of Business International

School of Architecture and Planning: National Architectural Accrediting Board, Planning Accreditation Board, and Landscape Architectural Accreditation Board

College of Arts and Sciences: American Council on Education in Journalism and Mass Communication, American Psychological Association, and American Speech-Language-Hearing Association

College of Education: National Council for Accreditation of Teacher Education, New Mexico Public Education Department, University Council for Educational Administration, Council for the Accreditation of Counseling and Related Education Programs, Commission on Accreditation for Dietetics Education of the American Dietetic Association, National Council of Family Relations, Commission on Sport Management Accreditation, Commission on Accreditation of Athletic Training Education, and American Society of Exercise Physiologists

School of Engineering: Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, American Council for Construction Education, and Computing Accreditation Commission of the Accreditation Board for Technology and Engineering.

College of Fine Arts: National Association of Schools of Music, National Association of Schools of Theatre, and National Association of Schools of Dance

School of Law: American Bar Association and Association of American Law Schools

School of Medicine (Health Sciences Center): Liaison Committee on Medical Education representing the Association of American Medical Colleges and the American Medical Association, Committee on Accreditation of Educational Programs for the Emergency Medical Services Profession, Commission on Accreditation of Allied Health

Education Programs, Council on Education for Public Health, Accreditation Council for Occupational Therapy Education, Commission on Accreditation in Physical Therapy Education, National Accrediting Agency for Clinical Laboratory Sciences, and Commission on Dental Accreditation

College of Nursing (Health Sciences Center): Commission on Collegiate Nursing Education and American College of Nurse-Midwives Division of Accreditation

College of Pharmacy (Health Sciences Center): Accreditation Council on Pharmaceutical Education

School of Public Administration: National Association of Schools of Public Affairs and Administration

History and Location

A Brief History of the University of New Mexico

The University of New Mexico today is recognized as one of the nation's major research universities, with nationally acclaimed programs in areas as diverse as medicine and fine arts, engineering and law. But it wasn't always that way.

When Bernard Rodey steered legislation through the Territorial Legislature to create UNM on Feb. 28, 1889, no public high school existed in the territory, and most people believed a university was a frill the impoverished territory could ill afford. When the university opened its doors three years later, the majority of the 75 students were in the high school Preparatory Department. The only other department, the Normal School, enrolled six public school teachers.

Although college-level classes and departments were added the following year, it was only after WWI in 1918 that the university stopped taking high school students.

UNM's second and third presidents, Clarence Herrick (1897-1901) and William Tight (1901-1909), both geologists, placed an early emphasis on the sciences in the university curriculum. Herrick's tenure was cut short for health reasons, but Tight was the epitome of a hands-on president. In addition to teaching geology and chemistry, he dug a well and irrigation ditches, laid out campus landscaping, including taking the student body into the Sandia Mountains to bring back trees; and built the first fraternity building, the Estufa, on campus, using construction of the oval-shaped building as a way to teach calculus.

Tight was also responsible for adopting the unique architecture that helps make UNM a special place. When the original university building, four-stories of red brick and a high-pitched roof, was in danger of collapse, Tight conceived the idea of remodeling in the Spanish-Pueblo architecture style that was prominent in the territory. Since then, his dream has been reflected in every building constructed on UNM's main campus. It was also during Tight's presidency that the Engineering School was formed and the Associated Students of UNM was organized.

The growth of the university remained slow but steady, reaching an enrollment of 610 students in 1925. The first graduate degrees, in Latin and chemistry, were granted in 1922. In that same year the university first attained national accreditation. It was under UNM's seventh president, James Fulton Zimmerman (1927-44), that the university began a major emphasis that continues to this day: reaching south of the border to embrace studies of and ties to Latin America. Today, UNM's library holdings related to Latin America place it in the top ten in the nation. Scholars from throughout the world travel to Albuquerque to use them. Zimmerman was responsible for creating the College of Education in 1928, the General College (today University College) in 1935, and the College of Fine Arts in 1936. He convinced a relatively unknown Santa Fe architect, John Gaw Meem, to serve as the university's informal architect. Meem seized on the strength of Tight's vision and went on to design some of the

university's most distinctive buildings, including a new library in 1936 (Zimmerman Library), Scholes Hall (administration), and the Anthropology Hall.

Enrollment rose to nearly 2,600 under Zimmerman, but then WWII intervened. Zimmerman died in 1944, the same year one of the most significant education bills ever addressed by the U.S. Congress was passed. The G.I. Bill opened higher education to thousands of men and women who might never have dreamed of pursuing further studies and the nation's campuses were overwhelmed with returning veterans. In 1947 the university granted its first doctoral degrees and both the College of Business Administration and the School of Law were established.

Thomas Popejoy (1948-68), the first alumnus and first native New Mexican to hold the presidency, oversaw the greatest expansion, both in enrollment and buildings. The great influx of veterans first resulted in the campus being crowded with barracks, but immediately upon taking office, Popejoy lobbied the Legislature for construction funds. A master plan for the campus was created, and the College of Education complex, Johnson Center, the Center for the Arts, and the Student Union, among others, were built on the main campus, while to the north the Health Sciences Center was started and to the south the athletic complex was conceived and constructed.

Popejoy's successor, Ferrel Heady (1968-75), successfully steered the campus through the tumultuous Vietnam War years. The Bachelor of University Studies degree began during his tenure, allowing students to tailor their own degrees. In 1968 he oversaw the opening of UNM's first branch college in Gallup. Heady was also responsible for steering the university on the path to seek an increase of research funds, and it was during the 1970s that the university first began serious discussion of developing a research park. Today, the university, in partnership with both private enterprise and the state's national research laboratories, Sandia and Los Alamos, provides cutting-edge research for industry and national defense, technology and multiple education and training opportunities for students.

From 1975-82, under President William Davis, research funding doubled, and efforts begun by Herrick and Tight began to be recognized as UNM earned national accolades in the areas of science, technology, and business research. Under Davis, the Latin American and Southwest Hispanic Research Institutes were created, as were branch campuses in Los Alamos and Valencia County.

The 1980s saw a quick succession of presidents. John Perovich (1982-84) oversaw the development of the Instructional Television program, allowing the university to deliver its classes to remote areas of the state. Tom Farer (1985-86) presented the university community with major changes in administration and resource allocation. Gerald May (1986-1990) served during hard economic times, with little or no money for new initiatives.

Richard Peck (1990-1998) reemphasized the university's Latin American ties with key initiatives and cooperative agreements with other universities. He also placed a continuing emphasis on the growth of the university research park and on faculty initiatives to garner increased research funds.

William Gordon (1998-2002) was the first UNM faculty member to rise through the ranks, from assistant professor of psychology, to department chairman, Arts and Sciences dean, and provost before being elevated to the presidency. Gordon began the innovative Freshman Learning Centers to both boost enrollment and to retain students through graduation.

F. Chris Garcia (2002-03), who also rose through the ranks, served as president. He was successful in overseeing legislative initiatives to change the state funding formula for higher education, the first major change in nearly a quarter of a century.

Louis Caldera, eighteenth president, (2003-06), increased the emphasis on seeking both scholarly and institutional research

12 GENERAL INFORMATION

funding, while building on Gordon's freshmen initiatives and seeking refinements in the legislative funding formula.

David Harris served as acting president (2006-07).

David J. Schmidly was named UNM's 20th president in February 2007, with a start date of June 1, 2007. He quickly enacted a vision based on four key areas of focus: Student Success, Systemic Excellence, Healthy Communities, and Economic and Community Development.

Donald J. Burge
Center for Southwest Research

The Environment

Albuquerque, situated on the banks of the historic Rio Grande, is the home of the main campus of the University of New Mexico. The city is bordered on the east by the 10,000-foot Sandia Mountains and to the west by a high volcanic mesa. With a metro area population approaching 600,000 people, the city is the geographic and demographic center of the state.

The campus of the University of New Mexico lies one mile above sea level. Albuquerque receives abundant sunshine, with annual rainfall of only about nine inches. While summers are warm, the city's high elevation and low humidity moderate the temperatures. Winter storms are brief and snow does not linger long in the city, yet accumulations in the nearby mountains make it possible to snow ski in the morning and still play tennis or golf in the afternoon.

The distinctive architectural style of the campus, contemporary in treatment but strongly influenced by the Hispanic and Pueblo Indian cultures, is characterized by vigas, patios, balconies, portals and earth-colored, slightly inclined walls in the style of ancient adobe houses. Surrounded by giant cottonwoods, elms and mountain evergreens, and with attention paid to beautiful desert landscaping, the UNM campus embodies a lifestyle fostered by the mild, sunny climate.

Albuquerque is one of the major cultural centers of the Southwest, offering museums, art galleries, theatre and musical groups, symphony orchestras and shops displaying both traditional and contemporary arts and crafts. Ceremonial dances are held at various times during the year in nearby Pueblos and often are open to the public.

Facilities

Center for the Arts

Popejoy Hall, located on the University of New Mexico campus, serves as New Mexico's premier performance venue. With a capacity of more than 2,000 seats and state-of-the-art equipment, Popejoy Hall attracts some of the best touring artists available and showcases them through the Ovation Series, a yearly package of 24 touring companies representing Broadway musicals, dramas, dance, music and cultural programming. In addition to the Ovation Series, Popejoy Hall also serves as the performance venue for the Ovation Schooltime Series—Hour-long performances of Ovation Series productions, with programs specifically for schoolchildren. The University of New Mexico music faculty and students and important community organizations such as the New Mexico Symphony Orchestra also perform on the Popejoy stage yearly. Half-price season tickets are available to students during the subscription drive as well as deeply discounted individual tickets to selected shows throughout the year.

Keller Recital Hall, with its magnificent Holtkamp Organ and its marvelous recording capability, is the main performance site of the Department of Music. With a seating capacity of 300, Keller Hall hosts more than 150 concerts per year, including student soloists and ensembles, chamber groups and guest artists. Three annual music events mark the calendar: The Keller Hall Series, a distinguished series of chamber

music and solo performances; concerts by University of New Mexico ensemble groups such as Jazz Bands and the University of New Mexico Orchestra as well as student recitals; and the Composer's Symphony, a week of concerts and lectures by regional, national and international composers.

Rodey Theatre is a 410-seat state-of-the-art performance facility for the Department of Theatre and Dance. Rodey Theatre's flexible stage moves from proscenium to thrust stage presentations allowing the department to present an exciting season of six theatre and dance performances ranging from contemporary to classical styles, ballet to flamenco.

Theatre X is a 120-seat facility where more than 25 original and contemporary plays and dance are presented in an intimate setting. New and innovative works staged by faculty and students are the focus in this theatre.

The Center for the Arts complex also includes the University Art Museum, the Fine Arts Library, the Bainbridge Bunting Memorial Slide Library, and facilities supporting programs in Art Studio, Art History, Music, Music Education, Theatre, Dance and Media Arts.

Information Technologies

Information Technologies (IT) provides and supports many campus-wide IT services including: voice and data networks; administrative, student, human resources and financial applications; a Technical Support Center; and computer labs and classrooms. Many computing services are available free of charge to students; any for-fee services are identified at the time the service is requested. More information is available in the Service Catalog at <http://it.unm.edu>.

UNM NetID. Every student is required to create a Net ID account through the UNM portal at <http://my.unm.edu>. A UNM NetID is required in order to register for classes, access grades, conduct University business, or use UNM computer labs and classrooms. Your Net ID is also your UNM e-mail address. This account remains active as long as the student is registered for a credit class.

Wireless, Voice and Data Network Services. The Lobo WiFi wireless network provides secure Internet access for all students with a valid Net ID and password. Wired connections are available in the IT computer labs and in the student residences. IT also provides optional telephone and voicemail services to dorm rooms. Long distance calling from dorm room telephones requires use of a calling card. Dormitory telephone service can be requested from Student Life. The UNM data network services to dorms are included in the dorm fee.

Personal Computer Purchase Discounts. IT and the UNM Bookstore have teamed with Dell Computers to bring UNM students, faculty and staff significant discounts on personal computer purchases and maintenance. Visit <http://bookstore.unm.edu> to access the UNM Dell web page.

UNM Directory. The UNM Directory is up-to-date and available online at <http://directory.unm.edu>. It contains department, location, status, and contact information for students, faculty, and staff. Students may request that the personal listing be omitted from the directory at the Records and Registration Office in the Mesa Vista Hall North Student OneStop.

IT Customer Support Services. Technical help for using UNM systems can be accessed by calling 277-5757 or by using the FastInfo and StudentInfo knowledge databases at <http://fastinfo.unm.edu> or <http://studentinfo.unm.edu>. Answers to questions are available online from both databases, by email, through the chat utility, or by telephone. Information can also be found at <http://it.unm.edu>.

Computer Labs & Classrooms. IT supports free computer labs (called pods) and classrooms for all students, faculty, and staff at UNM. Pods contain Windows and Macintosh computers, printers, a variety of software, and peripheral equipment such as scanners. Student consultants (SCONS)

staff the pods to assist customers. Pods are located in the IT building, the SUB, Johnson Center, Dane Smith Hall, and Building #2 (Engineering & Science). See <http://it.unm.edu/> pods for hours and more information. Follow the Employment tab on the UNM home page to find opportunities for students at IT.Computer Labs & Classrooms.

Free Software Downloads. IT offers free antivirus software to all UNM users. Visit <http://it.unm.edu/download> to download Symantec Endpoint Protection (SEP) onto your work and home computers.

IT Security and Privacy. IT Security and Privacy. Students can find resources on protection from identity theft, on intellectual property (copyright) and on best practices for securing their computers from IT Security and Quality Assurance by contacting IT Customer Support Services at 277-5757 or by visiting <http://it.unm.edu/security>.

IT Alerts and Network Upgrades. The IT Alerts page notifies the UNM community of any network upgrades and outages and is available 24 hours at <http://it.unm.edu/alerts>. The UNM community is encouraged to check this page frequently.

University Libraries

<http://elibrary.unm.edu>

The **University Libraries** function as UNM's primary information provider, chief digital information broker and, often, as its primary research-skills trainer. It serves the entire University community with quality materials and services and supports users at all levels, from entering freshman to scholars working on highly advanced research topics.

The University Libraries is comprised of four libraries including three research programs and a research center which provide an entrance into the world of scholarship and information:

- Centennial Science and Engineering Library
- Fine Arts and Design Library
- Parish Memorial Library
- Zimmerman Library

The library system obtains, disseminates and preserves information in a wide variety of formats. Its holdings include books (2.1 million), journals, serials, manuscripts, and digital resources. We also provide patrons with access to specialized equipment such as microform readers/printers, desktop or laptop computers, copiers, and laser printers. The Libraries' electronic resources are available via the internet by visiting <http://elibrary.unm.edu/>. Its special collections include rare books, manuscripts, photos, music, art, pictorials, artifacts, and architectural plans. The Library strives to offer students, faculty, staff, and other researchers complete and easy access to all these materials and resources.

University Libraries reference services provide research and information assistance via "Ask a Librarian" at (505) 277-9100 or in person at each location. Workshops on electronic information resources and course-related library instruction are provided.

Special services for students with disabilities are provided in cooperation with the office of Accessibility Services. They include but are not limited to retrieval of books, a limited amount of free photocopying, assistance with online searching, and special study areas.

Study carrels are available for faculty and for graduate students enrolled for dissertation credit. Self-service photocopy machines are located throughout each building.

Zimmerman Library

Zimmerman Library, located on the north side of Smith Plaza in the center of the main campus, houses book, periodical, and microform collections in the Humanities, Social Sciences, and Education. The Library is a Regional Depository for federal government publications as well as a depository for State of New Mexico publications and is a gateway for access to government information.

Zimmerman Library is frequently cited as the best example of the Spanish-Pueblo revival architecture that characterizes this campus. It was built in 1938 and has been remodeled and expanded to keep up with the exponential growth of the University and the Library's collections and services. Zimmerman is consistently voted the best place to study on campus by students. With the new challenges brought by the digital age, the library embraces a new emphasis on providing collaborative areas.

The **Center for Southwest Research**, located in the West Wing of Zimmerman Library, is a major resource for the study of New Mexico, the Southwest and the American West. It is also a special handling facility for archives, manuscripts, historical photographs, architectural archives and rare books. The Center contains strong collections on New Mexico, Western America and Latin America, including more than 600 collections of personal papers, business, organizational and ranch records, and oral histories of widely known New Mexicans; the John Gaw Meem Archives of Southwestern Architecture; the John Donald Robb Archives of Southwestern Music; and pictorial collections containing approximately 80,000 images relating to the Southwest and Latin America. The Anderson Reading Room is a service point for all of the collections. The Center is designed to serve scholars, students, and faculty conducting research on the 500 years of multicultural history of the Southwest.

Centennial Science and Engineering Library

The Centennial Science & Engineering Library (Centennial) is located on two floors underground in the Electrical and Computer Engineering building complex. The Centennial Library serves five departments in the School of Engineering, plus biological, environmental, and earth and planetary sciences, physics and astronomy, mathematics, chemistry, psychology, and a number of research institutes. The Centennial Library maintains close relationships with three federal research laboratories and their libraries and plays an important role in the technology, economic, and industrial development of the city and state. Centennial is the state's only official Patents and Trademarks library. The library houses the Map and Geographic Information Center (MAGIC) which includes maps, images, aerial photos and other cartographic and geographic resources. Individualized training sessions and regularly scheduled classes on the use of electronic resources are offered.

Centennial is also in the process of expanding its collaborative learning space through the creation of new areas conducive to discussion, close to current scientific journal information, reference assistance, and cyber-café services. Collaborative problem-solving in the sciences is a normal workplace dynamic and this will provide students with that experience.

Fine Arts and Design Library

The Fine Arts and Design Library is located on the top floor of the School of Architecture and Planning building, George Pearl Hall. This library supports the teaching and research programs of the University in the fields of art and art history, photography, music, dance, and architecture and landscape architecture. It provides an outstanding collection of more than 220,000 items including books, periodicals, music scores, exhibition catalogs, videos, DVDs, and sound recordings in several formats. The Fine Arts and Design Library provides full services including circulation and reserves, reference, instruction, wireless Internet access, self-service photocopying and scanning, an electronic classroom, multimedia stations for listening and viewing, and collaborative study rooms. The Library also features lounge seating and several reading areas with inspiring views of the city and mountains.

William J. Parish Memorial Library for Business and Economics

Located on Las Lomas on the west side of the Anderson Schools of Management, the Parish Library houses more than 165,000 books and periodicals and 170,000 microforms in the fields of economics, business and management, the most comprehensive collection of its kind in New Mexico. Parish Library supports the curriculum of the Anderson Schools of Management and the Department of Economics, as well as research by members of other University departments and residents of the community. Group study rooms and comfortable, quiet study spaces are available throughout the library. Services include bibliographic instruction; reference services; wireless access to the Internet; twenty PC workstations; and self-service photocopiers for paper and microform. Parish Library is open 24/5 during Fall and Spring semesters.

Museums

Museums, like classrooms, are an important part of the teaching-learning process, and the University of New Mexico has on its campus museums housing significant anthropological, art, biological and geological collections.

The Geology Museum, located on the first floor of Northrop Hall and maintained by the Department of Earth and Planetary Sciences, features exhibits of minerals, rocks, fossils and gemstones from New Mexico and around the World. Two exhibits focus on world-renowned geologic features in New Mexico, the Jemez caldera and Harding pegmatite deposit; others include a dinosaur bone and minerals used in everyday life, and a separate room contains fluorescent minerals that glow in the dark. The museum is open to the public M-F 7:30 a.m. – 12:00 noon and 1:00–4:30 p.m. Visitors may also make arrangements to visit the UNM Harding Pegmatite Mine, located near Dixon, Taos County, NM.

In addition to art museums on campus, the University of New Mexico maintains in Taos the **Harwood Foundation** which serves as a museum, library and community center. The foundation has an excellent collection of paintings by artists who have lived and worked in New Mexico.

The Institute of Meteoritics is a division of the Department of Earth and Planetary Sciences and maintains on display in the Meteorite Museum a large collection of meteorites, including the world's largest stone meteorite, recovered in Nebraska in 1948. This museum is open to the public.

The Jonson Gallery of the University of New Mexico Art Museum will be closed until September 2010, at which time it will re-open as the Raymond Jonson Gallery in its new location on the lower level of the UNM Art Museum, Center for the Arts. A program of the UNM Art Museum, the Jonson Gallery cares for the artworks and archives of modernist painter Raymond Jonson, and features exhibitions of Jonson's works along with those of other New Mexico modernists and contemporary artists. The gallery will be open to the public during regular museum hours, Tuesday through Friday 10 a.m. – 4 p.m., and Saturday and Sunday 1–4 p.m.. For more information, contact the gallery's curator, Robert Ware, at 505.277.8927 or visit the gallery's website at www.unm.edu/~jonsong.

The Maxwell Museum of Anthropology, located at the southern end of the Anthropology Building, houses both permanent and temporary exhibits exploring cultures around the world, with a special emphasis on the cultural heritage of the Southwest. The Maxwell Museum is open to the public, as well as to students and faculty members, 9:00 a.m. to 4:00 p.m., Tuesday through Saturday.

The Museum of Southwestern Biology (MSB) contains collections of plants and animals of national and international significance. An integral part of the University of New Mexico Department of Biology, the MSB also maintains a division devoted to frozen materials that houses the largest such

collection of mammals in the world. The western research collections of the National Biological Service (NBS) are also integrated with those of the MSB. Housed in the Biology building, this museum is focused on research and teaching and is not open to the public except by appointment. The MSB publishes two scholarly periodicals, "Occasional Papers" and "Special Publications."

The University of New Mexico Art Museum, one of America's leading collegiate art museums, is located in the Center for the Arts complex on the main campus of UNM. The museum is host to a permanent collection of over 30,000 fine art objects with strength in works on paper numbering over 10,000 photographs, ca. 1840 to the present, counting the Beaumont Newhall collection among this holding. Over 14,000 fine art prints, including the Tamarind Lithography archive, are represented in a history of graphic arts whereby every technique and major art movement in this medium, from the 13th century to the present period. Other areas of the collection include Hispanic art from Europe and the Americas, including a rare Taller de Grafica Popular (TGP) collection of political posters and prints, American 19th art and 20th century modernism, Los Angeles and Bay Area art since 1950, and European art from the 15th – 20th centuries. Admission to the Museum and all public programs is FREE. Regular hours are: Tuesday through Friday 10 a.m. – 4 p.m., Saturday and Sunday 1–4PM. For more information call (505) 277-4001 or visit the museum's website at <http://unm.edu/~artmuseum>.

The University of New Mexico Student Union Building

The University of New Mexico Student Union (<http://sub.unm.edu>) maintains the highest standard in student support, services and programming in order to promote a strong sense of community. At the Student Union Building (SUB), UNM students, faculty, staff, alumni and guests can congregate and socialize in an environment that promotes an appreciation for diversity.

The SUB is a convenient place for students, faculty and staff to study, hang out and grab a bite to eat. One of the biggest conveniences offered by the SUB is that it is centrally located on campus to accommodate UNM community needs and extracurricular activities.

SUB Programs and Services

The SUB is home to more than 60 student organizations housed in offices found on the Plaza Level. A space allocation process assigns offices and storage space to selected student organizations. ASUNM, GPSA, and Student Activities offices are also located in the SUB.

The SUB has wireless networking inside and outside of the building and in the Lobo Computer Lab, making the SUB a very computer-friendly environment. Additionally, data ports are conveniently installed throughout the entire building. The e-mail station, located on the Plaza Level, allows student convenient access to e-mail.

In addition to being a technologically advanced computing center, the SUB offers arts and crafts through the ASUNM Southwest Film Center and ASUNM Craft Studio. For fun, cUeNM is located on the SUB's Plaza Level, offering 8 pool tables. A cycling room is located on the Plaza Level for convenient access to exercise equipment and programs. Also located on the SUB's Plaza Level are a barbershop and salon, four ATMs, a self-service copy machine, a full-service New Mexico Educator's Federal Credit Union, a United States Postal Service Kiosk, Transportation Information Center Kiosk, and a Convenience Store.

The SUB is home to a broad range of entertaining, educational, and thought-provoking programs from Live @ Lunch concerts in the atrium and the midweek movie series, to the annual College Bowl competition. Holidays are always special at the SUB. The Pumpkin-Carving Contest, Roadrunner Food Bank Food Drive, Giving Tree, and Lobo Day celebra-

tion convey the good spirits of each season. These events engage the University community and encourage everyone to feel at home on campus.

Dining Options

The SUB, partnered with Chartwell's, offers many different food options for the UNM community. Dining options include specialty restaurants featuring a soup, hot/cold sandwich shop, Italian eatery, sushi bar, Mexican restaurant and coffee shop. The SUB is home to nationally recognized restaurants such as Sonic and Chick-fil-a. On-the-go items include fresh pastries, gourmet coffee and hot made-to-order sandwiches. There's something for every craving at the SUB.

Event Planning

The SUB serves the University as the perfect place for meetings, conferences and special events. Equipped with 20 meeting rooms, a grand ballroom, audio-visual equipment, satellite conferencing capability and special setups, the SUB can accommodate students, faculty, staff and outside guests. Event services are available for chartered student organizations free of charge if there are no admission fees for the event, and discounted prices are available for UNM departments. The Student Union website (<http://sub.unm.edu>) leads visitors to clear information about available resources, as well as, an e-mail link to responsive staff for help in setting up academic and social events.

Catering is available upon request. The Student Union's catering partner, Chartwell's, meets the challenge of providing high-quality food for personal and institutional special events, while including a reasonably priced menu for student organizations meeting in the SUB. Our culinary and catering staff is comprised of trained professionals with combined expertise in a multitude of food service venues. Diverse menus are available; however, customized menus can also be created.

Contact Information

SUB Administration Office:	277-2331
SUB Welcome Desk:	277-5626
SUB Event Planning:	277-5498
University Catering:	277-5498
Web Site:	http://sub.unm.edu

Research Centers and Institutes

The Bureau of Business and Economic Research (BBER), primarily gathers, analyzes, and interprets data concerning the economic life of the state. Results of bureau-conducted studies made by the Bureau are presented to the public through their Information Center, the Data Bank, Bureau publications, the press, radio and television. The Bureau operates an econometric model of the state's economy, FOR-UNM, to forecast future trends. It also operates a U.S. Census Analysis Center.

The Center for Advanced Studies is a research organization pursuing studies in theoretical quantum optics, laser physics, ultra sensitive laser interferometric techniques, statistical mechanics, theory of measurement and other areas of modern physics. It sponsors many visiting scientists and lecturers and has a close working relationship with the Max Planck Institute for Quantum Optics in Germany.

The Center for Biomedical Engineering (CBME) is dedicated to the creation of materials, devices and knowledge for the advancement of health care and biomedicine. It is an interdisciplinary center that coordinates research activities in biomedical engineering at UNM. CBME is a focal point for future educational activities in biomedical engineering, and serves as a portal for biotech interactions between UNM and National Laboratories, industry partnerships and other educational institutions within New Mexico and outside of New Mexico.

The Center for High Technology Materials (CHTM) is an interdisciplinary research organization which sponsors and encourages research efforts in the Electrical and Computer Engineering, Physics and Astronomy, Chemistry and

Chemical and Nuclear Engineering Departments. CHTM is a nationally respected center of excellence for research and education in opto-electronics, microelectronics, optics and material science; encouraging and strengthening interactions and the flow of technology between the University, government laboratories and private industry; and promoting and assisting economic development within New Mexico.

The Center for Micro-Engineered Materials (CMEM) is a research organization involving the University of New Mexico, New Mexico Institute of Mining and Technology, the Los Alamos and Sandia National Laboratories and supporting industrial members. It carries out basic and applied research on ceramics problems of industrial significance. Participating graduate departments at the University of New Mexico include Chemical and Nuclear Engineering, Mechanical Engineering, Civil Engineering, Physics and Astronomy, Chemistry and Earth and Planetary Sciences.

The Design Planning and Assistance Center (DPAC) is a research unit within the School of Architecture and Planning. This center is a community service organization, which provides environmental research and planning, and architectural design assistance to less privileged groups and individuals in New Mexico. Students perform this work for which they obtain studio credit.

The Division of Government Research (DGR) supplies data analysis services under contract to clients which are generally state government agencies. In this work, DGR uses statistical software and geographic information systems (GISs) to manage, analyze and present a wide variety of data. DGR has extensive experience in the analysis of transportation-related data and the analysis of health care data. A GIS is often used to enhance the analysis of data or to display the results of the analysis in geographic context. Computer applications are developed on several types of computers as required to meet the clients' needs.

Earth Data Analysis Center (EDAC), a NASA-affiliated applied research center, specializes in remote sensing for natural resource applications. EDAC performs image processing, air photo and satellite image search and retrieval, and training and pilot projects for clients in government, university and private industry sectors. It also publishes an international quarterly review of remote sensing of the environment.

The Center for Advanced Research Computing (CARC) supports interdisciplinary, faculty-led, computing-based research throughout the University of New Mexico. The center also serves as the administrative unit for the Computational Science and Engineering (CSE) certificate. The center's primary mission is to provide high end computational, storage, and networking facilities in an environment that fosters interdisciplinary collaboration and supports novel applications of computing across the breadth of academic disciplines. In addition to a variety of individual researchers, there are currently four resident research groups housed in the center: the CREATE (Center for Rapid Environmental Assessment and Terrain Evaluation) team from the College of Arts and Sciences, a digital photography group from the College of Fine Arts, a visualization team from the School of Engineering, and a data analysis group from the School of Medicine.

The Institute for Applied Research Services (IARS) was established in 1968 to analyze current problems and to give expert assistance to community leaders, government officials, business and industrial executives, minority and disadvantaged groups and private organizations. The Institute is a major part of the University's commitment to aid and promote the social and economic development of New Mexico, the Southwest and the nation. The Institute functions through a series of operating agencies which provide distinct, but interrelated, kinds of services.

The Institute for Astrophysics is organized to coordinate research, professional and educational activities in Astrophysics along the Rio Grande corridor. It sponsors

symposia and colloquia for professional continuing education. It has acquired sophisticated computers for research as well as graduate and undergraduate education and operates the Capilla Peak Observatory on a year-round basis while coordinating its activities with the VLA, Sac Peak and the National Laboratories.

The Institute for Environmental Education is co-sponsored by the School of Architecture and Planning. It combines academic teaching and research, as well as teacher-training, on environmental qualities with special emphasis on school environments as they relate to human behavior. It promotes public awareness in these areas. Students have an opportunity to participate in its activities and can obtain credit.

The Institute for Space and Nuclear Power Studies (ISNPS) is an academically-based, self-supported research and development organization with focuses on space science and advanced technology research, development and commercialization, and on providing education and research opportunities for students, faculty and the community. The mission of the Institute is to perform basic and applied research, develop partnership with industry, enable technology application and commercial development, provide technical and professional training, organize and conduct technical forums and promote and sponsor educational outreach activities in higher education and K-12. ISNPS laboratory facilities include a Heat Transfer and Heat Pipe Laboratory, a Thermionics Laboratory, Laser Application Laboratory and a Research and Technology Laboratory.

The Latin American and Iberian Institute (LAI) promotes research, teaching and outreach on Latin American and Iberian topics in a variety of disciplines. It provides administrative support for the interdisciplinary Latin American Studies program of the College of Arts and Sciences and seeks and distributes financial support for scholarly initiatives involving Latin America and Iberia. LAI administers the University of New Mexico study abroad programs in Latin America and Iberia, including semester exchanges as well as short-term intensive language programs. It provides a full range of outreach services, including support for K-12 teachers through the Center for Latin American Resources and Outreach (CLARO) as well as the online Resources for Teaching About the Americas (RetaNet) community of learning; an online news service (Latin America Data Base) that publishes three weekly bulletins on Latin American politics and economic events (*NotiSur*, *NotiCen* and *SourceMex*); the Ibero-American Science and Technology Education Consortium (ISTEC); and the Brazilian Studies Association (BRASA).

The Southwest Hispanic Research Institute (SHRI) is an interdisciplinary research center for Southwest Hispanic Studies. It conducts projects in-house as well as in collaboration with departmental faculty on-campus and with similar research units at other universities in the region.

Teaching Assistant Resource Center

The Teaching Assistant Resource Center (TARC) provides support to the University's teaching assistants. The Center offers a classroom teaching course that addresses such topics as the roles and responsibilities of TAs, learning styles and class preparation, enthusiastic teaching and lecturing skills, leading class discussions, conflict styles and management, giving feedback and evaluation.

TARC also offers a section of the classroom teaching skills course designed for international teaching assistants (ITARC). This section covers many of the same topics as the TARC course (teaching and lecturing skills, grading and evaluation, etc.) and also addresses issues of culture in the classroom and the adjustment of new international graduate students. The course is designed to help international TAs be successful in teaching American undergraduate students, as well as to improve their teaching skills in general.

Enrollment in the TARC classroom teaching course is limited to 20 students. Enrollment is for one graduate credit. The course is offered as Communication and Journalism 583.

During the Fall and Spring semesters, the Teaching Assistant Resource Center offers one-session workshops on selected topics. These workshops have included such topics as gender issues in the classroom, nonverbal messages in classrooms, diversity in college classrooms, critical thinking, motivational strategies and teaching technologies.

TARC also provides consulting service to any UNM teaching assistant.

The Teaching Assistant Resource Center is an Office of Graduate Studies program. For more information about the Teaching Assistant Resource Center, contact TARC, 277-3344, tarc@unm.edu. The TARC office is located in the Communications and Journalism Building Room 210.

Welcome Center

The University of New Mexico Welcome Center, attached to the Cornell Parking Garage adjacent to Johnson Center and the Center for the Arts, invites all campus visitors and prospective and current students to stop by for information, directions and assistance. The Center houses a library of current brochures, maps, continuing education catalogs and information on athletic events, tickets and schedules. Information on performing arts events, museum and gallery exhibits and other special events happening on campus may also be found.

Stop by the Welcome Center and let us assist you with your University needs! Phone: (505) 277-1989, FAX: (505) 277-8978, e-mail: visitor@unm.edu, <http://www.unm.edu/~welcome/>.

UNM Parent Association

The Parent Association's mission is to promote student success and academic excellence, engage parents in the university's mission and goals, empower parents to play a supportive role in student education, and provide a forum for networking. As a parent or family member of a UNM student, it is important for you to feel connected with the institution and other parents or family members who are having similar experiences. The Association provides opportunities to parents such as the annual Family Weekend and Parent Day at the Pit for families to connect with their students and the University. The Association's free monthly newsletter provides useful information to parents of important programs, events, activities and opportunities for them and their student. Membership to the association is free and open to all parents of currently enrolled students and alumni. For more information, visit <http://parentassociation.unm.edu/>.

ADMISSIONS

Admission

The University of New Mexico admits all eligible applicants from New Mexico, other states and foreign countries. Because of the great diversity of the University of New Mexico's students, special application and admission procedures have been created to meet the needs of the different populations the University of New Mexico serves—recent high school graduates, transfer students, non-degree students, returning and non-traditional students, and international students.

Admission procedures and requirements vary in each of the four categories listed below. (Any applicant under the age of 16 must be reviewed by a special admissions committee.)

1. Beginning Freshmen (no previous college work).
2. Transfer Students (last attended another institution).
3. Readmit students (students who stopped attending for three or more sessions).
4. Non-Degree Students (presently not seeking a degree).

For all categories, the University requires full academic disclosure on the application forms. Any student found guilty of non-disclosure or misrepresentation on an application is subject to disciplinary action, including possible dismissal from the University.

Transcripts and test scores submitted to the University of New Mexico for admission become the property of the University and will not be sent elsewhere or returned to the student.

All applicants must include information about prior criminal history as part of the application process. A committee then reviews the information. The committee takes numerous factors into consideration prior to making a decision. All applicants are afforded due process and admissions decisions are made on a case-by-case basis.

Use of Social Security Numbers

Your Social Security Number will not be the primary University identification number. It will not appear on your UNM Lobo identification card. UNM is required to collect your SSN in order to provide full access to services such as financial aid, to ensure an accurate academic record, and for record-keeping purposes. The University will protect the confidentiality of your SSN as required by law. If you are unable to provide a Social Security Number, the University will assign an alternative number to you. This will not impact the admission decision.

Beginning Freshmen

How to Apply

1. Complete and return an application for admission and a \$20.00 nonrefundable application fee to the Office of Admissions. You may also apply on the Web at <http://www.unm.edu>.
2. Request that your official American College Test (ACT) or Scholastic Aptitude Test (SAT) scores be mailed to the Office of Admissions. (See additional information below.)
3. Request that your high school send an official transcript directly to the Office of Admissions. If you have not yet graduated from high school, your transcript should include all courses completed, as well as those in progress and your *high school rank in class*.

In most cases, admissibility can be based upon a partial transcript, subject only to your graduation from high school. Following graduation, you must submit a final

transcript verifying high school graduation. If you do not graduate or do not submit the final transcript prior to the specified date, the University will disenroll you from any pre-registered classes.

When to Apply

We strongly encourage students to apply as early as possible. For priority consideration apply by the following dates: Fall Semester—June 15; Spring Semester—November 15; Summer Session—June 1. Students are accepted for admission to most undergraduate colleges of the University for the fall, spring and summer sessions. If you do not register for the session requested on your application and wish to postpone enrollment to a subsequent semester, you must notify the Office of Admissions. Applications and fees are applicable for four consecutive sessions only. If you do not take advantage of admission and enroll within that period, a new application and fee are required. A number of colleges and specialized programs with limited enrollments have different deadlines and requirements. Applicants for these programs should see the appropriate sections of this catalog for specific deadlines and requirements.

College Entrance Examinations

ACT results (UNM Code 2650) or SAT results (UNM Code 4845) must be filed by freshmen applicants, including transfers with fewer than 26 semester hours of transferable credit. The University recommends that the ACT or SAT be taken on a summer testing date following the junior year in high school. It is the student's responsibility to arrange for scores to be sent to the Office of Admissions directly from the ACT or SAT Testing Center. Scores on transcripts or student copies do not satisfy this requirement.

Admission Requirements for Fall 2011

(subject to change)

Freshmen applicants must be graduates of a high school accredited by a regional accrediting association, or by the state department of education or state university of the state in which the high school is located.

The minimum grade point average requirement for admission to bachelor degree programs at the University of New Mexico is a 2.3 (on a 4.00 scale) in all previous academic work from an accredited high school. Grades in all courses allowed toward high school graduation are computed in the average.

In addition to the above requirement, the student must satisfy one of the following three sets of criteria:

Criterion I

Completion of the following 14 specific high school college preparatory units (two semesters of class work equals one year-long unit) with a minimum 2.3 GPA:

Four units of English with at least one unit earned in the 11th or 12th grade in composition;*

Three units of social science (one of which must be U.S. History).

Three units of mathematics from the following list: Algebra I, Algebra II, Geometry, Trigonometry, or higher mathematics;

Two units of natural science (one of which must be a laboratory science in Biology, Chemistry or Physics); and

Two units of a single language other than English;**

* To meet the composition requirement, any English course taken during the junior or senior year of high school in which 50% or more of the curriculum emphasized correct and clear composition will be accepted. Speech courses will not satisfy the composition requirement; however, up to two semesters of speech will be accepted in the remaining requisite English courses. While considered good augmentation to classic, liberal arts English, courses such as drama, journalism and yearbook will not be counted toward the four unit English requirement.

** Exemption from the freshmen admission requirement for two years of a language other than English will be approved under these conditions:

Speakers of any language other than English that is offered by the University of New Mexico will have the opportunity to test out on the basis of performance on a native speakers examination administered on campus by the University of New Mexico language department. This examination will be available on an ongoing basis during early registration periods to accommodate the University's continuous admission policy.

Speakers of languages other than English will be eligible for exemption on the basis of certification of fluency in their native languages by an appropriate school or tribal official.

Students must request consideration on the basis of testing or exemption by arranging to have certification of proficiency sent directly to the Office of Admissions.

Criterion II

A formula based on a composite ACT or a combined score using SAT Verbal and Math subscores in combination with a high school grade point average. In general, the higher the standardized test score, the lower the required grade point average.

College Board implemented a new SAT effective March 2005. Studies determined that the raw scores on the new Math and Critical Reading sections are comparable to the results on the previous SAT Math and Verbal sections. Therefore, the University will use the same raw scores for Criteria 2 admission.

Criterion III

A limited "Special Admissions" category. Students who do not qualify for admission under Criterion I or II may request "special consideration" through an appeal. A combination of quantitative and subjective factors is used in making these admissions decisions.

Other Admission Opportunities

Home-School or Non-Accredited Schools

The University provides three options for admission for those students (minimum age 16) who have been home-schooled or attended non-accredited high schools. All applicants must submit official ACT or SAT scores.

Option I: Minimum 2.25 high school cumulative grade point average, plus completion of the 13 specific high school college preparatory units with a minimum 2.25 GPA. (See Criterion I under beginning Freshman Admission Requirements.)

Option II: Completion of the General Educational Development (GED) Test. (See Admission by Examination.)

Option III: Submission of three SAT II subject tests, including one in English, one in Math and the third in either Social Studies, Natural Science or Foreign Language. A scale, similar to the one used for the GED, will be incorporated using

combined percentile rank of the three SAT II scores and ACT or SAT composite scores.

Admission by Examination

Applicants (minimum age 16) who have not graduated from high school may be considered for admission on the basis of the high school level General Educational Development (GED) tests. Students must also present ACT or SAT scores and must meet the following formula for admission.

GED Score	Required ACT Comp	Required SAT Comb
570 or higher	18–20	860–970
500–569	21–24	980–1120
450–499	25–28	1130–1270
400–449	29 or higher	1280 or higher

Early Admission Option

The University of New Mexico will admit, on a full-time basis, a limited number of highly qualified applicants after completion of their junior year of high school. To be considered for early admission, the student must: 1) provide proof of parental consent; 2) have an exceptional record on a minimum of 15 units in a strong college preparatory program in an accredited high school; 3) have the unqualified recommendation of the principal or headmaster; and 4) have a score on the ACT or SAT satisfactory to the University. In most cases a personal interview with the Director of Admissions is required before a decision is made.

Dual Credit/Concurrent Enrollment Option

Dual Credit/Concurrent Enrollment is designed to provide high school juniors and seniors the opportunity to earn college credit while still enrolled in high school by taking University courses normally not offered at the high school.

Admission to Dual Credit/Concurrent Enrollment is in Non-Degree status and is not considered "Early Admission" to the University. Students desiring to continue in degree status after high school graduation must fulfill freshman admission requirements.

Admission Requirements

All Dual Credit/Concurrent Enrollment students must meet with a University Advisement Advisor before applying for admission.

These are the minimum requirements for admission to the Dual Credit/Concurrent Enrollment Program. Individual high schools may require higher qualifications before certifying and recommending a student. Meeting the criteria listed below does not guarantee admission. In all cases, the final admission determination will be made by the Director of Advisement.

1. The student must be a high school junior or senior.
2. The student must have the course-specific certification and unconditional recommendation of the high school prior to participation.
3. The high school must complete Part II, High School Recommendation, of the Dual Credit/Concurrent Enrollment Application and provide an official high school transcript.
4. Minimum quantitative requirement (one or more of the requirements listed below):
 - a. Cumulative grade point average of 2.5 or better on a 4.00 scale for 9th, 10th, and 11th grades in subjects counted toward graduation
 - or–
 - b. Class rank in top 25%, and a minimum grade point average of 2.25 on a 4.0 scale
 - or–

- c. An ACT composite score of 23 or an SAT total score of 1060 and a minimum grade point average of 2.25 on a 4.0 scale.
 - A student planning to enroll in English 101 must have a minimum score of 19 on the English portion of the ACT or 450 on the verbal portion of the SAT.
 - A student planning to enroll in any math course numbered above MATH 120 must have a minimum score of 22 on the Math portion of the ACT or 510 on the quantitative portion of the SAT.
5. A student planning to enroll in English 101 must have a minimum score of 19 on the English portion of the ACT or 450 on the verbal portion of the SAT.
 6. A student planning to enroll in any math course numbered above MATH 120 must have a minimum score of 22 on the Math portion of the ACT or 510 on the quantitative portion of the SAT.

Dual Credit/Concurrent Enrollment participants are not obligated in any way to continue enrollment at UNM after high school graduation. Credits earned in Dual Credit/Concurrent Enrollment may be applied to a UNM undergraduate degree only after a student applies and is admitted to degree status. (Note: Some collegiate institutions do not accept college credits earned while a student was enrolled in high school.) The quality of work done in all college courses will be taken into consideration by collegiate institutions to which application is made after high school graduation. Students are expected to earn a minimum 2.00 ("C") cumulative grade point average in all University courses. Students are required to report Dual Credit/Concurrent Enrollment participation on applications to all collegiate institutions.

If you are participating in the New Mexico State Dual Credit Program, you must submit the following forms:

1. Students must have the following forms:
 - a. University of New Mexico Admission Application
 - b. A signed State Dual Credit Request Form stating the course(s) that you plan to take. The form must be signed by your guidance counselor and principal.
 - c. Proxy Authorization Form
 - d. High School Transcript
2. Students must meet with an advisor in University Advisement Center before an admission decision will be made on your dual credit application

Students who have attended a non-accredited /non-approved high school or home school may apply for Concurrent Enrollment; however, they must meet the ACT or SAT requirement to be eligible.

For more information on UNM's Dual Credit and Concurrent Enrollment programs, contact the University Advisement Center.

Introductory Studies Courses

Even though a student is qualified for admission to the University, he or she may be required to take one or more Introductory Studies courses. These courses are designed to strengthen a student's preparation for university-level work in areas of demonstrated weakness. Required enrollment in these courses is based upon established minimum standards of performance on individual tests on the ACT or SAT. Students required to take these courses should do so in their first semester(s) at the University of New Mexico, and they must do so before they are eligible to proceed to other courses in those areas or to enroll in a degree granting college.

Associate Degree Programs

Although associate degree programs may have special admission requirements, applicants for these programs must first meet the general admission requirements for a bachelor's degree program. Associate degree students also are subject to the same requirements regarding initial course placement and removal of deficiencies as baccalau-

rate degree students. (See sections on individual associate degree programs and Admission Requirements.)

The University of New Mexico Branch Students

Because the University of New Mexico Branch associate degree programs are not held to the Albuquerque Campus admission requirements, students wishing to transfer to the Albuquerque Campus must submit applications with all necessary credentials and must meet the Albuquerque Campus admission requirements.

Transferring Students

Transfer Advisement

transadv@unm.edu

Our mission is to lead, empower, and support transfer students during their transition to the University of New Mexico, and beyond, in an inviting, respectful, and diverse setting.

The Transfer Advisor provides support to prospective transfer students by assisting their readiness to transfer to the University of New Mexico, and estimating their time to degree completion. The Transfer Advisor works very closely with all students who are transferring to New Mexico. The Transfer Advisor also, has a strong partnership with Central New Mexico Community College (CNM).

How to Apply

1. Complete and return an application for admission and a \$20.00 nonrefundable application fee to the Office of Admissions. You may also apply on the Web at <http://www.unm.edu>.
2. Request that each college you have attended send an official transcript directly to the Office of Admissions. A summary on one transcript of work at several colleges is not sufficient. If you are applying for the next academic session at the University of New Mexico while still enrolled at another institution, the official transcript must include a listing of courses in progress, as well as all completed work. (See *Note* below.)
3. If you are transferring to the University of New Mexico with fewer than 26 semester hours of acceptable college work, you are considered a freshman transfer and must submit the following materials:
 - Official scores from the American College Test (ACT) or the Scholastic Aptitude Test (SAT) sent directly from ACT Records, P.O. Box 451, Iowa City, Iowa, 52243; or from SAT, Admissions Testing Program, College Entrance Examination Board, Box 592-A, Princeton, New Jersey, 08541.
 - A complete official transcript of high school work or official GED scores.

Applications will not be processed until all the required items are on file with the Office of Admissions.

To allow students at other institutions to make definite plans for transfer, a determination of admission status may be made before courses in progress are completed, subject only to receipt of the final transcript. Students permitted to register prior to receipt of their final transcripts may be disenrolled if their transcripts do not reach the Office of Admissions within three weeks after the beginning of classes.

NOTE: The student must indicate on the application all previous college attendance. Applicants may not ignore any college attendance, even though they may prefer to repeat all courses. Students found guilty of nondisclosure or misrepresentation in filling out admission application forms, or who find after admission or enrollment that for academic or other reasons they are ineligible to return to their last institution but fail

20 ADMISSIONS

to report this immediately to the Office of Admissions, are subject to disciplinary action, including possible dismissal from the University.

When to Apply

We strongly encourage students to apply as early as possible. For priority consideration apply by the following dates: Fall Semester—June 15; Spring Semester—November 15; Summer Session—May 1. Students are accepted for admission to most undergraduate colleges of the University for the fall, spring and summer sessions. If you do not register for the session requested on your application and wish to postpone enrollment to a subsequent semester, you must notify the Office of Admissions. Applications are applicable for four consecutive sessions only. If you do not take advantage of admission and enroll within that period, a new application and fee are required. A number of colleges and specialized programs with limited enrollment have different deadlines. Applicants for such programs should see the appropriate sections of this catalog for specific deadlines and requirements.

Admission Requirements

The minimum requirement for admission as a transfer student to the University of New Mexico is a grade point average of "C" (2.00) in all transferable college work attempted. However, most degree granting colleges of the University require a higher average for the acceptance of transfer students (see the appropriate sections of this catalog for specific requirements).

For determining admission, all repeated courses will be computed in the transfer grade point average. The University of New Mexico operates on a semester credit calendar. Therefore, classes from quarter system institutions will be recalculated to semester hours (one quarter hour equals .66 semester hour).

Applicants with fewer than 26 transferable hours are considered transferring freshmen and must therefore submit high school credentials and meet freshmen admission requirements (see *Beginning Freshmen* above).

Transfer Student Advisement

Transfer Advisors are available to make the transition to UNM for transfer students as easy as possible. Some of the ways include: initiating the transfer course evaluation process; helping students to interpret the transfer course evaluations through general academic advisement; and helping students navigate their way through UNM. The Transfer Advisors may be reached either by email at transadv@unm.edu or by calling (505) 277-2900.

University College

Admissible students with fewer than 26 semester hours or undecided about their major will ordinarily enroll in University College. See the *University College Advisement Center* section of the catalog.

Students with more than 26 semester hours, with an area of interest or a definite major in mind should refer to the appropriate college or program section of the catalog.

Previous Suspension

A student under **academic** suspension from another college or university may not enter the University of New Mexico during the term of suspension. In cases of unspecified suspension periods, the University of New Mexico's suspension term will apply. Upon termination of the suspension, the student is eligible to request special consideration for admission to the University of New Mexico.

In general, students under **disciplinary** suspension are not admitted to the University of New Mexico. However, because the reasons for disciplinary suspension vary among institutions, a student may be suspended from one school for infractions that would not be actionable at another. Therefore, the University of New Mexico reviews such cases individually and, when justified, makes exceptions and allows the student to be considered for admission.

Transfer of Credits

The University of New Mexico evaluates without prejudice courses from post-secondary institutions that are regionally accredited or are candidates for regional accreditation. Transfer students will receive full credit for course work completed with a minimum grade of "C-," provided the classes are similar or equivalent to courses offered at the University. (Transferable courses with grades of "D" from New Mexico state institutions are accepted.)

The University of New Mexico does **not** accept technical/vocational, remedial, personal development or dogmatic religion courses. Credit is not awarded for work or life experience, cooperative education or for courses from out-of-state in which the grade received was lower than "C-."

Transferable credits from an accredited junior college will be accepted up to a maximum determined by the University of New Mexico college in which the student enrolls. Only in rare instances will junior college courses be considered above sophomore level.

Grades earned in courses taken at other institutions are not included in calculation of the University of New Mexico grade point average. This grade point average will reflect only classes taken at the University of New Mexico.

Transfer Among New Mexico Higher Education Institutions

To facilitate transfer of students and course credits among New Mexico's colleges and universities, the state's public institutions of higher education are required to accept in transfer courses taken within approved modules of lower-division course work and apply them toward degree requirements. Several transfer guides have been developed through collaboration of New Mexico's public postsecondary institutions, consistent with requirements of state law (21-1B, NMSA 1978). Students enrolling for first-year or second-year study at a New Mexico institution and wishing to prepare for possible transfer into a degree program at another institution are advised to take these courses during their freshman and sophomore years.

Student Responsibility

New Mexico's colleges and universities have collaborated to produce guides to assist students who plan to transfer before completing a program of study. Course modules are designed to help students select courses carefully so that they may transfer with little or no loss of credit. However, planning for effective transfer with maximum efficiency is ultimately the student's responsibility. Responsible transfer planning includes early and regular consultation with the intended degree-granting institution to assure that all pre-transfer course work will meet the requirements of the desired degree.

Transferable Lower-Division General Education Common Core

For students enrolled at any public institution in New Mexico, the following courses are guaranteed to transfer to any other New Mexico public college or university and apply toward associate and baccalaureate degree program requirements. Students should consult advisors at their current institu-

tion regarding which specific courses fit these categories. Students preparing for careers in engineering, health sciences or other profession-related fields are advised that some of this course work may not transfer toward general education requirements but in most cases will apply toward elective requirements.

- Area I: Communications 9 semester hours**
- (a) College-Level English Composition 3–4 hrs.
 - (b) College-Level Writing (a second course building on the above) 3 hrs.
 - (c) Oral Communication 3 hrs.

- Area II: Mathematics and Statistics 3 semester hours**
- (a) College Algebra 3 hrs.
 - (b) Calculus 3 hrs.
 - (c) Other College-Level Mathematics & Statistics 3 hrs.

- Area III: Laboratory Science 8 semester hours**
- (a) General Biology w/lab 4–8 hrs.
 - (b) General Chemistry w/lab 4–8 hrs.
 - (c) General Physics w/lab 4–8 hrs.
 - (d) Geology/Earth Science w/lab 4–8 hrs.
 - (e) Astronomy w/lab 4–8 hrs.

- Area IV: Social/Behavioral Sciences 6–9 semester hours**
- (a) Economics (Macro or Micro-Economics) 3 hrs.
 - (b) Introductory Political Science 3 hrs.
 - (c) Introductory Psychology 3 hrs.
 - (d) Introductory Sociology 3 hrs.
 - (e) Introductory Anthropology 3 hrs.

- Area V: Humanities and Fine Arts 6–9 semester hours**
- (a) Introductory History Survey 3 hrs.
 - (b) Introductory Philosophy 3 hrs.
 - (c) Introductory Course in History, Theory or Aesthetics of the Arts or Literature 3 hrs.

Totals to be selected 35 semester hours

Transferring Courses to Fulfill the New Mexico General Education Common Core

During the 2005 New Mexico Legislative session, Senate Bill 161, consistent with requirements of state law (Chapter 224 of the Laws of New Mexico, 1995, as amended) was signed into law to further enhance and facilitate the articulation of general education courses among New Mexico’s colleges and universities. In accordance with policies established by the New Mexico Higher Education Department, designated general education core courses successfully completed at any regionally accredited public institution of higher education in New Mexico are guaranteed to transfer to any New Mexico public institution. Students who have decided on a major and/or an institution at which to complete their studies should consult with an academic advisor at that particular institution to determine the most appropriate course selections. Students enrolling for the first-year study at a New Mexico college or university and considering possible transfer into a certificate and/or degree program at another institution are encouraged to take the courses approved for transfer during their freshman and sophomore years of study.

The core matrix of approved courses guaranteed to transfer and meet general education requirements at any New Mexico college or university can be found on the New Mexico Higher Education Department website at <http://hed.state.nm.us>. Follow the “Colleges and Universities” link to the drop down menu and select “Transferring Credits”, then select “Core Matrix”. Courses are listed by institution, whether university or community college, under each of the five general education areas. Students may also be able to access this list by going directly to <http://www.hed.state.nm.us/colleges/matrix.asp>.

The course prefix and number that appear in parenthesis next to many of the institutions’ internal course prefixes and numbers is the **New Mexico Common Course Number**. This is a four-alpha/four-numeric set of uniform course designations that serve as a single reference point for courses taught

throughout the state that share substantially equivalent content. Courses bearing this designation are part of a state-wide equivalency table that cross-references the institutional course and number with the universal “**common course number**” creating an easy one-to-one match.

Students may find the **New Mexico Common Course Number** listed in crosswalks, degree outlines, transfer guides, and in course descriptions in college catalogs and websites. Simply put, the common course number connects equivalent courses at multiple institutions ensuring students that the course will transfer to the receiving institution, and meet degree requirements as if it were taken on that campus.

The New Mexico Common Course Number has an alpha prefix that identifies readily to the subject area. The four digits in the number represent the specific course in that subject area with each digit having significance as demonstrated below:



Lower-Division 64-hour Transfer Modules

Students who **have** selected a field of study but have not yet selected the college or university where they wish to earn their baccalaureate degree are advised to take courses during their freshman and sophomore years outlined in one of the Lower-Division 64-hour Transfer Modules. For students enrolled at any public institution in New Mexico, these courses are guaranteed to transfer to any New Mexico university and apply toward bachelor’s degree program requirements. Students should consult advisors at their current institutions regarding which specific classes fit these categories. Lower-division transfer modules presently exist for:

- Business (see Management)
- Teacher Education—Early Childhood Education (See Education)

Modules for additional areas of study are being developed.

- Pre-Engineering
- Teacher Education
- Biological Sciences
- Social/Behavioral Sciences
- Physical Sciences

Inter-Institutional Transfer Guides and Catalogs

Students who have selected a field of study and/or the institution where they wish to graduate are advised to consult the transfer guide or catalog for that institution for more current and detailed advice to guide their course selection. Formal published transfer guides between the University of New Mexico and Central New Mexico Community College, Clovis Community College, Diné College, Eastern New Mexico University—Roswell, Luna Community College, Mesalands Community College, New Mexico Junior College, New Mexico Military Institute, New Mexico State University—Alamogordo, Carlsbad and Grants, Northern New Mexico College, San Juan College, Santa Fe Community College and Southwestern Indian Polytechnic Institute are available in the University of New Mexico Admissions Office and on the Web at <http://www.unm.edu>.

Complaint Procedure for Transfer Students

All New Mexico public post-secondary institutions are required to establish policies and practices for receiving and resolving complaints from students or from other complainants regarding the transfer of course work from other public institutions in the state. A copy of the University of New Mexico's complaint policy may be obtained from the Admissions Office or from the New Mexico Higher Education Department, 2048 Galisteo, Santa Fe, NM 87505-2100, (505) 476-8400 (<http://www.hed.state.nm.us>).

Evaluation of Credit

Transfer courses are evaluated in the Office of Undergraduate Admissions to determine acceptable transfer credit on a course-by-course basis for college-level credit earned at institutions who are fully accredited by any of the six U.S. regional associations. Lower level course equivalencies are determined by the Office of Admissions based on course content, as described in the catalogs of those institutions and in consultation with appropriate academic units at UNM. Upper level course equivalencies are determined by the appropriate academic units. The student must contact an academic advisor in the college of their desired major in order to determine how the transferred courses will be applied to a degree program.

Alternative Credit Options

The University of New Mexico grants college credit for certain outside training, courses and examinations. In all cases, students must be enrolled in undergraduate degree status. The guidelines for each of these programs are as follows:

Technical Credit

Under special circumstances, students may receive credit for technical courses that are not normally transferable to the University of New Mexico. Students who have earned technical credit that they believe may be applicable to their specific degree programs can request a review of that credit by the department chairperson or program director. An interview or demonstration of competence, or both, may be required before a decision regarding credit is made. Acceptance of technical credit is binding only to the specific department or program recommending the credit.

Training Credit

Credit for noncollegiate training programs is granted based on recommendations of the American Council of Education's "National Guide to Educational Credit for Training Programs" and institutional policies. Official records must be supplied to the University of New Mexico Office of Admissions by the appropriate source.

Military Credit

Credit for military service is granted based on recommendations of the American Council of Education's "Guide to the Evaluation of Educational Experiences in the Armed Service" and institutional policies. No credit is granted for Military Occupational Specialty (MOS).

College Board

Advanced Placement Program

CEEB Advanced Placement Program

Students who took advanced placement courses in high school and earned a score of three or higher on the exam may be eligible for college credit. Score reports must be

sent from the College Board directly to the University of New Mexico Office of Admissions. Placement and credit is awarded by department for scores as follows:

Advanced Placement Exam	Score	Equivalent UNM course	Credit Granted (sem. hrs.)
Art			
Art Hi	3, 4	ARTH 101	3
	5	ARTH 201 & 202	6
Art St	3, 4, 5	Dept. Review**	—
Biology			
Biol	3	BIOL 123 & 124L	4
	4	BIOL 201 & 201L	4
	5	BIOL 201 & 201L & 4 Elective	8
Chemistry			
Chem	3	CHEM 121 & 123L	
		CHEM 122 & 124L	8
	4, 5	CHEM 131L & 132L	9
Computer Science			
C S A	5	CS 151L Sub. to Dept. Review**	3
C S AB	4, 5	CS 151L	3
	5	CS 251L Sub. Dept. Review**	3
Economics			
Macro Econ	4, 5	ECON 105	3
Micro Econ	4, 5	ECON 106	3
English			
Engl Lang	—or—		
Engl Lit	3, 4	ENGL 101	3
Engl Lang	—or—		
Engl Lit	5	ENGL 101 & 102	6
Engl Lang	—and—		
Engl Lit	5	ENGL 101 & 102 & 150	9
Environmental Science			
Env Science	3	ENVS 101 & 102L	4
Geography			
Human Geog	3	GEOG 102	3
History			
Euro Hist	4, 5	HIST 102L	3
U.S. Hist	4	HIST 161L & 162L	6
World Hist	4	HIST 101L & 102L	6
Languages			
Chinese Lang	3	CHIN 101, 102	6
	4, 5	CHIN 101, 102, 201, 202	12
French Lang	3	FREN 101, 102	6
	4	FREN 101, 102, 201,	9
	5	FREN 101, 102, 201, 202	12
French Lit	3	FREN 201, 202	6
	4	FREN 201, 202, 301	9
	5	FREN 201, 202, 301, 302	12
German Lang	3	GRMN 101, 102	6
	4	GRMN 101, 102, 201	9
	5	GRMN 101, 102, 201, 202	12
Italian Lang	3	ITAL 275	6
	4, 5	ITAL 275, 276	12
Japanese Lang	3	JAPN 101, 102	6
	4, 5	JAPN 101, 102, 201, 202	12
Latin	3	LATN 101, 102	6
	4	LATN 101, 102, 201	9
	5	LATN 101, 102, 201, 202	12
Span Lang	3	SPAN 101, 102	6
	4, 5	SPAN 101, 102, 201, 202	12
Span Lit	4	SPAN 302	3
	5	SPAN 301, 302	6

Math

Calc AB	3, 4, 5	MATH 162	4
Calc BC	3, 4, 5	MATH 162 & 163	4
Calc AB Sub Score	3	MATH 162	4
Statistics	4, 5	STAT 145	3

Physics

Physcs B	3	Dept. Review**	—
	4, 5	PHYC 151 & 151L, 152 & 152L	8
Physcs C Elec & Magn	3	Dept. Review**	—
	4, 5	PHYC 161 & 161L	4
Mech	3	Dept. Review**	—
	4, 5	PHYC 160 & 160L	4

Political Science

Amer Gov	3, 4, 5	POLS 200	3
Compar Gov	3, 4, 5	POLS 220	3

Psychology

Psych	3, 4, 5	PSY 105	3
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** College Board retains student exams for only six months.

College Level Examination Program

The University participates in the College Level Examination Program (CLEP) administered by the College Board. The University of New Mexico grants credit to newly admitted and regularly enrolled (in undergraduate degree status) students who achieve passing scores on the CLEP exams listed below, as approved by the appropriate University of New Mexico academic departments. For all of these CLEP Examinations, the total semester hours to be accepted towards a student's degree is at the discretion of the pertinent degree-granting college. Therefore, students should contact their college advisors for specific information. No credit is granted for Subject Exams not listed. Students should be aware the CLEP Examinations are intended for people with clear strengths in an area. IMPORTANT: There is a 6-month waiting period before repeating a test.

CLEP Computer Based Testing (CBT)

As of July 2001, the College Board is introducing Computer Based Testing for the CLEP and has adjusted the scoring. The scores that follow will list the minimums for both the paper (taken prior to July 2001) and CBT testing formats.

CLEP General Examinations

The University grants credit for qualifying scores on the CLEP General Exams provided the student takes the exam before earning 26 semester hours of acceptable college credit. General credit hours are allowed as follows:

CLEP General Exam	Scores Paper	CBT	UNM Course	Sem. Hrs.	Year Taken
Engl Comp	500	—	Gen Credit	6	Prior to 1978
Engl Comp	610	—	Gen Credit	6	1978 to 1985
Engl Comp	500	50	Gen Credit	6	1986 to present
Engl Comp	500	50	ENGL 101	3	
			with essay	Gen Credit	3
			(given only in January, April and October)		
Social Sci					
and Hist	500	50	Gen Credit	6	
Natural Sci	500	50	Gen Credit	6	
Humanities	500	50	Gen Credit	6	
College					
Math	570	57	Gen Credit	6	

CLEP Subject Exam

CLEP Subject Exam	Scores Paper	CBT	Equivalent UNM Course	Sem. Hrs.
Amer Hist I	—	55	HIST 161L	3
Amer Hist II	—	55	HIST 162L	3
Biology	450	50	BIOL 110	3
Chemistry	520	63	CHEM 121, 123L, 122, 124L	8
Intro Macroecon	490	54	ECON 105	3
Intro Microecon	470	54	ECON 106	3
Western Civ I	500	55	HIST 101	3
Western Civ II	500	55	HIST 102	3
Amer Govt	550	65	POLS 200	3
Human Growth and Develop	520	63	PSY 220	3
Princ of Mgt	500	54	MGMT 113	3
Princ of Acct	500	54	MGMT 202	3
Princ of Mkt	500	50	MGMT 222	3
Coll Alg	560	59	MATH 121	3
Trig	610	65	MATH 123	2
Calculus	510	70	MATH 162	4
French Language	400	48	FREN 101	3
French Language	450	52	FREN 101,102	6

CLEP Subject Exam	Scores Paper	CBT	Equivalent UNM Course	Sem. Hrs.
German Language	390	63	GRMN 101,102	6
Spanish Language	390	45	SPAN 101	3
Spanish Language	440	50	SPAN 101,102	6
Spanish Language	540	57	SPAN 101,102, 201, 202	12
Introductory Soc	520	59	SOC 101	3
Introductory Psych	550	56	PSY 105	3

CLEP Subject and General Examinations

Students wishing to take one or more CLEP examinations may obtain registration forms at the University of New Mexico Testing Division, Woodward Hall, (505) 277-5345.

In some cases, the University of New Mexico requires original transcripts of test results sent from CLEP, Box 1821, Princeton, NJ 08543. Non-specific credit for these examinations appearing on transcripts from other colleges will not suffice.

International Baccalaureate

The University of New Mexico grants credit based on minimum scores on the IB exams. Contact the Admissions Office for details.

Concurrent College Enrollments

Prior to enrolling concurrently in residence or by extension or correspondence in another collegiate institution, students should verify with the Office of Admissions and their college advisors to ensure acceptance of the transfer credits.

Readmitted Students

How to Apply

A University of New Mexico degree-seeking student who stops attending for **three or more sessions, including summer**, must file an application for readmission. You may also apply at <http://www.unm.edu>.

1. Complete and return an application and \$15 fee for readmission.

24 ADMISSIONS

2. If you attended another institution while away from the University of New Mexico or have taken college level correspondence or extension courses, request that each college you have attended send an official transcript directly to the Office of Admissions. A summary on one transcript of work at several colleges is not sufficient. If you are applying for the next academic semester at the University of New Mexico while still enrolled at another institution, the official transcript must include a listing of courses in progress, as well as all completed work. Applications will not be processed until all the required items are on file with the Office of Admissions.
3. Readmissible students with fewer than 26 semester hours or undecided about their major will ordinarily enroll in University College. Students with more than 26 semester hours, with an area of interest or a definite major in mind should refer to the appropriate college or program section of the catalog.
4. Students who have been suspended or dismissed as the result of disciplinary problems shall not be readmitted to the University without a required interview with the Dean of Students Office. The University reserves the right to refuse any student readmission on the basis of his or her student history, either academic or disciplinary.

When to Apply

We strongly encourage students to reapply as early as possible. Deadlines for readmission vary according to your previous academic status or the college you wish to enter. Contact the Office of Admissions for specific dates. If you do not register for the session requested on your application and wish to postpone enrollment to a subsequent semester, you must notify the Office of Admissions. Applications are applicable for **four consecutive sessions only**. If you do not take advantage of admission and enroll within that period, a new application and fee are required.

Undergraduate Students Admissions Categories

Undergraduate students admitted to the University who are new students or who have not yet met the requirements for entry into a degree-granting college are under the supervision of University College. These students are admitted into one of three categories and are placed in the appropriate category by the Office of Admissions. The General Academic Regulations of the University regarding matters such as hours and minimum grade point average apply in all cases. Students may be enrolled in a category only once and may not reenter a category once they have left it and enrolled in some other category or a college. Students seeking second baccalaureate degrees will enter directly to the chosen college or non-degree status.

1. **New Students.** Students who have completed fewer than 26 semester hours of acceptable college credit are required to enroll in this category (there are exceptions in the case of some students and some colleges, see below). Admissible students with more than 26 but fewer than 64 semester hours of acceptable credit may be required to enroll in this category until they meet the special requirements for transfer to one of the University of New Mexico's degree-granting colleges (see appropriate sections of this catalog for these requirements).

This category is intended to serve only freshmen and sophomore students for the initial semesters of their college careers. Courses numbered 101 and above are open to freshmen and courses numbered in the 200's are normally available only for sophomores. Permission to take 300 and 400 level courses is granted only in exceptional cases, such as a student coming to the University with a knowledge of his or her native language that exceeds the work offered in the first two years of study in that language.

Students who have attempted 72 or more semester hours may not be admitted as new students. They must be admitted to a degree-granting college or to one of the following categories listed below, as appropriate. Students enrolled at the University of New Mexico who have earned more than 64 semester hours or attempted more than 72 semester hours may not remain in this category. They are strongly encouraged to transfer to a degree-granting college. If they do not yet meet the entrance requirements for a degree-granting college, they may apply to enter Category 2.

NOTE: a) Earned hours are defined here as all semester hours of college level credit recognized by the University of New Mexico, whether earned at the University of New Mexico or at any other institution of higher learning and including hours such as pass/fail (CR/NC) courses, CLEP, AP and accepted military credits. b) Attempted hours include all hours of credit attempted at this or any other institution of higher learning, including incompletes, repetitions and introductory studies courses as well as all "earned hours."

Some degree granting colleges may admit selected students who meet their eligibility criteria into "pre-major" status in the college (see appropriate sections of this catalog).

2. Students in Transition: The "Qualifying Category."

This provides students who have too many hours (64 earned or 72 attempted) to qualify for the "New Student" category with the opportunity to take the necessary steps to transform their academic careers (e.g., to transfer between institutions; to change academic programs). This category is available only for the circumstances noted below. It will not be used, for example, for students changing majors within a college or for students transferring between colleges who already meet the qualifications of the accepting unit. Students may remain in this category only for the number of hours necessary to qualify for entry into their colleges. Students may take a maximum of 30 hours in this category.

- a. **Advanced Transfer Students.** Admissible transfer students with more than 64 earned or 72 attempted hours and who lack the requirements to enter the college of their choice will be admitted into this category.
- b. **Students Preparing to Enter Special Programs.** These students must be advised by the Program they wish to enter and their academic management will be governed by regulations appropriate to each special degree-granting program.
- c. **"Dismissed" Students seeking a new College.** Some students, who are still in good standing under the General Academic Regulations of the University, fall below the minimum requirements for good standing in their current college and are "dismissed" from that college. If they are eligible for admission to another college, they should seek admission immediately. If they are not already eligible for admission to a second college of their choice, this category allows them the opportunity to qualify for that college. Dismissed students admitted to this category must pursue a new major.

3. **Academic Renewal Candidates.** This category accommodates students returning to baccalaureate education at the University of New Mexico after an absence of five or more years, who have not yet completed a Bachelor's degree. Academic Renewal candidates will be governed by the Academic Renewal Policy (see appropriate section of this catalog for details). Students may stay in this category until the requirements are completed and academic renewal is processed. Students may take a maximum of 36 hours in this category.

NOTE: Students admitted into Categories 2 and 3 must meet with a University Advisement Center advisor prior to registration.

Non-Degree Credit Program

The Non-Degree credit program allows students to earn academic credit without being admitted into a degree granting unit. This program accommodates non-traditional students who wish to begin taking academic courses at the University of New Mexico without taking college entrance exams; those who missed the degree status deadline; and those who wish to take academic courses to prepare for graduate studies, career changes, or for professional and/or personal development. Non-Degree status is recommended for visiting students from other institutions.

How to Apply

Complete and return a non-degree admission application and a \$10.00 fee to:

Office of Admissions
PO Box 4895
Albuquerque, NM 87196-4895

When to Apply

Students are encouraged to submit their applications as early as possible. The application deadlines are: Fall semester - August 15; Spring semester - January 10; Summer session - June 1. If you do not register for the session requested on your application and wish to postpone enrollment to a subsequent semester, you must notify the Office of Admissions. Applications are applicable for four consecutive sessions only. If you do not take advantage of admission by enrolling within that period, a new application and fee are required.

Admission Requirements

You must be 21 years of age or older or if you are under 21:

- a. Your high school graduating class must have been out of school for at least one full year;
- or—
- b. If you earned your diploma by the GED exam, your graduating class must have been out of high school at least one year.

NOTES:

1. Students in Non-Degree status are not eligible to receive financial aid. Contact the Student Financial Aid Office at (505) 277-8900 for details.
2. Veterans planning to attend the University under one of the public laws governing veterans' educational benefits and who are seeking admission to Non-Degree are required to have special approval from the Veterans Affairs Office (505) 277-3514.

The following students are not eligible for Non-Degree status:

1. A student who is under disciplinary or academic suspension from the University of New Mexico or any other collegiate institution.
2. A student who has exhausted his or her eligibility in University College and is not academically eligible to enter a degree-granting college at the University of New Mexico.
3. A student who has not completed a degree and was previously enrolled in degree status in an undergraduate college at the University of New Mexico.
4. A student from another country who is in the United States on a student visa.
5. A student who has been refused admission to degree status.
6. A student planning to receive student financial aid.

Applicants for Non-Degree status are required to certify that they are not under suspension from any college or university. Students found guilty of nondisclosure or misrepresentation in filling out the admission application form, or who after admission or enrollment at the University of New Mexico are

found to be ineligible for academic or other reasons to return to the last institution attended and fail to report this immediately to the Office of Admissions, will be subject to disciplinary action, including possible dismissal from the University.

Facts about Non-Degree Status

1. \$10.00 application fee is required.
2. No transcripts of previous high school or college work are required for admission.
NOTE: A transcript may be required to determine fulfillment of prerequisite course work.
3. There is a 30 credit hour limit in Non-Degree status if you do not have a baccalaureate degree. There is no limit for students with a baccalaureate degree.
4. Credits earned in Non-Degree are recorded on a University of New Mexico permanent record. Credits may be applied to an undergraduate plan of study, if the courses meet specific degree requirements.
5. If you are planning to take education courses, you must contact the College of Education at (505) 277-3190 concerning requirements.
6. Non-degree students applying for undergraduate degree status must follow admission procedures and provide all items required of transfer students (see *Transferring Students*).

Requirements for International Non-Degree Applicants

1. Non-Degree application and \$10 application fee.
2. Immigration documents that will not expire prior to the end of the semester of admission.
3. If English is not your first language, or if English is not the official language spoken in your country, you must take *one* of the following English exams:
 - IELTS (<http://www.ielts.org>) - minimum scores are 6.5 for undergraduates and 7 for graduates;
 - TOEFL (<http://www.toefl.org>) - minimum scores are 520 (paper-based) or 190 (computer-based) for undergraduates and 550 (paper-based) or 213 (computer-based) for graduates;
 - Cambridge CPE or CAE (<http://www.cambridge-efl.org>) - minimum score is C.

Deadlines:

Deadlines vary from semester-to-semester. Contact the International Admissions Office for additional information:
Phone: (505) 277-5829
Fax: (505) 277-6686
E-mail: goglobal@unm.edu

Academic Standards

Students in Non-Degree are subject to all University regulations governing registration, attendance, academic standing and satisfactory completion of prerequisite courses. The Albuquerque Campus governs academic standing and maintains college records for all Non-Degree students, including those at branch campuses and Extended University sites.

Non-Degree Status Limitations

Students without a baccalaureate degree may earn no more than 30 credit hours at UNM in non-degree status. No undergraduate college of the University will accept in a degree program more than 30 UNM hours while the student is in non-degree status nor, is a college obligated to accept any hours earned in non-degree status that do not fulfill college degree requirements. If degree status is not attained prior to earning 30 semester hours, the student will be allowed to register in courses in non-degree status as an auditor only, receiving no credit.

The senior residence requirement cannot be met by enrolling in non-degree status. This can be accomplished only by enrolling in a degree-granting college of the University.

A non-degree student who does not have a baccalaureate or equivalent degree may not enroll in 500–600 level courses. Non-degree students normally may enroll only in undergraduate credit offerings. In some cases graduate credit course work earned while in non-degree may apply to a graduate degree. Contact the specific department for details.

Non-Degree Advisement Office

Non-Degree undergraduate and graduate advisement is part of the University Advisement Center, located in the University Advisement and Enrichment Center, Suite. 105.

Phone: (505) 277-2631
FAX: (505) 277-3173
E-mail: ucac@unm.edu

The Advisement Center provides the following services for Non-Degree students:

- Academic Advisement
- Registration Assistance
- Orientation Sessions for New Students
- Extended Office Hours
- Referrals to Campus Services

Teacher Licensure

Students with baccalaureate degrees who wish to complete a professional program that leads to eligibility for initial licensure as a teacher must make regular application for graduate admission to the College of Education. Such application should be initiated and completed as early as possible. The process for admission and selection to such a professional program is competitive.

Teachers who are already licensed may take course work to add to the completion of some teaching field endorsements while enrolled in non-degree status. Such teachers, however, must seek advisement from the College of Education Advisement Center. Contacts for information and advisement are listed in the College of Education section of this catalog under the headings of Undergraduate Study and Endorsements for Initial Teacher Preparation Programs Including Undergraduate, Post-Baccalaureate and Graduate with licensure.

Certain professional endorsements (e.g., bilingual education, ESL, special education and educational leadership) require or highly recommend application to graduate study in a degree program.

The College's Advisement Center and/or an appropriate Department Office should be contacted before enrollment. Appointments can be made at the Advisement Center by calling (505) 277-3190.

Note that changes in licensure programs may occur in order to meet changes in State Standards for licensure. Early contact with the College Advisement Center will allow prospective candidates to plan for such changes in their studies. See Elementary Education (K–8) or Secondary Education (7–12) sections for more information on application and programs.

International Students

The University of New Mexico welcomes applications from international students who have earned distinguished academic records and have demonstrated English proficiency. The University is proud to claim one of the most ethnically diverse student bodies among universities anywhere in the United States. The academic programs consistently rank among the top in universities across the United States, and the faculty is distinguished by Nobel Laureates, Fulbright recipients and nationally recognized academicians.

International Undergraduate Admission Requirements

1. Secondary Education

Completion of the equivalent of an American upper secondary school education (approximately 12 years of formal education beginning at age six) as well as the appropriate diplomas or satisfactory results on leaving examinations.

2. Academic Preparation

Strong academic preparation or a U.S. equivalent grade point average of 2.5 on a 4.0 scale (for freshman applicants) or 2.0 on a 4.0 scale (for transfer students).

3. English Proficiency

If English is not the first language of the student or not the official language of the country, the student must submit results of either the International English Language Testing System (IELTS) - minimum score 6.5; the Test of English as a Foreign Language (TOEFL) - minimum score 520 paper-based, 190 computer-based or 68 internet-based; the University of Cambridge Examinations Certificate of Proficiency in English (CPE) or Certificate of Advanced English (CAE) - minimum score C. Students who are academically admissible but whose scores are less than the required minimum may enroll in the intensive English program offered through UNM's Center for English Language and Culture (CELAC). Contact the Office of International Programs and Studies (oops@unm.edu) for additional information. Transfer students who have satisfactorily completed the equivalent of the University of New Mexico's two freshman English composition courses (ENGL 101 and 102) at accredited U.S. institutions are not required to submit English proficiency results scores. In some cases, official ACT scores (English 19) or SAT scores (Critical Reading/Verbal 470) will be accepted to satisfy English proficiency.

4. Financial Resources

All international applicants are required to submit documentation verifying adequate funding to meet study and living expenses while in the United States. A minimum amount of approximately \$27,000 U.S. dollars is required (based on 2006–2007 rates). Proof of support includes a Certification of Financial Responsibility Form completed for all years of study and proof of funds available for the first year of study.

5. Health Insurance

International students who attend the University of New Mexico and any dependents who may accompany them are required to have medical insurance as offered through the University of New Mexico. Students who demonstrate that they have equivalent health insurance policies may be granted waivers.

When to Apply

Application Deadlines

Fall Semester	May 1
Spring Semester	October 1
Summer Session	March 1

Applications and all supporting credentials must be submitted by these dates. Only complete applications will be reviewed for admission.

How to Apply

Required Documents

1. Completed application form;

Students must submit an application for International Undergraduate Admission to the Office of International Admissions. Students may also apply online at <http://www.unm.edu>.

2. \$50.00 non-refundable application fee;

(Must be in U.S. currency and paid by International Postal Money Order or certified check drawn on a U.S. bank.)

3. Evidence of English language proficiency;

Test scores must be sent directly to the University from either IELTS (<http://www.ielts.org>); TOEFL (<http://www.toefl.org>); or Cambridge CPE or CAE (<http://www.cambridge-efl.org>).

4. Academic Records;

In order to facilitate the admission decision, the University of New Mexico strongly recommends that students initially submit academic records to any member of the National Credential Evaluation Services (<http://www.naces.org>). Students must still submit official transcripts to the University, but the English translations will not be required.

Students who do not utilize a credential evaluation service must have official grade reports (transcripts) and diplomas or certificates from each institution attended sent to the University of New Mexico. Students must submit original or officially certified copies. Notarized, faxed copies or photocopies of these documents are not acceptable. All documents must be submitted in both the original language accompanied by an official certified English translation. Certified copies must contain the original signature(s), stamp(s) or seal(s) of the issuing institution's designated official. Students who have no prior college or university credit must submit evidence of graduation from an acceptable secondary school and must be eligible for admission to a recognized university in their home countries. **Transcripts and test scores submitted to The University of New Mexico for admission become the property of the University and will not be sent elsewhere or returned to the student.**

Note: A student who wants any information concerning the applicant file released to any third party must submit a letter of authorization directly to the International Admissions Office. This release must include the student's name and signature.

Submit all documents to:
Office of Admissions
International Admissions
1 University of New Mexico
MSC11 6305
Albuquerque, NM 87131-0001

NOTE: I-20 Statement

The Immigration Form I-20 is valid up to the first day of class for the semester or summer session to which a student is admitted. Students that are not able to attend must immediately return the I-20 form to the International Admissions Office.

International Undergraduate Readmitted Students

A University of New Mexico degree-seeking student who stops attending for **consecutive sessions** must file an application for readmission. You may also apply on the Web at <http://www.unm.edu>.

If you have attended another institution since your last attendance at the University, you must also submit new, official transcripts.

In addition, you must update your financial documentation.

International Graduate Admission Requirements

1. Undergraduate Education Requirement

Graduate applicants must have an earned degree that is equivalent to the U.S. bachelor's degree. Some non-U.S. bachelor's degrees are based on three-year programs that may or may not be equivalent to the U.S. bachelor's degree. In these cases, the applicant must submit an independent credential evaluation report from

a credential evaluation service that is a member of the National Association of Credential Evaluation Services (www.naces.org).

If the credential evaluation report confirms that the applicant does have the equivalent of a US bachelor's degree, the applicant will be considered for graduate study.

If the report states that the applicant may be considered for graduate study but does not confirm the equivalent degree, the applicant may petition the Dean of Graduate Studies for consideration of equivalency. The petition must include the support of the graduate unit and College Graduate Committee, along with a complete application packet, a copy of the credential evaluation report, and an explanation of the suitability of the applicant's undergraduate preparation. This documentation must be submitted to the International Admissions Office.

If the Dean approves the petition, the graduate unit may proceed with an offer of admission. A student admitted under this policy will be classified as a regular graduate student with the same rights and responsibilities as any other student in graduate status.

2. Academic Preparation

A minimum grade point average of 3.0 (on a U.S. 4.0 scale) or comparable grade point average in upper-division (junior and senior level) work and in any graduate work already completed.

A satisfactory score on the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT) as required by the major academic department or college.

Adequate subject preparation for proposed graduate major. Meeting minimum requirements does not guarantee admission since some graduate programs have higher standards and may have limited space. Therefore, it is very important that students contact the departments to which they wish to be admitted.

3. Demonstrated proficiency in English

If English is not the official language spoken in a student's country, the student must submit results of either the International English Language Testing System (IELTS) - minimum score 7; the Test of English as a Foreign Language (TOEFL) - minimum score 550 paper-based, 213 computer-based, or 79-80 internet-based; the University of Cambridge Examinations Certificate of Proficiency in English (CPE) or Certificate of Advanced English (CAE) - minimum score C. Individual departments may require higher scores. International students whose native language is not English and are seeking graduate teaching assistantships may also be required to submit acceptable scores on the Test of Spoken English (TSE). Applicants who have received a bachelor's or graduate degree from an accredited institution in the United States, English-speaking Canada, the United Kingdom, South Africa, Australia or New Zealand are exempt from submitting TOEFL scores. Contact the International Admissions Office for additional information.

4. Financial Resources

All international applicants are required to submit documentation verifying adequate funding to meet study and living expenses while in the United States. A minimum amount of approximately \$24,000 U.S. dollars is required (based on 2006-2007 rates). Proof of support includes a Certification of Financial Responsibility Form completed for all years of study and proof of funds available for the first year of study.

5. Health Insurance

International students who attend the University of New Mexico and any dependents who may accompany them are required to have medical insurance as offered

through the University of New Mexico. Students who demonstrate that they have equivalent health insurance policies may be granted waivers.

When to Apply

Application Deadlines

Fall Semester	May 1
Spring Semester	October 1
Summer Session	March 1

Note: Most departments have earlier deadlines. It is important that students consult with individual departments and meet their specific deadline requirements.

Applications and all supporting credentials must be submitted by these dates. Only complete applications will be reviewed for admission.

How to Apply

Required Documents

- 1. Completed application form;**
Students must submit an application for International Graduate Admission to the Office of International Admissions. Students may also apply on-line at <http://www.unm.edu>.
- 2. \$50.00 non-refundable application fee;**
(Must be in U.S. currency and paid by International Postal Money Order or certified check drawn on U.S. bank.)
- 3. Evidence of English language proficiency;**
Test scores must be sent directly to the University from either IELTS (<http://www.ielts.org>); TOEFL (<http://www.toefl.org>); or Cambridge CPE or CAE (<http://www.cambridge-efl.org>).
- 4. Academic Records;**
In order to facilitate the admission decision, the University of New Mexico strongly recommends that students initially submit academic records to any member of the National Credential Evaluation Services (<http://www.naces.org>). Students must still submit official transcripts to the University, but the English translations will not be required.

Students who do not utilize a credential evaluation service must have official grade reports (transcripts) and diplomas or certificates from each institution attended sent to the University of New Mexico. Students must submit original or officially certified copies. Notarized, faxed copies or photocopies of these documents are not acceptable. All documents must be submitted in both the original language accompanied by an official certified English translation. Certified copies must contain the original signature(s), stamp(s) or seal(s) of the issuing institution's designated official.
- 5. Financial Documents;**
Students must submit the University of New Mexico Certification of Financial Responsibility form along with required supporting documentation.
- 6. Departmental Requirements;**

Individual departments may require additional credentials and/or letters of recommendation. Students must contact the department of intended field of study for specific information and submit all required documents to the International Admissions Office and department of interest before the earlier deadline.

NOTE: I-20 Statement

The Immigration Form I-20 is valid up to the first day of class for the semester or summer session to which a student is admitted. Students that are not able to attend must immediately return the I-20 form to the International Admissions Office.

NOTE: A student who wants any information concerning the applicant file released to any third party must submit a letter of authorization directly to the International Admissions Office. This release must include the student's name and signature.

Submit all documents to:

Office of Admissions
International Admissions
1 University of New Mexico
MSC11 6305
Albuquerque, NM 87131-0001

International Graduate Readmitted Students

A University of New Mexico graduate student who stops attending for **consecutive sessions** must file an application for readmission. You may also apply on the Web at <http://www.unm.edu>.

Readmitted students must adhere to catalog policies in effect at the time of readmission to graduate status or a subsequent version. If you were on probationary status when last enrolled, you will return on probation unless the matter was resolved.

To apply for readmission, submit an application for readmission with a \$50 fee directly to the Office of International Admissions one month prior to the graduate unit's published deadline. You are responsible for determining additional specific application materials the graduate unit requires, such as GRE scores, portfolios, or writing samples.

If you have attended another institution since your last attendance at the University, you must also submit new, official transcripts.

In addition, you must update your financial documentation.

Admission to Dual Degree Programs

Refer to Dual Status under the Graduate Program section of the catalog.

THE UNDERGRADUATE PROGRAM and UNDERGRADUATE ACADEMIC ADVISING

General Academic Regulations

Students are responsible for complying with all regulations of the University, their respective colleges and the departments from which they take courses, as well as for fulfilling all degree requirements. Students are responsible for knowing and complying with all academic regulations.

Catalog Requirements

Undergraduate students may graduate under the requirements in the catalog issue in effect at the time of their admission into the college or school from which they are seeking a degree. If students transfer from one degree-granting college or program to another within the University, they must comply with the catalog requirements in effect at the time of their transfer.

Notwithstanding the above, the University of New Mexico reserves the right to make changes in the curricula and degree requirements as deemed necessary, with the changes being applicable to currently enrolled students.

Readmission—Catalog Requirements

Students who interrupt their degree program and are not enrolled for three or more consecutive semesters (including Summer), must comply with catalog requirements in effect at the time of re-enrollment.

Responsibility for Requirements

Students are responsible for knowing the rules and regulations concerning graduation requirements and for registering in the courses necessary to meet them. Advisement at the specific department/program level as well as the college level is strongly recommended to assure timely graduation.

Students who take more than 10 years to graduate from the date of their original admission, must conform to the catalog in effect in the semester in which they intend to graduate.

Core Curriculum

The University adopted a revised Core Curriculum as of Fall 2003 which all undergraduate students must complete as part of their baccalaureate program. The Core consists of several groups of courses designed to enhance each student's academic capabilities. Its goal is to give all students at the University a grounding in the broad knowledge and intellectual values obtained in a liberal arts education and to assure that graduates have a shared academic experience. The required courses encourage intellectual development in seven areas of study: writing and communication, social and behavioral sciences, mathematical reasoning, scientific methods in the physical and natural sciences, the humanities, the fine arts, and languages. The Core consists of lower-division courses which develop these skills and abilities, and students are strongly encouraged to complete the Core early in their college careers. Individual student substitutions should be minimal and are discouraged. Except where noted (see "Alternative Credit Options" in the Undergraduate Admissions section of the Catalog), students may apply AP or CLEP credit to the Core requirements.

Departments and colleges may restrict student choices within the Core to meet departmental and college degree requirements. A grade of C (not C-) is required in all

courses used to fulfill the requirements of the Core Curriculum. Courses taken CR/NC can be applied to the core, subject to general University and individual college and department regulations on the number of credits that can be taken CR/NC and the applicability of courses taken CR/NC to the individual degree.

The University recognizes, however, that the highly structured nature of many degree programs and the presence of numerous transfer and non-traditional students requires flexibility on its part. Transfer and re-entering students will receive advising in the college and department to which they are admitted in order to establish an appropriate program which will meet their needs and the aims of the Core. Where degree program requirements are so structured that a student's total academic program credits would be increased by taking a Core course in a particular Core area, a department may approve a blanket substitution of a course in a particular Core area for all students pursuing an undergraduate degree in that particular program. Approval of substitutions or exceptions is handled on a department and college basis.

The basic Core Curriculum requires approximately 37 hours of courses in seven areas of study.

- 1. Writing and Speaking** (9 hours): English 101 and 102 plus an additional course chosen from English 219, 220; Communication and Journalism 130; Philosophy 156. Students with ACT English scores of 29 and higher or SAT Critical Reading scores of 650 or higher have satisfied the University Writing Requirement and should enroll for courses of their choice in the Writing and Speaking Core. Students with ACT English scores of 26, 27, 28 or SAT Critical Reading scores of 610 or higher may enroll directly in English 102 and, upon passing, meet the University Writing Requirement. Students with ACT English scores of 25 or lower or SAT Critical Reading scores below 610 should enroll in English 101. Students who have taken an Advanced Placement examination in English Language or Literature should refer to "Advanced Placement" for placement and credit information.
- 2. Mathematics:** One course chosen from MATH 121, 129, 150, 162, 163, 180, 181, 215, Stat 145.
- 3. Physical and Natural Sciences:** Two courses, one of which must include a laboratory, chosen from Anthropology 150 and 151L, 121L (lab required), 160 and 161L; Astronomy 101 and 101L; Biology 110 and 112L, 123 and 124L; Chemistry 111L (lab required), 121 and 123L or 131L (lab required), 122L and 124L or 132L (lab required); Earth and Planetary Sciences 101 and 105L, 201L (lab required); Environmental Science 101 and 102L; Geography 101 and 105L; Natural Sciences 261L (lab required), 262L (lab required), 263L (lab required); Physics 102 and 102L, 105, 151 and 151L, 152 and 152L, 160 and 160L, 161 and 161L.
- 4. Social and Behavioral Sciences** (minimum 6 hours): Two courses chosen from American Studies 182, 185; Anthropology 101, 130; Community and Regional Planning 181; Economics 105, 106; Engineering-F 200; Geography 102; Linguistics 101 (AOA Anthropology 110); Political Science 110, 200, 220, 240; Psychology 105; Sociology 101.
- 5. Humanities** (6 hours): Two courses chosen from American Studies 186; Classics 107, 204, 205; Comparative Literature and Cultural Studies 222, 224; English 150, 292, 293; Foreign Languages (MLNG) 101; History 101L, 102L, 161, 162; Honors Legacy Seminars at the 100- and 200-level; Philosophy 101, 201, 202; Religious Studies 107, 263, 264.
- 6. Foreign Language** (non-English language; minimum 3 hours): One course chosen from any of the lower-division

30 UNDERGRADUATE PROGRAM AND ACADEMIC ADVISING

sion non-English language offerings of the Departments of Linguistics (including Sign Language), Spanish and Portuguese, Foreign Languages and Literatures, and foreign languages in other departments and programs.

7. **Fine Arts** (minimum of 3 hours): One course chosen from Architecture 121; Art History 101, 201, 202; Dance 105; Fine Arts 284; Media Arts 210; Music 139, 142; Theatre 122. Students may elect to take one 3-hour studio course offered by the Departments of Art and Art History, Music, Theatre and Dance, and Media Arts to fulfill this requirement.

University Advisement Center

Vanessa Harris, M.P.A., Interim Director of Advising
University Advisement and Enrichment Center, Suite 105
MSC06 3680

1 University of New Mexico
Albuquerque, NM 87131-0001

Phone: (505) 277-2361

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E-mail: uca@unm.edu

<http://advisement.unm.edu/>

<http://facebook.unm.edu/uacac>

The mission of the University Advisement Center is to give guidance to students in a nurturing, diverse, respectful, and supportive environment and to assist students in making a successful transition to degree-granting colleges and appropriate majors, while developing the foundations for lifelong learning. University Advisement Center will accomplish its mission by:

- Collaborating with Student Affairs Programs, the Division of Equity and Inclusion, and Colleges to provide the most accurate information to students;
- Engage students in a shared intellectual experience based on active learning and listening;
- Provide students with an exposure to and an understanding of a wide variety of disciplinary, cross-disciplinary, and interdisciplinary perspectives; and
- Promote University-wide undergraduate research opportunities to continue students' academic growth.

Admission Requirements and Academic Regulations

All undergraduate, non-degree undergraduate and non-degree graduate students who are admitted to the University but have not yet met the requirements to enter their desired degree-granting college are admitted to University College (UC), and advised by the University Advisement Center (UAC). UAC is responsible for regulating and administering the University Academic policies and procedures. UAC works collaboration with advisement centers to assist students in the formulation of their academic directions, goals, and plans. All students in University College are required to meet with a UAC academic advisor every semester prior to registration.

Students in UC will receive a hold on their academic account each semester. The purpose of the hold is to ensure that students are meeting with an academic advisor, and are taking the courses needed to transfer to their degree-granting colleges in a timely manner. Students who are unsure of their academic interests, or who wish to explore several possible programs of study, should meet with an academic advisor in UAC. The advisor will help the student explore interests and abilities, discuss academic strengths and weaknesses, and explain the applicable university regulations and policies.

Students with an area of interest or a definite major in mind should also meet with that departmental advisor, as well as their appropriate college or program advisor. This will ensure that they obtain current curriculum and admissions information. Although these students may be directed to a college advisement center for course advisement, UAC maintains their records and is responsible for their general academic

oversight. University Advisement Center is responsible for their advisement until they are admitted to their intended degree-granting college or until they are no longer eligible to enroll in one of the admissions categories supervised by this office.

Students who have earned 26 credit hours and have not met the requirements to transfer into their degree-granting colleges are required to meet with a pre-major advisor at University Advisement Center.

Admission to Degree-Granting Colleges from University College

The **minimum** requirements for transfer from University College to any other University of New Mexico degree-granting college or school are:

1. Twenty-six hours of earned credit acceptable to that college.
2. A grade point average of at least 2.00 on all hours attempted; or a grade point average of at least 2.00 on all hours attempted in the previous two semesters of enrollment, provided that if fewer than 26 hours were attempted in the previous two semesters, a grade point average of at least 2.00 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's hours attempted to at least 30. (See definition of grade point average in this catalog.)

NOTE: Most colleges and schools have admission requirements beyond the minimum noted above. In many instances a grade point average much higher than a 2.00 minimum is required. In addition, most of them also have specific course requirements before students are admitted to their program. For information on admission requirements of a particular degree-granting college or school, students should refer to the admission regulations set forth in the section of this catalog devoted to that college or school.

Students should apply for transfer to a degree-granting program as soon as they meet the admission requirements for the college or school of their choice. Transfer is not automatic. Students must initiate the transfer process at the college or school of their intended major. If the student is admitted to the college, the transfer will take place at the end of the semester (or summer session) during which the student files for transfer and is accepted by the degree-granting unit. If a student does not meet the requirements by the end of the semester in which the transfer application is filed, the transfer application becomes invalid and the student must later reapply for transfer.

Second Chance Program

(see *University College* section of this catalog.)

Graduation Requirements

Bachelor's Degrees

Graduation from the University of New Mexico is not automatic. Application for candidacy for graduation is required. Each college may have differing deadlines for degree application. Students anticipating graduation should make arrangements in advance with their college.

Candidates for an undergraduate bachelor's degree must meet the following University minimum degree requirements and are subject to the following University limitations:

1. The student must be admitted to the University of New Mexico college from which the degree is awarded at the time of graduation.

2. A **minimum** of 128 semester hours of earned credit is required.
3. Complete the University Core Curriculum.
4. Residence credit requirement: A minimum of 30 semester hours of credit, exclusive of extension and correspondence (independent study) credit, must be earned at the University of New Mexico. Of these 30 semester hours in residence, 15 semester hours must be earned after the candidate has accumulated 92 hours of earned semester hour credit; these 15 hours, however, do not necessarily have to be the last hours of a degree program. A student may fulfill all or part of this residence requirement by attending summer session.
5. The student must have a minimum cumulative grade point average of 2.0.
6. The student must demonstrate a minimum competence in English writing by passing ENGL 102 with a "C" or better or attaining a suitable score on an authorized proficiency test prior to graduation. Students exempt from taking ENGL 101 and students who receive a grade of B- or higher in ENGL 101 or its equivalent at another institution, may choose to satisfy the minimum competence in English writing requirement through the Writing Proficiency Portfolio program administered in the English Department.
7. A maximum of 24 semester hours of pass/fail (CR/NC) grading option courses may be applied toward a bachelor's degree.
8. A maximum of 40 semester hours of extension and correspondence (independent study) credit may be applied toward a bachelor degree and no more than 30 of these hours may be correspondence credit.
9. The student must contact his/her college office prior to their last semester in order to initiate and complete the graduation process.
10. Major and minor residence requirements: at least one-half of the minimum number of credit hours required for major study and one-fourth of the minimum for minor study must be class or laboratory work earned in residence at the University of New Mexico. A senior transfer student may satisfy this requirement, with the approval of the major department, with at least one-fourth of the total minimum hours required for the major. Most colleges will not accept Introductory Studies courses or technical courses to satisfy any of these requirements.
11. A student is not permitted to graduate if unresolved incomplete (I) grades or not reported (NR) grades are on the student's academic record. It is the student's responsibility to resolve any and all incomplete or not reported grades by the published ending of the semester in which graduation occurs.
12. Once a student has completed academic requirements for a degree (certificate, associate, baccalaureate, master's, Ph.D.) and has received the diploma and appropriate notations on the official transcript, no modification of the student's academic record leading to that degree will be made by the University of New Mexico.

Additional degree requirements for a specific bachelor's degree will be found in the appropriate college section of this catalog.

Second Undergraduate Degree

The student seeking a second baccalaureate degree must apply for and meet admission criteria for that degree. To obtain a second bachelor's degree the student must successfully complete a minimum of 30 additional hours beyond the requirements for the first degree and must meet all degree requirements of the second degree, including residence requirements.

The degree of Bachelor of University Studies may not be used as a second undergraduate degree. Completion of a second major under a Bachelor of Arts or Bachelor of Science program is recorded on the student's permanent record but as a second major. A second degree is not awarded.

A student who has completed a baccalaureate degree and who is seeking a second undergraduate degree will be

evaluated by the new degree college in accordance with the hours and requirements completed toward the new degree. Residence credit requirements for the second degree will be determined on the same basis as those for the first degree.

Associate Degrees

Candidates for associate degrees offered by any of the University of New Mexico's colleges or branches must meet the following minimum degree requirements and are subject to the following University limitations:

1. A minimum of 60 acceptable semester hours must be earned. Technical-vocational work (up to the limit specified below) may be included in these 60 hours, upon approval of the appropriate degree-granting program.
2. A minimum of 15 semester hours must be earned in residence at the University of New Mexico, exclusive of extension and correspondence credits. The remainder may be acceptable transfer credits earned at fully accredited institutions of higher learning and/or at regionally accredited technical-vocational institutions (see also *Transferring Students* for transfer credit regulations).
3. Of the 60 hours minimum, no more than 9 semester hours may be earned by extension or correspondence.
4. The student must have a cumulative grade point average of at least 2.00.
5. Introductory Studies 100 courses may not be used to satisfy any of the above requirements.

Certificates

Candidates for certificates offered by any of the University of New Mexico's colleges or branches must meet the following minimum requirements and are subject to the following University limitations:

1. A minimum of 30 acceptable semester hours must be earned. Technical-vocational work (up to the limit specified below) may be included in these 30 hours upon approval of the certificate-granting program.
2. A minimum of 15 semester hours must be earned in residence at the University of New Mexico.
3. Of the 30 hours minimum, no more than 6 semester hours may be earned by extension or correspondence.
4. The student must have a cumulative grade point average of at least 2.00.

Second Associate Degree/ Second Certificate

A second certificate or a second associate degree will not be granted until a student has earned a minimum of 15 semester hours above the requirements for the first certificate or degree and fulfilled all requirements for the second certificate or degree including residence requirements.

Commencement

Commencement exercises are held twice per year, at the end of the fall and spring semesters. Students whose requirements were completed and degrees confirmed in the preceding summer, fall, or spring semesters are invited to attend.

While commencement attendance is optional, **all students must declare their intent to graduate within their specific departments.** Check with your academic advisor to determine the deadline and the process for your department. This deadline may be up to one year before your intended graduation semester.

During your graduation semester, log-on to <http://graduation.unm.edu> to sign up to receive your diploma and to attend university-wide commencement and/or departmental convocation ceremonies. Other useful graduation-related information can be found here, including purchasing your caps, gowns, and graduation announcements.

Graduation With Honors

Students may graduate with Baccalaureate Honors, from the University Honors Program, with Departmental Honors, or with a combination of the three. Baccalaureate Honors are automatically awarded. The University Honors Program and Departmental Honors are not automatic, students are required to apply for candidacy to graduate with these Honors.

Baccalaureate Honors

Baccalaureate students graduating from the University of New Mexico who have a minimum scholastic index of 3.50, and who have earned a minimum of 60 hours in residence, are awarded Baccalaureate Honors. Designations of cum laude (3.50-3.74), magna cum laude (3.75-3.89), and summa cum laude (3.90-4.33) are awarded to graduates who meet the above criteria. Honors designations will be printed on the diploma and recorded on the permanent record, after completion of all degree requirements has been confirmed. **Note: If a student is completing requirements toward baccalaureate honors during their final undergraduate semester, information will not be available for the commencement program.** Baccalaureate honors are automatically awarded. It is not necessary for students to apply for this category of honors. Students pursuing a second baccalaureate degree are ineligible to graduate with baccalaureate honors.

University Honors Program

The level of University Honors attained is determined by the Honors Council and may be cum laude, magna cum laude or summa cum laude. Honors designations will be printed on the diploma and recorded on the permanent record, after completion of all degree requirements has been confirmed. For more information on the requirements for these Honors, see the University Honors Program listing elsewhere in this Catalog.

Departmental Honors Program

A Departmental Honors program is available to qualified students in many departments of the University. Interested students should contact the chairperson of their major department (or the dean of the college in colleges which are not departmentalized) as to the availability of a program.

The purposes of Departmental Honors programs are as follows: 1) to intensify and deepen the student's knowledge in their major field; 2) to put this specialized knowledge into better relationship with knowledge in related fields and in the larger general area of the student's specialization; and 3) to bring the student under closer guidance of, and acquaintance with, teachers in their field.

Normally, students enter a Departmental Honors program in their junior year. They should at least make their intention of graduating with Departmental Honors known to their chairperson or dean early in their junior year. Admission to Departmental Honors candidacy cannot be granted later than the beginning of the student's senior year.

Minimal requirements for graduation with Departmental Honors are as follows: a) an overall grade point average of 3.20; and b) not less than 6 credit hours in independent study, senior thesis or special courses open only to candidates for graduation with honors in the department (or college, if the college is not departmentalized).

Departments or colleges may have differing additional quantitative and qualitative requirements. The prospective Departmental Honors student should confer with the chairperson of the department (or the dean of the college) regarding the requirements beyond the minimum requirements set forth.

Graduation with Departmental Honors is not determined solely on performance in standard courses or grade point averages in either the field of specialization or entire program of the student. Continuance in Departmental Honors programs and the level of honors at which the candidates will be graduated are both at the discretion of the department and may be cum laude, magna cum laude or summa cum laude. Honors designations will be printed on the diploma and recorded on the permanent record, after completion of all degree requirements has been confirmed.

Other Programs

Extension and Independent Study

The University of New Mexico allows credit for correspondence and extension courses at the University of New Mexico or through other fully accredited colleges and universities toward degree requirements.

Credit for extension and correspondence courses completed at institutions not accredited by regional accrediting associations is not accepted for transfer, although a student who has completed such correspondence or extension work in a course comparable to one at the University of New Mexico may establish credit here by special examination (see *Examinations*).

The hours earned by correspondence or extension from accredited institutions other than the University of New Mexico may be counted toward degree requirements, but the grades will not be included in the student's grade point average (see *Grade Point Average*). Courses taken from other institutions must correspond to those offered at the University of New Mexico.

Any graduating senior not in residence who expects to substitute credits earned by correspondence or extension toward fulfillment of degree requirements must have prior approval of his or her college's dean. The student is responsible for complying with all regulations.

National Student Exchange

NSE offers the University of New Mexico students an opportunity for educational travel and study at more than 170 participating colleges and universities across the United States and its territories/commonwealths. NSE permits students to broaden their academic, social and cultural awareness by temporarily leaving the familiar atmosphere of hometown and home campus.

Participants must be full-time students at the UNM Main campus with a minimum cumulative grade point average of a 2.50 and must have completed two semesters and at least 26 hours prior to exchange.

NSE students pay full-time tuition to the University of New Mexico before leaving for their host school. Most University of New Mexico financial aid will apply for tuition. Expenses for room and board, transportation to and from the host campus, and incidentals are the responsibility of the exchange student.

Information may be obtained from the NSE Office, University Advisement and Enrichment Center, Room 280, Telephone (505) 277-3361, <http://www.unm.edu/~unmnse>.

New Mexico/WICHE

(Western Interstate Commission for Higher Education)

Since 1951, New Mexico has sponsored and sent students across state lines to receive professional education. The 13 western states have provided this service under terms of the Western Regional Education Compact, which has been

adopted by the legislatures of all 13 member states and has been administered by the Western Interstate Commission for Higher Education.

New Mexico participates in 7 of the 15 disciplines offered through WICHE Professional Student Exchange. Certified New Mexico residents are eligible for funding support at WICHE-participating institutions in the fields of dentistry, veterinary medicine, optometry, osteopathy, podiatry, graduate library studies and public health. In addition, New Mexico receives WICHE students from the other compacting states in the fields of medicine, physical therapy, law, pharmacy, and architecture.

Western Regional Graduate Programs

The University of New Mexico is one of 35 graduate-level institutions in the West cooperating in a regional effort to make certain that graduate programs of limited availability are accessible to graduate students of the 15 participating states. Qualified students from all 14 states may enroll in these programs at resident tuition rates. The Western Regional Graduate Programs at this institution are American Studies (M.A., Ph.D.); Art History – Art of the Americas, Art of the Modern World (M.A., Ph.D.); Educational Linguistics (Ph.D.); Latin American Studies (M.A., Ph.D.); Optical Science & Engineering (MS, Ph.D.); Art Studio focusing on Printmaking (M.F.A.); Water Resources (M.W.R.).

Additional information about the Western Regional Graduate Programs may be obtained by contacting the participating units or by contacting the Western Interstate Commission on Higher Education: <http://www.wiche.edu>.

* Participating states include: AK, AZ, CA, CO, HI, ID, MT, ND, NM, NV, OR, SD, UT, WA, WY.

Western Interstate Commission on Higher Education (WICHE)
Western Regional Graduate Program
Post Office Box 9752
Boulder, CO 80301-9752
(303) 541-0200

Western Undergraduate Exchange (WUE)

WUE is the Western Undergraduate Exchange, a program of the Western Interstate Commission for Higher Education (WICHE). Through WUE, students in western states may enroll in many two-year and four-year college programs at a reduced tuition level: 150 percent of the institution's regular resident tuition. WUE tuition is considerably less than non-resident tuition.

Requirements for WUE Enrollment

Interested students must be admitted to UNM prior to applying for the WUE subsidy.

First-time freshmen must have a cumulative high school GPA of 3.0 or higher (on a 4.0 scale) and an ACT composite score of at least 21 or the SAT equivalent (1000). Transfer students must have a cumulative GPA of 3.0 or higher (on a 4.0 scale) on 30 transfer hours.

All UNM Programs are open to WUE students. Access to the WUE Program is selective; enrollment is limited to 30 students per academic year.

How to Apply

For consideration, students must contact the WUE Coordinator at (505) 277-3361 to begin the WUE admissions process, or visit the WUE website at <http://www.unm.edu/~wue>.

International Student Exchange/ Study Abroad

The Study Abroad Division administers international exchange programs whereby University of New Mexico students exchange places for a semester or academic year with international students from some 75 universities in 30 countries. The study abroad advisor works closely with the Latin American and Iberian Institute to promote extensive study abroad opportunities in Spain and Latin America. OIPS provides support and assistance for summer session and other short-term courses taught by University of New Mexico faculty at overseas sites. The program also maintains an extensive resource center and online resources for students and faculty who are seeking other opportunities for international study, research, internships or volunteer programs. Additionally, the study abroad advisor offers information and support for students in seeking grants, scholarships and other financial aid sources to help pay for international experiences. The office serves as the advising center for student and faculty Fulbright programs, grants from the National Security Education Program, the Gilman Scholarship and other special programs.

The study abroad program also provides an extensive orientation program, information resources and advising both for outgoing University of New Mexico and incoming exchange students, emphasizing health and safety issues, cultural adjustment, academic success, and immigration and visa requirements. The advising staff works to assure that every student has a safe, productive and stimulating international and intercultural experience.

The Office of International Programs and Studies is located in Mesa Vista Hall, Room 2111, (505) 277-4032. For more information, please visit us at <http://www.unm.edu/oips>.



STUDENT SERVICES INFORMATION

Records

The Records and Registration Office is responsible for the maintenance of the educational records at the University of New Mexico. This includes, but is not limited to, student transcripts, academic folders and faculty grade reports. The following information refers to some of the policies and procedures for educational records. Note: Proper photo identification (driver's license, Lobo Card, passport or other state or federal issued identification) is required for all in-person transactions.

Use of Social Security Numbers

The Social Security Number (SSN) is not the primary University identification number. UNM is required to collect SSN in order to provide full access to services such as financial aid, to ensure an accurate academic record, and for record-keeping purposes. The University protects the confidentiality of SSN as required by law.

Access to and Confidentiality of Student Records

*Family Educational Rights and Privacy Act (FERPA)
November 19, 1974*

Student Records Policy

Approved by the University President 4/93. Amended 3/20/96.

1. Introduction

Under the Family Educational Rights and Privacy Act of 1974 (FERPA), students have the right to inspect and review most education records maintained about them by the University of New Mexico, and, in many cases, decide if a third person can obtain information from them. Nine categories of information, however, are public (or directory information) unless a student asks that some or all of that information be withheld. It is the policy of the University to comply fully and fairly with the provisions of the Act, Federal Regulations and this policy.

2. Limitations on Access to Student Records

No one inside or outside the University shall have access to, nor will the contents of students' education records be disclosed without the written consent of the students except as provided by the Act and Regulations. Exceptions in the Act and Regulations include but are not limited to the following: personnel within the institution determined by the institution to have a legitimate educational interest, officials of other institutions in which students seek to enroll or are enrolled, persons or organizations providing student financial aid, accrediting agencies carrying out their accreditation function, persons in compliance with judicial orders and persons in an emergency when necessary to protect the health or safety of students or other persons.

3. Students' Right of Access to Review Their Records

A student has the right to inspect and review all education records about him or her except: (1) personal notes (available only to writer or substitute) of University staff and faculty, (2) certain student employment records, (3) counseling records used solely for treatment, (4) certain records of the University Police, (5) parents' financial records, (6) confidential letters and statements of recommendation placed in the records before January 1, 1975, and (7) confidential letters and statements of recommendation for admission, employment, or honorary recognition placed in the records after January 1, 1975, which students have waived the right to inspect and review.

4. Informing Students of Their Rights

This policy will be published in the *UNM Pathfinder* or its successor.

5. Location of Student Records

Student records are not maintained in a central location. Instead, these records are maintained by each office with which a student has contact while enrolled at the University. A partial list of places where educational records are maintained by various University offices is listed below.

- Admissions Office, Director of Admissions, Student Success and Support Center
- Career Counseling and Placement, Director, Career Counseling and Placement, University Advisement and Enrichment Center
- Cashiers and Student Accounting, Bursar, University Advisement and Enrichment Center
- Center College and Department Offices, Academic Dean, See individual college listing in the course schedule
- Dean of Students Office, Associate Vice President and Dean of Students, University Advisement and Enrichment Center
- Graduate Studies, Dean, Graduate Studies, Humanities Building
- Housing Services, Associate Dean of Students and Housing, La Posada Hall
- Records and Registration Office, Registrar, Student Support and Services Center
- Student Financial Aid, Director, Student Financial Aid, Student Support and Services Center

6. Records Excluded from the Definition "Education" or "Student" Records

The following categories of records are not included in the term "education records" or "student records" under the Act:

- 6.1. Records of instructional, supervisory, administrative and certain educational personnel which are in the sole possession of the maker and are not revealed to any other individual (except a substitute who performs on a temporary basis the duties of the person who made the record).
- 6.2. Records of the University Police. These records are maintained and created by the University Police Department for the purpose of law enforcement. Their disclosure is subject to rules and regulations of the University Police, consistent with applicable law.
- 6.3. Records relating to individuals who are employed by the University which are made and maintained in the normal course of business, relate exclusively to individuals in their capacity as employees and are not available for use for any other purpose. However, it should be noted that records of individuals in attendance at the University who are employed as a result of their status as students are education records and as such may be inspected by the student.
- 6.4. Records which contain only information about a person after that person is no longer a student at the institution, e.g., information gathered on the accomplishments of alumni.

7. Review Policies and Procedures

Requests to inspect and review records must be made, in writing, to the office that keeps the records. Although it is the University's policy that requests to inspect records be honored as promptly as possible, the offices have up to 45 days to honor such requests.

It is the policy of the University to provide the student upon request with photocopies of her or his records where that will help the student in inspection and review of the records unless: (1) the record to be copied is an examination, in which case permission of the faculty member is necessary, or (2) where a student's record is being withheld because of an outstanding financial obligation to the University.

Fees for photocopies of materials in the records are the same as University offices charge for photocopies of other materials. At its option, an office may furnish copies at no charge, or take the materials to a copy/duplicating center

36 STUDENT SERVICES INFORMATION

on campus, where the current rate for cash work will be charged.

8. Release Policies and Procedures, University Employees and Agents

The University will not disclose personally identifiable information from a student's education record without the student's written consent, except when it is permitted by the Act and Regulations. As permitted by the Act and Regulations, information will be disclosed without the student's consent to University officials with a legitimate educational interest. These officials or their agents, and their interests, include:

- 8.1. Any University employee who needs the information to fulfill job responsibilities.
- 8.2. University collection agents only for the purposes of collecting debts owed to the University.
- 8.3. Legal counsel advising or representing the University.
- 8.4. National Collegiate Athletic Association and the Mountain West Athletic Conference only for the purposes of conforming to eligibility rules for athletic competition.
- 8.5. Contractors, such as data processing, only for the purposes of performing work under contract for the University.
- 8.6. Honorary societies, and other chartered student organizations, only for determining membership eligibility/requirements, when the societies and/or organizations do not unlawfully discriminate on the basis of race, color, religion, national origin, physical or mental disability, age, sex, sexual preference, ancestry, or medical condition.
- 8.7. University researchers, including students doing research under supervision of a faculty member, if there are safeguards to protect the security of personally identifiable data and if it will not be possible to ascertain the identity of any student in any dissemination of the data or research results.
- 8.8. Officials of cooperating universities in which the student is enrolled.

9. Release to Alleged Victims of Crimes of Violence

The results of any disciplinary proceeding conducted by the University in response to allegations of a crime of violence allegedly committed by a student, shall be disclosed upon request to the alleged victim(s) of such crime of violence.

10. Directory or Public Information Categories

The University, in accord with the Act, has designated categories of information about students as "directory information" which is public unless a student asks to have all of it withheld. These categories are:

- Name
- Address (school and permanent)
- Telephone listing
- Electronic Mail Address
- Date of birth
- Major field of study (including current classification, year, credit load and number of academic credits earned toward degree)
- Dates of attendance (matriculation and withdrawal dates)
- Degrees and awards received (type of degree and date granted)
- Most recent previous educational agency or institution attended. Participation in officially recognized activities and sports, and weight and height of members of athletic teams.

A student wishing to keep confidential the "directory information" listed above must file a written request with the Office of the Registrar. This request may be submitted in person, by mail or fax. Once a confidential privacy flag has been placed on a student's record the directory/public information will not be released to individuals, companies or third party entities outside the University of New Mexico. The confidential privacy flag will not automatically be removed upon graduation from the University of New Mexico. If you have requested a confidential privacy flag, your name will not appear in the University of New Mexico Commencement Program.

The removal of the confidential privacy flag may be requested in person and in writing by fax or mail. The

address is Records & Registration, MSC11 6325, 1 University of New Mexico, Albuquerque, NM 87131-0001. The fax number is (505) 277-6809. The following information is needed to process the request by fax or mail: student name, social security number and signature.

11. Requests for Disclosure

University offices will maintain a record of disclosures and requests for disclosure of personally identifiable information from a student's record except when the request for disclosure is directory information, pursuant to the student's consent, or is to a school official described in this policy. It is the policy of the University to permit the student to inspect this record of disclosures and requests for disclosure pertaining to his or her records. All disclosures (except for disclosures to the student or disclosures of directory information) shall be made on the condition that the information shall not be further disclosed without the student's consent.

12. Right to Challenge Information in Student Records

It is the policy of the University that a student may challenge any information in his or her education records which he or she believes to be inaccurate, misleading or in violation of privacy. This right does not extend to reviewing grades unless the grade assigned by a professor was inaccurately recorded in the records. A student may also insert a statement in the records explaining any such material from his or her point of view. If a student wishes to challenge information in the file, he or she must make a written request for a hearing to the dean, director, or chairperson of the office which maintains the record. In most cases, the decision of the dean, director or chairperson will be final. However, a student may appeal in writing to the Associate Provost or the Vice President for Health Sciences or their designee, as the case may be, who will review the decision only if a significant question of policy or compliance with the law appears to be raised by the case.

13. Waiver of Rights Not Required

It is the policy of the University that students not be required to waive their rights under the Act before receiving University services or benefits.

14. Assistance with Problems or Questions about Compliance

If a student has questions about the provisions of the Act, he or she may contact the Office of the Registrar.

If a student believes that the University has not complied with the Act, he or she should direct comments concerning this to the Office of the Registrar.

If a student believes that the University has not complied with the Act, written complaints may be filed with the Family Educational Rights and Privacy Act Office (FERPA), U.S. Department of Education, 400 Maryland Avenue, SW., Washington, D.C. 20202-4605, telephone (202) 732-1807. The Registrar shall either resolve the issue, or shall refer it to the appropriate University body for resolution.

Copies of and information about the Rights and Privacy Act are available in the Records and Registration Office, Student Support and Services Center.

Disclosure of Institutional (General Student Body) Graduation/Completion and Transfer-out Rates

The University of New Mexico provides the following information regarding our institution's graduation/completion rates. The information is provided in compliance with the Higher Education Act of 1965, as amended. The rates reflect the graduation/completion status of students who enrolled during the 2002-2003 school year and for whom 150% of the normal time-to-completion has elapsed.

During the Fall Semester of 2002, 2,760 first-time, full-time, certificate or degree-seeking undergraduates entered UNM. After 6 years (as of August 31, 2008), 44% of these students had graduated from our institution or completed their programs.

Questions related to this report should be directed to the Office of the Registrar, Student Success and Support Center, (505) 277-8466.

While reviewing this information, bear in mind:

- The graduation/completion rate is based on six years of attendance that equates to 150% of our longest program.
- We have elected not to report our transfer-out rate because our university's mission does not include providing substantial preparation for students to enroll in other institutions.

Demographic Information Updates

Change of Address/Phone

Current students who need to process a change of address or phone number for their academic records may do so using LoboWeb, Personal Information— Update My Information.

Change of Name

Students who need to process a name change for their academic records must bring appropriate documentation to the Records and Registration Office. The appropriate documentation includes proper photo identification (valid driver's license, passport or other state or federal issued identification) and the social security card showing the new name. **No other type of documentation will be accepted.**

Lobo Card and LOBOCASH

A non-transferable photo identification card is issued to each student at the University of New Mexico. The ID card, also known as the Lobo Card, allows students to check out materials from UNM libraries; access recreational services, the Student Health Center, athletic events, and campus meal plans.

The Lobo Card can also be used to access the student LOBOCASH account. LOBOCASH is a prepaid spending account with a balance that declines each time it is used (by swiping your Lobo Card) to make purchases at the food venues of the SUB, UNM vending machines, campus convenience stores, residence hall laundry facilities, La Posada, UNM Bookstores, and select copying machines. Visit <http://lobocash.unm.edu> for additional information.

The Lobo Card Office is located in the Student Union Building. The phone number is (505) 277-9970 and the Web site is <http://lobocard.unm.edu>. The following policies are in effect for the Lobo Card:

1. The Lobo Card is the property of the University of New Mexico.
2. The card is valid upon admission to the University; it is issued once, and is active upon a student's enrollment for the current semester. The Lobo Card remains valid for the duration of a student's college career and it activates and deactivates according to enrollment status. Lobo Card has no expiration date. You may obtain your ID at the Lobo Card office. Proper photo identification (driver's license, passport, other state/federal-issued identification, etc.) is required.
3. Lobo Cards are issued with the name of the student as recorded in the University's Student Information System.
4. Updating name or other student identifying information requires the change be reported to the Records and Registration Office prior to Lobo Card re-issuance.
5. Lost or stolen Lobo Cards must be reported as soon as possible to the Lobo Card Office.
 - a. A non-refundable, non-waivable fee will be collected for replacement of damaged or lost cards.
 - b. Payment of a replacement fee constitutes authority for the de-activation and deletion of the

missing identification card from the University of New Mexico's card database. Once that occurs, the old Lobo Card can never be reactivated.

- c. Students should check with the card office to see if a lost card has been turned in.
 - d. Stolen cards should be reported to the appropriate law enforcement agency. A copy of the police report must be provided to the Lobo Card office to obtain a replacement identification card at no charge. Anyone filing a false police report will be subject to disciplinary and/or criminal charges.
 - e. LOBOCASH purchasing activity can be suspended immediately, 24 hours a day, seven days a week, via the lobocash.unm.edu Web site. LOBOCASH activity can be suspended via telephone only Monday–Friday, 8:00 a.m. – 4:45 p.m., by calling (505) 277-9970.
6. Fraudulent use of a Lobo Card is cause for card privileges to be revoked. Unauthorized alteration, production, use, possession or reproduction of a Lobo Card is prohibited, may constitute theft, and can result in prosecution (30-14-2 NMSA 1978). In addition, such action could result in referral to the Dean of Students Office for disciplinary proceedings and/or appropriate authorities for legal action.

Residency

Summary of Regulations for New Mexico Residency for Tuition Purposes

A student who enters and remains in this State principally to obtain an education is presumed to continue to reside outside this state, and such presumption continues in effect until rebutted by clear and convincing evidence of bona fide residence. A student determined to be financially dependent on an out-of-state parent or guardian also assumes the residency of that parent or guardian. The "burden of proof" is on the student. The student must secure and file the residency petition with the appropriate documents of evidence in the manner described herein. *All documents submitted for this purpose are kept confidential.* Residency petitions are accepted until the second Friday of each Fall and Spring semester (and Summer term for Nursing students) in the Mesa Vista Hall North One-Stop or at the Student Support and Services Center.

To become a legal resident for tuition purposes of the State of New Mexico, the student must meet four basic requirements. Each person must individually meet the requirements.

The 12-Month Consecutive Presence Requirement

A student must physically reside in the state for 12 consecutive months immediately preceding the term for which the student submits a petition.

The Financial Independence Requirement

A student who is financially dependent on parents or legal guardians who are not residents of New Mexico cannot be approved for residency. At the time the student petitions for residency (if under 23 years of age), a copy of the parents' or guardians' 1040 or 1040A U.S. income tax form for the previous year must be submitted with the petition. If shown to be a dependent on that tax form, the student is not eligible to establish residency apart from the parents or guardians.

The Written Declaration of Intent Requirement

The student must sign a written declaration of intent to relinquish residency in another state and to establish it in New Mexico (included in residency petition).

The Overt Acts Requirement

Overt acts are required to evidence support of the written declaration of intent to establish permanent residency in New Mexico. Any act considered inconsistent with being a New Mexico resident, such as having a driver's license from

38 STUDENT SERVICES INFORMATION

another state, will cause the request for resident classification to be denied. Documentation of two of the following must be submitted with the residency petition:

1. If the applicant is financially dependent, a copy of the parents' or guardians' previous year income tax form showing the applicant as a dependent and the parents' address as New Mexico;
2. A New Mexico high school transcript issued in the past year confirming attendance at a New Mexico public or private high school within the past 12 months;
3. A transcript from an online high school showing a New Mexico address confirming attendance within the past 12 months;
4. A New Mexico driver's license or ID card with an original date of issue or a renewal date issued prior to the first day of the term or semester;
5. Proof of payment of New Mexico state income tax for the previous year;
6. Evidence of employment within the state of New Mexico;
7. New Mexico vehicle registration;
8. Voter registration in New Mexico;
9. Proof of residential property ownership in New Mexico;
10. A rental agreement within New Mexico;
11. Utility bills showing the applicant name and a New Mexico address;
12. Other evidence which would reasonably support the individual's intent to establish and maintain New Mexico residency.

Any act considered inconsistent with being a New Mexico resident will cause the request for resident classification to be denied. As such, other relevant factors may be considered in addition to the items listed above.

NOTES:

1. Any act considered inconsistent with being a New Mexico resident, such as voting, securing and/or maintaining a driver's license and automobile registration in another state, etc., will cause the petition to be denied.
2. A person who has moved to New Mexico and has obtained permanent full-time employment (sufficient documentation is required) and his/her spouse and dependent children shall not be required to complete the 12-month durational requirement. However, all other requirements must be satisfied.
3. Active duty military members stationed in New Mexico, their spouses and dependents are eligible for waivers of non-resident tuition. Members of the National Guard, their spouses and dependents are also eligible for waivers of non-resident tuition. A form must be submitted to the Office of the Registrar by the second Friday of the term to obtain these waivers.

According to the University of New Mexico's tuition policy:

Students enrolling for *6 hours or fewer* during a regular semester are charged resident tuition rates regardless of residency classification.

Students enrolling for the summer session are charged resident tuition rates regardless of residency classification (except those in the College of Nursing).

The residency petition and a brochure that explains all requirements for establishing New Mexico residency for tuition purposes and all special status waivers are available from the Office of the Registrar, Student Support and Services Center. For more information visit <http://registrar.unm.edu>.

Academic Advisement

All undergraduate students (including new freshman) who are admitted to the University but have not yet met the requirements to enter a degree-granting college are monitored by University Advisement Center. This office is responsible for applying the academic regulations of the University and providing academic advisement for these students. When they have satisfactorily completed a minimum of 26 semester

hours and have met all prerequisites of the college they wish to enter, they may transfer to one of the degree-granting programs of the University.

Academic advisement is also required for all freshman and new undergraduate transfer students with 26 or fewer transferable hours prior to registration. The School of Engineering, University College and the College of Education **require** advisement every semester prior to registration. All students who are admitted to or who transfer into University Studies (Bachelor of University Studies Program) are required to receive academic advisement their first enrolled semester.

Advisement centers are located in each of the degree-granting colleges. Students enrolled at the University are urged to regularly take advantage of all available academic advisement services.

College Advisement Centers

(Associate, Baccalaureate, Majors and Concentrations.)

Anderson Schools of Management

Office: Advisement Center, First Floor, East Wing
(505) 277-3888

Accounting, Entrepreneurial Studies, Financial Management, General Management, Interdisciplinary Film and Digital Media, International Management, Management Information Systems, Marketing Management, Human Resources Management, Production and Operations Management, Travel and Tourism Management, Public Administration

School of Architecture and Planning

Office: Pearl Hall 114
(505) 277-2903

Architecture, Environmental Design, Community and Regional Planning, Landscape Architecture

College of Arts & Sciences

Office: University Advisement and Enrichment Center
Rm. 135
(505) 277-4621

Students currently enrolled at A&S in one of the following departments please seek advisement with the A&S Advisement Center and/or their department of major. Prospective students that lack requirements for admission should go to University Advisement Center or their intended major department.

Africana Studies; American Studies; Anthropology; Art; Asian Studies; Astrophysics; Biochemistry; Biology; Chemistry; Classical Studies; Communication; Comparative Literature; Criminology; Earth & Planetary Sciences; Economics; Economics-Philosophy; English; English-Philosophy; Environmental Science; European Studies; Family Studies; French; Geography; German; Health, Medicine, and Human Values; History; International Studies; Journalism; Languages; Latin American Studies; Linguistics; Mass Communication; Mathematics; Philosophy; Physics Political Science; Portuguese; Psychology; Religious Studies; Russian; Russian Studies; Signed Language Interpreting; Sociology; Spanish; Speech and Hearing Sciences; Statistics; Women Studies.

College of Education

Office: Hokona Hall 134
(505) 277-3190

Art Education, Athletic Training, Bilingual Education (Secondary), Human Development and Family Relations, Communication Arts Education (Secondary), Early Childhood Multicultural Education, Elementary Education (including Teaching Field Endorsement), Exercise Science, Family Studies, Health Education, Languages (German, French, Spanish-Secondary), Mathematics Education (Secondary), Nutrition/Dietetics, Physical Education (K-12), Science Education (Earth Science, Life Science, Physical Science-Secondary), Social Studies Education (Secondary), Special

Education, Teaching English as a Second Language (Secondary), Technology and Training.

School of Engineering

Office: EC E 133
(505) 277-4354

Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Construction Engineering, Construction Management, Electrical Engineering, Manufacturing Engineering and Robotics Option, Mechanical Engineering, Nuclear Engineering, Pre-Major Program

College of Fine Arts

Office: CA 1103
(505) 277-4817

Art History, Art Studio, Dance, Design for Performance, Interdisciplinary Film and Digital Media, Media Arts, Music, Music Education, Theatre

College of Nursing

Office: NRPH 152
(505) 272-4223

Nursing

College of Pharmacy

Office: NRPH 188
(505) 272-0583

Pharmacy

University Advisement

Office: University Advisement and Enrichment Center
Suite 105
(505) 277-2631

Bachelor of University Studies, Comprehensive Academic Advisement, Exploratory/Undecided Students, Introductory Studies Courses, Freshman Academic Choices, Sophomore Seminars in Career Awareness, Research Service Learning Program (open to all undergraduates), Non-degree

Diagnostic and Therapeutic Sciences

Dental Hygiene (B.S.), Novitski Hall 204 (505) 272-4513; Emergency Medicine, 2700 Yale SE, Suite 100 (505) 272-5757; Medical Laboratory Sciences, HSSB 217 (505) 272-5434; Nuclear Medicine Imaging, Surge Suite 251 (505) 272-1402; Occupational Therapy, HSSB 215 (505) 272-1753; Physical Therapy, HSSB 204 (505) 272-5755; Physician Assistant Program, HSSP 217 (505) 272-5254; Radiography Program, HSSB 217 (505) 272-5254

Medical School (Admissions)

Office: BMSB 106
(505) 272-4766

Schedule of Classes

The *Schedule of Classes* is an official online publication of the Office of the Registrar. The publication includes course offerings, dates, times, class locations and procedures for registration and other important information. The schedule can be accessed online at <http://schedule.unm.edu/>.

Registration

Registration Procedures

Details are outlined online in the *Schedule of Classes* at <http://schedule.unm.edu/>.

Payment of Tuition and Fees

Payment of tuition and fees is required to complete registration. For specific information regarding tuition, fees, payment and payment deadline dates refer to the *Financial Information*

section of the current online *Schedule of Classes* at <http://schedule.unm.edu/>.

Course Load Guidelines

Undergraduates/Non-Degree

1. Fall/Spring Semesters

- Full-time: 12 or more credit hours.
- Half-time: 6–11 credit hours.
- Less than half-time: 5 or fewer credit hours.

2. Summer Session

- Full-time: 6 or more credit hours.
- College of Nursing full-time: 12 or more credit hours.
- Half-time: 3-5 credit hours.
- College of Nursing half-time: 6-11 credit hours.
- Less than half-time: 1 or 2 credit hours.
- College of Nursing less than half-time: 5 or fewer credit hours.

Graduate Students

1. Fall/Spring Semesters

- Full-time: 9 or more credit hours.
6 credit hours and an assistantship.
- Half-time: 5–8 credit hours.
- Less than half-time: 4 or fewer credit hours.

2. Summer Session

- Full-time: 6 or more credit hours 3 credit hours and an assistantship.
- College of Nursing full-time: 9 or more credit hours 6 credit hours and an assistantship.
- Half-time: 3-5 credit hours.
- College of Nursing half-time 5-8 credit hours.
- Less than half-time: 1 or 2 credit hours.
- College of Nursing less than half-time: 4 or fewer credit hours.

Students withdrawing after the grade required deadline will be subject to grades of WP (withdrawal passing) or WF (withdrawal failing). The grade WF is included in the total course load. WP is not included in the total course load. Courses taken in Audit status are also not included in total course load.

Enrollment Limit

Students may not take more than 18 hours during a semester and 9 hours during the summer session, except with approval from the student's academic advisor. Summer enrollment limit for College of Nursing students is 18 hours. Students in non-degree status who have not earned at least a baccalaureate-level degree must contact the University Advisement Center at (505) 277-2631 to discuss enrollment limitations and options.

Addition of Correspondence or Extension Courses to Program. A resident student may enroll for correspondence and extension courses only when the addition of such courses does not cause their course load to be over the maximum.

Registration Restrictions

Prerequisite and Corequisite Requirements

The University of New Mexico checks prerequisites on all courses numbered 100 – 499. If a student does not have the required prerequisite(s), he/she will not be able to register for the specific course. All prerequisites must be completed with a "C" or better letter grade, unless otherwise identified by the academic department/unit offering the course.

Co-requisite checking occurs for all courses numbered 100 – 499. A student will not be able to register for one course

40 STUDENT SERVICES INFORMATION

without the other course. Registration for co-requisite courses must be done at the same time.

Additional Restrictions

Colleges and Departments may further restrict access to their courses based on Campus, Classification, College, Degree, Level, Major, Program and/or Special permission requirements. Overrides for these errors may be obtained from the Department offering the course or from the instructor (in most cases). For more information, see FastInfo answer #4060 at <http://student.unm.edu>.

Enrollment Certification

Enrollment Certifications are requested by individuals, institutions or organizations for information related to a student's past or current enrollment. Information requested normally takes the form of validation of confirmed degrees, dates of attendance or whether a student is enrolled full- or part-time.

The National Student Clearinghouse is the University of New Mexico's authorized agent for providing enrollment and degree verifications. If an employer or background screening firm requests this information, refer them to the National Student Clearinghouse at (703) 742-4200 or <http://www.studentclearinghouse.org>.

Verification forms from financial lenders should be sent directly to the National Student Clearinghouse for fastest response.

The University of New Mexico will produce an Enrollment Certificate validating a student's status for the current semester, or a pre-registered (one week prior to start of classes) semester. If a student wishes to have their entire academic history certified or semesters not covered by the certification process, the student must request a transcript. The University of New Mexico does not certify expected graduation date.

The certification document can be mailed on request or may be picked up with proper photo identification (driver's license, Lobo Card, passport or other state issue identification). The Enrollment Certificate will replace the institutionally specific forms. Students who request processing of specific forms will be required to pay a \$10.00 signature fee per document to be processed.

The Course Load Guidelines above are used to determine enrollment status for financial aid eligibility and loan deferments. Graduate students with an assistantship must submit a copy of their contract with their verification request.

Changes in Enrollment

Once registered, students may process schedule changes during appropriate periods through the drop/add procedures. Procedures for schedule changes and deadlines are online in the *Schedule of Classes* at <http://schedule.unm.edu>. Changes made after deadlines are subject to late Transaction Fees.

Summer Session and Short Courses. Deadlines for processing drops, adds, withdrawals and grade options for summer and short courses vary according to the length of the course. Consult the online *Schedule of Classes* at <http://schedule.unm.edu> for specific dates.

For 16-week courses, the following applies:

Add. A student may add courses or change sections through the second week of the semester.

Drop. A student may drop a course or courses without a grade during the first three weeks of the semester.

Withdrawal from a Course. After the third week a student may withdraw from a course until the end of the 12th week of the semester and is subject to grades of WP or WF to be determined by the instructor at the time of the withdrawal. The WF is calculated as a failing grade in the student's grade point average. After the 12th week, course withdrawals are only accepted with approval from the dean or director of the student's college. No withdrawals are accepted after the last day of instruction of the semester, prior to final exam week.

NOTE: Faculty are not responsible for dropping students who do not attend. It is the student's responsibility to check the accuracy of their course schedule.

Change in Grading Option. Changes in grading option (including audit, pass-fail (CR/NC) option, letter grade or graduate credit option) in any course may be made through the fourth week of the semester.

Students are responsible for ensuring they are registered in any course for the proper grading option.

Completion of Courses. Students are responsible for completion of all courses in which they are enrolled at the University. Changes in enrollment, drops or withdrawals must be officially processed. A student who does not follow proper course or University withdrawal procedures may be given a failing grade and is responsible for tuition changes associated with the course.

Grade Options

Audit

A student may register to audit a course, with written permission of the instructor. (See current *Schedule of Classes* online at <http://schedule.unm.edu> for deadlines.) A student who fails to attend class may be dropped at the instructor's request. The fee for audited courses is the same as for credit courses.

Audit enrollment receives no credit and is not included in the student's total course load for purposes of enrollment certification and financial aid enrollment requirements. Audited courses appear on the academic record. Courses taken for Audit may be repeated for credit.

Pass/Fail (CR/NC) Option

1. This grading option is open to students enrolling in courses that do not apply to their major.
2. A student is permitted to enroll in a maximum of 4 credit hours per semester under the pass/fail (CR/NC) grading option.
3. CR (credit) is the equivalent of at least a grade of C. Students who do not satisfactorily complete a course under pass/fail (CR/NC) grading will receive NC (no credit).
4. A course may be changed to the pass/fail (CR/NC) grade option. See the current *Schedule of Classes* online at <http://schedule.unm.edu> for deadlines.
5. A maximum of 24 credit hours graded pass/fail (CR/NC) will be allowed toward a baccalaureate degree. Graduate students may not count more than 6 hours of course work in which a C (2.0), C+ (2.33) or CR was earned.
6. Courses which are specifically approved for pass/fail (CR/NC) grading are not included in the 24-hour maximum allowed toward degree requirements.
7. The following may not be taken under the pass/fail (CR/NC) option:
 - a. Courses in the University Honors Program and the Undergraduate Seminar Program.
 - b. Courses that are part of the student's major (as defined by the major department) with the exception of those courses especially approved for use of pass/fail (CR/NC) grading.

- c. Courses that are part of the student's minor (see specific college and departmental requirements).
- d. Correspondence courses.
- e. Courses the student is repeating after first taking the course under the regular grading system.

Some schools, scholarship committees and honorary societies do not accept this grading system and convert grades of "Credit" to C and "No Credit" to F when computing grade point averages, or may otherwise penalize students who use this option.

NOTE: Students may not be penalized by a department if, when selecting or changing a major field, they have taken a course in their major on a pass/fail (CR/NC) option basis.

Pass/Fail (CR/NC) Option for Graduate Students

No more than 6 credit hours of course work in which a grade of C (2.0), C+ (2.33) or CR (grading option selected by student) was earned may be credited toward a graduate degree. Courses offered only on a CR/NC basis and required by the graduate program are excluded from this limitation.

A graduate student has the option of enrolling in courses on a Pass/Fail (CR/NC) basis. However, if a graduate student with undergraduate deficiencies is required by the major department to take a lower-division course, the pass/fail (CR/NC) option is not available to the student.

Graduate Credit Option

For Undergraduate Students

Although courses numbered 500 and above are intended for graduate study, senior undergraduate students may receive undergraduate credit in such courses. Students must obtain advance approval from the course instructor and their college academic advisor.

To enroll in a graduate-level course for graduate credit, an undergraduate must first meet the following requirements:

1. Be within 10 hours of earning the baccalaureate degree;
2. Have an overall cumulative grade point average of at least 3.0; and
3. Enroll in no more than 9 hours of graduate credit during that semester (6 credits during summer session).

When these requirements are met, the student must complete a Graduate Credit Authorization card, signed by the instructor, their college advisement office and the Office of Graduate Studies and submit it to the Records and Registration Office. The courses taken apply toward an advanced degree after completion of the baccalaureate. The same course cannot be counted for both graduate and undergraduate credit.

NOTE: Undergraduates may not enroll in graduate "problems" courses for undergraduate credit.

For Non-Degree Students

No special action needs to be taken by non-degree students who wish to enroll in courses numbered 500 or higher, as these courses automatically carry graduate credit. To receive graduate credit for an approved 300 or 400 level course, a non-degree student must obtain signatures from the course instructor and the Office of Graduate Studies on a Graduate Credit Authorization card available at the Office of Graduate Studies. Non-degree, graduate-level course work may be transferred into a graduate degree program on a limited basis.

Withdrawal from the University

- Students can withdraw from all courses through the end of the twelfth week if no holds exist on their account by

using LoboWeb <http://my.unm.edu>. At the beginning of the thirteenth week, a student who is withdrawing from all courses must have approval from the Dean of Students Office. Students may contact the Dean of Students Office, (505) 277-3361, TDD (505) 277-6053, e-mail doaso@unm.edu for advisement on withdrawal from all courses.

- Summer Session and Short Courses. Deadlines for processing withdrawals for summer and short courses vary according to the length of the course. Consult the online Schedule of Classes at <http://schedule.unm.edu> for specific dates.
- Students who withdraw during the first three weeks (regular full semester) of classes do not receive a grade notation on their academic records. The notation on a student's record is "Withdrawn" followed by the date.
- University withdrawals initiated after the third-week (regular full semester) of classes are subject to grades of WP or WF. The WF is calculated as a failing grade in the student's grade point average. All withdrawal grades are assigned by the instructor upon completion of the University withdrawal process. The notation on a student's record is "Withdrawn" followed by the date, along with the course name and grade assigned.
- Students leaving the University during a semester without withdrawing according to this regulation are subject to faculty assigned grades.
- **Students are responsible for all outstanding financial obligations when withdrawing.** See the "Tuition Refund Deadlines" section for more information.

Policy on Military Withdrawals

Under faculty regulations, students who formally withdraw from the University before the end of the 12th week of the semester due to military obligations are entitled to a grade of WP in each course in which they are enrolled. Military orders or evidence of enlistment must be made available to the Dean of Students Office. A student who withdraws due to military obligations after completing 12 weeks of instruction receives full credit for each enrolled course provided the instructor certifies a grade of C or better for the course at the date of formal withdrawal. If the instructor certifies a grade of less than C, the student receives a grade of WP. The student must opt for either a tuition refund or for a grade assignment after the 12th week. A final semester senior who has satisfactorily completed at least half of the work for enrolled courses, provided these would complete degree requirements, may be certified for graduation by the faculty of their college. Visit <http://dos.unm.edu> for a "Request For Military Withdrawal" Form in order to initiate the Military Withdrawal process.

Transcripts

Class Hours and Credit Hours

A class hour consists of 50 minutes. One class hour per week of recitation or lecture throughout a semester earns a maximum of 1 credit hour.

Course Numbering System

Courses offered at the University are numbered from 001 through 999:

- 001 to 100 courses may or may not carry credit but are not applicable to a baccalaureate degree.
- 101 to 199 courses, lower-division, normally are open to freshmen.
- 200 to 299 courses, lower-division, normally are open to sophomores.
- 300 to 499 courses, upper-division, normally are open to juniors, seniors and graduates.
- 500 to 999, graduate and professional, normally are open only to students enrolled in the graduate degree programs, the School of Law, College of Pharmacy, or the Doctor of Medicine program.

NOTE: Undergraduate or non-degree students without a degree may not enroll in any graduate problems for

42 STUDENT SERVICES INFORMATION

undergraduate credit.

- Technical, vocational or special courses are applicable for baccalaureate credit only upon petition to and approval from the University of New Mexico degree granting unit.

Freshmen may in some instances qualify for courses numbered in the 200s. Courses numbered 300 and above are not open to lower-division students (freshmen and sophomores) except in rare instances, and then only with the approval of the college dean. When appropriate, students may be disenrolled from courses numbered 200 and above. See the individual college sections of this catalog for specific regulations.

Official Transcripts

The fee for each official transcript requested is \$5.00.

Official transcripts may be held for financial reasons and will not be released until the student's outstanding financial obligations to the University have been paid or until satisfactory payment arrangements have been made. All financial arrangements are handled in the Bursar's Office.

You may come to Mesa Vista North One-Stop or the Student Success and Support Center to request and/or pick up your transcript. Official transcripts take 3-5 working days to complete. Proper photo identification (driver's license, Lobo Card, passport or other state or federal issued identification) is required when ordering and picking up transcripts in person.

Unofficial Transcripts

Current students may access their unofficial transcripts on LoboWeb, <http://my.unm.edu>.

Unofficial transcripts are free with a maximum of three copies per request.

You may come to Mesa Vista North One-Stop or the Student Success and Support Center to request and/or pick up your unofficial transcript. If you have work prior to Summer 1983 then your request will take 3-5 working days to complete. Proper photo identification (driver's license, Lobo Card, passport or other state or federal issued identification) is required when ordering and picking up transcripts in person.

Transcript Requests

Both current and former students may request transcripts online at <http://registrar.unm.edu/trans.htm>

You may mail requests to:
Office of the Registrar
ATTN: Transcript Request
MSC11 6325
1 University of New Mexico
Albuquerque, NM 87131-0001
Fax: 505-277-6809

Mailed requests must include the following information:

- Student signature
- Date of request
- Current/previous name(s)
- Social Security Number/UNM ID
- Date of birth
- Dates of attendance
- Current address
- Daytime telephone number
- Address to which the transcript is to be sent
- For Official Transcripts only: check or money order

Both official and unofficial transcripts may be faxed to recipients. The University of New Mexico is not responsible for whether or not the recipient will accept the faxed copy.

Official transcripts are printed on security paper which will indicate "Copy" when faxed.

Other Exclusions

- E-mail and telephone requests cannot be honored.
- Another person may not request or pick-up a student's transcripts without specific written authorization from that student.
- The University of New Mexico will not provide copies of test scores or transcripts of academic work from other institutions. You must contact the original institution for that information.

Grading

Grade Notification

Semester grades are available via LoboWeb <http://my.unm.edu>. Grades are posted nightly as they are entered by the instructor. Final semester GPA calculations, Dean's List determinations and probation/suspension decisions are processed one week after the last official day of the semester.

Grades

The University of New Mexico utilizes a fractionated grading system. Following are the allowable grades and associated grade points:

A+	4.33
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0.00
CR	Credit. Gives credit for the course, but is not computed in the grade point average. CR is the equivalent of at least a grade of C. At the graduate level CR is used to report completion of a master's thesis or doctoral dissertation. (See the following pages for specific information concerning pass/fail [CR/NC] option grading.)
NC	No Credit. Not computed in the grade point average. At the graduate level NC is also used to report unsatisfactory completion of master's thesis or doctoral dissertation. Certain workshops and courses may be offered under CR and NC as defined above.
PR	Progress. Used to indicate that a thesis or dissertation is in progress, but not complete. In the semester when the thesis or dissertation is completed, CR or NC is reported.
I	Incomplete. Given only when circumstances beyond the student's control have prevented completion of the work of a course within the official dates of a session. (See the policy on Removal of Incomplete.)
AUDIT	Recorded for completion of enrollment in an audited course. No credit is earned for an audit grade option.
WP	Withdrawal Passing. Course withdrawals after the grade required deadline are subject to the grade of WP, if passing the course at the time of withdrawal.
WF	Withdrawal Failing. Course withdrawals after the grade required deadline are subject to the grade of WF, if failing the course at the time of withdrawal. The grade of WF is calculated as a failing grade in the student's grade point average.
WNC	Withdrawal No Credit. Not computed in the grade point average. WNC indicates an official withdrawal

in a pass/fail (CR/NC) enrollment option or course approved for pass/fail (CR/NC) grading.

- W Withdrawal. Used for approved administrative withdrawals only at the end of a semester. Examples of administrative withdrawals include: determination by the instructor that the student never attended the class, processing errors, catastrophic illness of the student or other reasons beyond the student's control.
- RS Reinstatement. Not computed in the grade point average; no credit is earned. An RS grade is used for approved retroactive enrollment in a 599 or a 699 course when the student did not complete any work on the thesis or dissertation.

NOTE: Graduate students may not be assigned C-, D+, D or D- grades.

Grade Point Average. An undergraduate student's grade point average is calculated by dividing the total number of quality grade points earned at the University of New Mexico by the total number of hours attempted, and truncated by two decimals. These hours must be attempted in courses with letter grades and the courses must be numbered 100 or above. Courses for undergraduate students given a grade of W, WP, WNC, CR, NC, PR or I are excluded in the grade point average calculation. For graduate students, the Office of Graduate Studies, internally for their record keeping processes, calculates a grade of "I" as a 2.0 until replaced by another letter grade.

Beginning Fall 2006 the academic transcript reflects a level GPA. The courses a student takes becomes a part of the level to which the student has been admitted. If a student is in an associate degree program the level will be associate degree, and all the courses taken in that level are reflected in the associate GPA. Courses that are not remedial or technical are also calculated into the undergraduate GPA. If the student is in a bachelor's degree program, the courses taken in that status are calculated in the undergraduate GPA. The various levels are Associate, Undergraduate, Graduate, Non-Degree Undergraduate and Non-Degree Graduate. Each level has a GPA.

The academic standing of all students is reviewed at the end of each semester and Summer session in accordance with the regulations of their college. Enrollment in late starting, correspondence or other off-pattern courses may prevent awarding of Dean's List if grades are not submitted prior to end of term processing. Dean's List indication on a student's academic record is noted when GPA calculations are determined one week after the official last day of the semester.

NOTE: This is a general University of New Mexico grade point calculation. Schools and colleges within the University may compute the grade point average differently.

Grades earned in courses taken at other institutions are not included in calculation of the University of New Mexico grade point average. The grade point average will reflect only courses taken at the University of New Mexico.

Incomplete (I) Grade

According to academic policy, incomplete grades must be completed before a student is eligible to graduate from the University of New Mexico.

The grade of "I" is given only when circumstances beyond the student's control have prevented completion of the coursework within the official dates of a semester/session.

Students should not re-enroll or re-register (for credit) in a course in which an incomplete has been received in order to resolve the "I" (incomplete) grade. If an instructor requires the student to repeat the class in order to resolve the Incomplete, the student must register for the course on an audit basis.

Incomplete grades received must be resolved no later than one year (twelve months) from the published end day of the semester in which the grade was assigned. Incomplete grades not resolved within the time frame stated in this policy are automatically converted to an F (failure) grade.

Students who resolve Incompletes in the semester of graduation must have the process completed (including the reporting of the grade to the Records and Registration Office, by the deadline. Students are responsible for informing instructors that they are graduating and the grade(s) must be reported by the appropriate deadline. Failure to complete the process as described could result in the postponement of graduation until the following semester.

The instructor of record reports the final grade for the course in which the Incomplete was assigned to the Records and Registration Office. Graduate students see the section on Graduate Programs related to this policy.

Extension of Incomplete

A student may apply for an extension of the time allowed to complete the course work required to remove the "I" grade. The request for extension may be obtained in the Records and Registration Office. A student who re-enrolls in residence, may be granted a one-semester extension. If an extension is granted, it is the student's responsibility to ensure the "I" grade is removed by the date indicated. Graduate students are required to obtain the additional signature of the Dean of Graduate Studies. The request form must be submitted no later than the last day of the term.

Repetition of a Course

A student may repeat any course but only receives credit once unless otherwise noted in this catalog. ALL ATTEMPTS and ALL GRADES are computed in the student's grade point average. A grade replacement policy is available for repeated course work as described below.

Grade Replacement Policy

The course repeat policy was revised by the Faculty Senate to include a grade replacement option effective Spring semester 1991. Under this policy, only undergraduate students may repeat a course for a higher grade and have the lower grade removed from the grade point average. This revision is an option for students who meet the criteria outlined below. Repeated courses for students who do not meet the criteria, or who choose not to make use of the option, automatically fall under the existing policy as described under "Repetition of a Course."

The following outlines the procedure for the implementation of this course repeat (grade replacement) option. **NO EXCEPTIONS WILL BE MADE TO THIS POLICY.**

1. The Grade Replacement policy is effective as of Spring semester 1991 and affects only the University of New Mexico course work* from Spring 1991 forward. This means that the first attempt in a course cannot have been prior to Spring semester 1991. The policy is not retroactive to any semester prior to Spring 1991.
 - * A student who fails a course at the University of New Mexico and repeats the same course with a grade of C or better at another college or university may have the credit accepted for transfer, but the grade received at the University of New Mexico will continue to be computed in the grade point average.
2. Students in undergraduate status are eligible to use this policy, and only course work that applies to an undergraduate degree is considered for a grade replacement.
3. A repeated course must result in an improved grade in order to replace the other grade (e.g., a D cannot replace a D). The higher grade removes the lower

44 STUDENT SERVICES INFORMATION

grade from the grade point average and earned credit hours. **Grades of CR, NC, PR, WP and W are not replaceable grades** since they do not affect the grade point average.

4. **The process is not automatic.** Students must initiate the process by completing a form in the Records and Registration Office, indicating which course is to be replaced. **The course numbers and titles must be identical, except where equivalencies or a change has been noted in the University of New Mexico Catalog. Substitute courses are not acceptable.** Forms are accepted after the second attempt in the course has been completed.
5. A grade replacement may be applied only to 12 hours of repeated course work. Only one grade replacement is allowed for each course, regardless of the number of times the course has been repeated.
6. Once a grade replacement has been approved, the process cannot be reversed or changed.
7. **No grade may be replaced after a degree has been awarded.**
8. **All grades remain on the record.** An "E" appears on the transcript next to the course that has been replaced.
9. Students registering for a late starting Fall course cannot use the Grade Replacement Policy to replace a grade within that same Fall Semester.

NOTE: This policy applies only to courses taken and repeated at the University of New Mexico.

Graduate students wishing to replace grades must follow the *Graduate Grade Replacement Policy* in the *Graduate Program* section of this Catalog.

Change of Grade

The instructor of a course is responsible for any grade reported. Once a grade has been reported to the Records and Registration Office, the instructor may change it by submitting an Instructor Initiated Grade Change and Incomplete Removal form to the Records and Registration Office. Only the instructor who issued the original grade (instructor of record) may submit a change. The grade change must be approved by the college dean or departmental chairperson **if submitted 30 days after end of semester. Any change in grade must be reported within 12 months after the original grade was issued and prior to graduation.** Grade changes may be referred to the Admissions and Registration Committee of the Faculty Senate for approval.

Grade Petition Procedure

1. A student seeking retroactive withdrawal, enrollment, or a grade option change; or further academic record changes involving exceptions to the rules governing registration and academic records, may submit petitions to Records and Registration in the Mesa Vista North One-Stop or the Student Success and Support Center. **This petition process does not cover disputes involving academic judgement (Refer to the UNM Pathfinder, "Student Grievance Procedure," Article 2, Academic Disputes).**
2. The petition must state the nature of the request, specify the semester involved, the course and section number, the student's name, identification number, mailing address and telephone number. It must include documentation of extenuating circumstances, such as medical, family or employment needs. The petition must be typed and signed.
3. A student may only petition grades up to one year after an instructor and dean grade change form can be utilized to change a grade. (Effective as of April 2005 as approved by Faculty Senate Operations Committee.) This means no grade change can be petitioned after two years in which the course(s) was/were taken.
4. Upon receipt of student's petition, the instructor(s) involved is contacted for a statement concerning the request.

5. The petition (along with instructor comments) is forwarded to the Grade Petition Subcommittee of the Faculty Senate Admission and Records Committee for review and decision. If the petition is approved, appropriate modifications are made to the student record.
6. The student is notified in writing of the outcome of the petition. The decision of the subcommittee is final.
7. The student is responsible for tuition and fees incurred.

Academic Renewal Policy

Academic Renewal applies to students seeking undergraduate degrees who have been readmitted to the University of New Mexico after an absence of **five years** or more. The procedure allows a currently enrolled student to request an academic record review for the purpose of reevaluating previously-earned University of New Mexico credits and recalculating the student's grade point average from the point of readmission.

The student may obtain a petition from Records and Registration, Mesa Vista North One-Stop, or Student Support and Services Center. If all criteria are satisfied, the petition will be approved and the academic record appropriately noted.

NO EXCEPTIONS ARE MADE TO THIS POLICY.

Academic Renewal Guidelines

NOTE: Non-degree, second undergraduate degree, graduate students, or students who hold an Associate's degree from The University of New Mexico are not eligible for Academic Renewal.

1. Academic Renewal may be applied only once and is not reversible.
2. An absence of five or more years must have elapsed between readmission and the last date of enrollment at the University of New Mexico.
3. The student must be currently enrolled in an undergraduate degree program. Additionally, college entrance requirements such as minimum hours and grade point average must still be met after Academic Renewal has been applied.
4. After readmission to the University of New Mexico, at least 12 earned credit hours, but no more than 36 earned credit hours, must be completed in good standing (2.00 GPA or better) before Academic Renewal can be applied.

NOTE: If the degree-granting unit has placed the student on probationary status, it is not automatically changed by Academic Renewal.

5. All graduation requirements must be satisfied after Academic Renewal, i.e., minimum earned credit, residence credit requirement, cumulative grade point average, etc.
- NOTE:** Credit earned prior to Academic Renewal does count toward the residence credit requirements.
6. All courses taken prior to Academic Renewal remain unaltered on the record. An appropriate notation is added to the record to indicate Academic Renewal. Courses with a grade of C or CR or better taken prior to Academic Renewal are carried forward as earned credits. Application of these credits towards a degree is determined by the degree-granting unit.
7. Courses with a grade of C- or below taken prior to Academic Renewal are noted and do not count as earned credits or as satisfying any graduation requirements.
8. Academic Renewal, when applied, is effective as of the date of the readmission following the five-year absence.
9. The cumulative grade point average after academic renewal is calculated on the basis of courses taken since the readmission following the five-year absence.

Scholastic Regulations

Attendance

Policies regarding student attendance at class meetings are set by each instructor.

Students should not assume that nonattendance results in being dropped from class. It is the student's responsibility to initiate drops or complete withdrawals utilizing <http://registrar.unm.edu/> or LoboWeb <http://my.unm.edu>.

A student with excessive absences may be dropped from a course with a grade of WF upon recommendation of the instructor. Instructor initiated drops are submitted utilizing LoboWeb.

Information on reporting short term absences to instructors can be found under *Dean of Students Office, Notification of Absences* in this catalog.

Classroom Conduct

The instructor is responsible for classroom conduct, behavior and discipline. Any action that would disrupt or obstruct an academic activity is prohibited. The instructor may refer situations involving classroom misconduct to the Dean of Students Office for additional action under the "Student Code of Conduct" as published in the *UNM Pathfinder*.

Use of classrooms or other facilities during scheduled activities is limited to enrolled students and University personnel. Use of these facilities during nonscheduled periods should

Registration, Tuition, and Fee Charges (rates in effect 2010–2011)

Hours, for purposes of tuition and fee charges, are defined as hours for credit, credit/no credit, and/or audit.
All tuition and fee charges are subject to change without notice.

	Resident					Non-Resident ⁽¹⁾				
	(2),(12) Under- Grad UG/NU	(3) through (11) Graduate GR/NG	(3) Law	(3) Graduate ASM	(3),(9) Pharm.D.	(2),(12) Under- Grad UG/NU	(3) through (11) Graduate GR/NG	(3) Law	(3) Graduate ASM	(3),(9) Pharm.D.
Per Credit Hour	\$229.40	\$251.70	\$569.15	\$400.10	\$695.20	\$778.80	\$800.30	\$1275.15	\$954.60	\$1528.65
Full Time	\$2752.80	\$2995.40	\$6804.80	\$4776.20	\$8317.40	\$9345.60	\$9578.60	\$15276.80	\$11430.20	\$18318.80
Charges per credit hour above 18 hours	\$229.40	\$251.70	\$569.15	\$400.10	\$695.20	\$778.80	\$800.30	\$1275.15	\$954.60	\$1528.65

(1) Non-resident students enrolled for 6 hours or fewer pay the resident rate. If enrolled for 7 hours or more, non-resident students pay the indicated non-resident tuition for **ALL** credit hours taken.

(2) Undergrad and Non-degree undergrad rates for students with no baccalaureate degree.

(3) Grad, Grad-ASM, Law, Pharm D, Dissertation, and Med students pay a \$25 GPISA fee per semester.

(4) Grad and Non-degree grad rates for students with baccalaureate or higher degree.

(5) All full-time Physical Therapy D students are charged additional flat tuition fee of \$1795.00.

(6) Add \$45 per credit hour for graduate level Architecture, Planning and Landscape Architecture courses.

(7) Add \$75 per credit hour for graduate level Anderson School of Management courses.

(8) Add \$25 per credit hour for graduate level Public Administration courses.

(9) All students enrolled in HSC programs will be charged a \$130 Library fee and a \$1.00 HSC Student Council Fee

(10) Add \$204 per credit hour for College of Nursing Graduate (Masters) courses.

(11) Add \$300 per credit hour for College of Nursing Graduate (Doctorate) courses.

(12) Add \$156 per credit hour for College of Nursing Undergraduate courses.

Dissertation Students

Tuition for resident students: \$594.00

Non-resident students: \$594.00 for 6 hours or less. Each hour above 6 hours: \$594.00 plus \$800.30 per credit hour.

Medical Students

Tuition for resident students: \$16,169.65 per year (includes \$50 GPISA fee)

Tuition for non-resident students: \$46,347.30 per year (includes \$50 GPISA fee)

Mandatory Curriculum fee: \$2700.00

Mandatory Student Disability Insurance fee: \$103.08.

Mandatory Needlestick Insurance fee: \$60.00.

Mandatory Microscope fee (First-year students, Fall only) for 2010–2011: \$100.00.

Student Group Health and Accident Insurance

Group health and accident insurance is available only to students attending the University of New Mexico and carrying 6 or more semester hours. Participation is optional, except for international students who are required to have this coverage for both themselves and their dependents. Check with Student Health Center insurance coordinator for current rates, and to complete an application and make payment.

Special Course Fees

See each semester's *Schedule of Classes* at <http://schedule.unm.edu>. Special Course Fees and GPISA Fee are refunded using the same refund schedule as tuition and fees. See Tuition Refund Deadlines.

be arranged with the appropriate department or other division of the University.

Smoking, eating and drinking are prohibited in all classrooms and teaching laboratories, including seminars.

Dishonesty in Academic Matters

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Any student who has been judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty on quizzes, tests or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University.

Misrepresentation

Nondisclosure or misrepresentation on applications or other University records make a student liable for disciplinary action, including possible dismissal from the University.

Examinations

Regular Examinations. Examinations other than final examinations are given during each course at the discretion of the instructor. Final examinations are given at the end of each course as scheduled during the final examinations period. Visit the *Schedule of Classes* online at <http://schedule.unm.edu/>.

Examination to Establish or Validate Credit (Challenge a Course). Degree seeking students in undergraduate status may, with appropriate written approval, take an examination to establish or validate credit in courses that appear in the University's general catalog. Students may not have been previously enrolled (or have earned a W/WP/WF grade) in the course at the University of New Mexico. Graduate students have the same privilege, but only undergraduate credit can be earned in this manner.

Credit for nonprofessional physical education activity courses and some professional physical education courses cannot be earned by examination. Contact the department to determine which professional physical education courses can be challenged by examination.

A permit for the examination is issued upon authorization, of the dean or director of the college offering the course. This permit must be approved by the department concerned and the dean or director of the student's college. The student will be liable for the current tuition rate per credit hour and submit the permit to the person who administers the examination. Once the examination has been administered and graded the instructor completes the form and sends it to Records and Registration to be recorded on the student's record.

Examination to establish credit can be taken only during the week before classes start through the ending date of the semester or summer session. Credit is allowed and placed on the student's permanent record as of the semester in which the examination is completed. A grade of CR is recorded for successful completion of examination and a notation of credit by examination is made on the transcript. Credits earned by examination at the University of New Mexico apply toward graduation and residence requirements.

Alternative Credit Options. For information concerning the Advanced Placement Program (AP) and the College Level Examination Program (CLEP) of the College Entrance Examination Board, see *Admissions* section of this catalog.

Dismissal

Students are subject to dismissal from a college or a degree program based on minimum requirements set by that college or program. Refer to each college section in this catalog for specific requirements. Dismissal from a college or degree program is not the same as suspension, but may preclude the student from enrolling at the University.

Probation

Probationary status serves as a warning to students that they are no longer in good academic standing and that they may be suspended.

Undergraduate students who have 30 or fewer attempted hours must have a cumulative grade point average of at least 1.70 to be in good standing.

Thereafter, the minimum cumulative grade point average to remain in good standing is 2.00.

Undergraduate students are placed on probation at the end of any semester (or Summer session) for which their cumulative grade point average falls below these minimum requirements. Special requirements may be placed on students who are on probation.

Degree-Granting Colleges and Non-Degree Status.

Students in degree-granting colleges or in non-degree status may be placed on academic probation at the end of any semester, if they fail to meet the minimum cumulative grade point average required to remain in good standing in their college. The minimum grade point average is at least a 2.00, but is higher in some colleges. Students must familiarize themselves with the academic regulations of their college. Graduate students see the section of Graduate Programs related to this policy.

Suspension

Students on suspension may not enroll for classes at the University of New Mexico until their suspension period has been completed.

Degree-Granting Colleges and Non-Degree Status.

Students are eligible for suspension after a semester on probation, if their cumulative grade point average remains below the minimum required to be in good standing in their college.

Suspension Period. Students suspended for the first time may not enroll for classes at the University of New Mexico for a period of one semester from the date of the suspension. Students suspended for the second time may not enroll for classes for a period of two semesters from the date of the suspension. Students suspended for the third time may not enroll for classes for a period of five academic years from the date of the suspension.

NOTE:

1. Summer sessions are counted with the following fall semester for purposes of this policy, e.g., a student suspended at the end of a spring semester may not attend either the following Summer session or Fall semester.
2. Students absent from the University for a year or more must reapply for admission to the University.
3. Students who are accepted for readmission after suspension will be readmitted on probation in the accepting college.
4. College deans may specify the number of hours for which a student may enroll following a suspension. They may also require students to drop courses which seem beyond their abilities.
5. Attendance at another institution during suspension must be indicated on the student's application for readmission, and an official transcript must be sent to the Office of Admissions as part of the reapplication.

Senior Citizens

You qualify for a reduced tuition rate of \$5.00/credit hour if you are:

- Age 65 or older as of the 21st day from the start of the semester.
- Classified as a New Mexico resident as defined by the NM Higher Education Department.
- Registering for no more than six (6) credit hours.
- Registering on or after the first day of classes. *Registration attempts prior to the first day of classes will result in full tuition charges even if the class is dropped and added after this date.*

Fees (Subject to Change)

Charges for Special Services

1. Admission (nonrefundable):

a. Application Fee (undergraduate)	\$20.00
b. Application Fee (graduate)	\$50.00
c. Application Fee (non-degree)	\$10.00
d. Application Fee (Law)	\$40.00

2. Administration Charges (nonrefundable):

a. Deferred Tuition Payment Fee \$10.00 per payment (maximum of \$50.00) (per semester)	
b. Returned Check	\$15.00
c. Master's Thesis Binding	\$15.00
d. Dissertation Binding	\$15.00
e. Registration transaction Fee (second week of classes)	\$10.00
f. Late Transaction Fee (after published deadlines)	\$75.00
g. Late Registration/Reregistration Fee (starting first day of semester-non-refundable)	\$30.00
h. New Student Orientation Fee	\$30.00-\$125.00

3. Testing Fees:

a. Residual ACT Testing	\$25.00
b. Miller Analogies	\$35.00
c. Graduate School Foreign Language Test	\$10.00

4. Deposits:

a. Chemistry Laboratory Breakage Deposit Card	\$40.00/course
b. Housing (Residence Halls/ Student Family Housing)	\$100.00/\$200.00

5. Equipment or University Property Damage:

Tuition provides for a nominal amount of breakage in laboratory or other courses. Excessive breakage is charged separately to the student responsible for it.

6. Student Association Fees:

a. Associated Student Fee

Assessment of this fee is a voluntary action of the student body through its organization, The Associated Students of the University of New Mexico (ASUNM). The University collects the fee as an accommodation to ASUNM. Fee amount is determined by vote of the ASUNM members and is subject to change. It is included in the tuition paid by all undergraduate students. More information about the allocation of funds received from the fee may be obtained in the *Pathfinder*, as well as from ASUNM. Copies of the ASUNM budget may be examined in the Office of the Dean of Students.

b. Graduate and Professional Student Association Fee.

Graduate students are assessed a fee determined by vote of the members of the Graduate and Professional Student Association (GPSA) and set forth in their constitution. The University collects the fee. More information about the allocation of GPSA funds may be obtained in the *Pathfinder*, as well as from the GPSA office.

Enrollment Cancellation Due to Lack of Financial Commitment (Disenrollment)

A student's current account balance, less awarded financial aid, is due by 5:00 p.m. on the published Enrollment Cancellation date. Students who do not pay this Enrollment Cancellation Balance or set up a payment plan on or before this payment deadline will have their registration cancelled.

The Enrollment Cancellation Balance includes Tuition and Fees (including second 8-week courses), Special Course Fees and GPSA Fee and may also include the following: Housing, Parking Permits and fines, Library charges, Child-Care, Student Health and Pharmacy charges, Late fees, Bookstore charges, Short Term Loans, Orientation fees and all other current charges.

NOTE:

- Students can view Enrollment Cancellation Balance on LoboWeb.
- Failure to receive a Statement of Account does not relieve students of responsibility for payment.
- Installment payment plans will be made available for setup at least two weeks prior to the deadline.
- Students registering after the deadline, who do not drop within the published refund deadlines, will be responsible for payment of all tuition and fees.
- Awarded financial aid will be included in the calculation of the Enrollment Cancellation Balance.

A student whose registration has been cancelled and has a past due balance must pay the past due balance before re-registering. A \$30.00 non-refundable late registration fee will be added to the student's account for registration on or after the first day of the semester.

Re-registration into classes is the responsibility of the student. If the student attempts to re-register for a class and that class is closed, the student must follow the procedures outlined in the current semester's Schedule of Classes in order to re-register in that class.

Refer to the current online Schedule of Classes at <http://schedule.unm.edu/> for additional information.

Methods of Payment

Payments must be received by 5:00 p.m. on the published deadline date.

Payment in Person

The Cashier Department is located in the University Advisement and Enrichment Center. Hours of operation are 8:00 a.m. to 5:00 p.m., closing from 12-1 for lunch, Monday through Friday. Every second and last Wednesday closed from 8:00 a.m. to 8:30 a.m. for staff meeting.

Payment by Mail

Make check or money order payable to the University of New Mexico.

Mailing Address

UNM Bursar's Office
MSC06 3660
1 University of New Mexico
Albuquerque, New Mexico 87131-0001

Physical Address

The University of New Mexico
Bursar's Office
University Advisement and Enrichment Center, Room 170
Albuquerque, New Mexico 87131-3036

Drop Box

Located at the Cashier Department (building closes at 5:00 p.m.). No cash please.

NSF or returned checks may result in Enrollment Cancellation.

48 STUDENT SERVICES INFORMATION

Payment over LoboWeb

Credit card and ACH payments (routing and checking or savings account numbers required) made over LoboWeb must be received on or before 11:59 p.m. on the published deadline date.

Payment by Telephone

Payments may be made by telephone at (505) 277-5363 (option 2), using a credit card, during Cashier Department hours of operation.

Payment by Financial Aid

- Students should check LoboWeb/Phone to obtain their Enrollment Cancellation Balance and awarded financial aid.
- Students must visit the Student Financial Aid Office if delays in financial aid applications delay financial aid awards. If financial aid awards are insufficient to cover Enrollment Cancellation Balance, students must pay the balance or set-up payment plan by the deadline to avoid Enrollment Cancellation.
- Work-study financial aid awards are not considered in arrangement of payment.
- Paperwork for Graduate, Teaching, and Research Assistants receiving tuition waivers must be received in the Student Financial Aid Office by the published Enrollment Cancellation deadline. To expedite this paperwork, students should visit the Office of Graduate Studies.

Students exempt from Enrollment Cancellation based on financial aid awards who decide not to attend UNM must officially withdraw through LoboWeb/Phone prior to tuition refund deadlines.

Employee Dependent Education Program

Refer to Education Benefits Policy, UBP 3700. Instructions and forms can be found at the Human Resources website.

- To avoid Enrollment Cancellation, students must be registered and pay any balance not covered by the program by the published deadline.
- Students are awarded resident tuition cost only. Mandatory fees and course fees are not covered.
- Students registering on or after the first day of the semester will be assessed the \$30.00 nonrefundable late registration fee.
- Students must maintain eligibility in order to continue to receive financial credit for next semester. The Human Resources Department will complete verification of eligibility.
- Branch campus rates are available at each individual branch.

Contact Human Resources for additional information.

Payment Plan

Students may set up a payment plan to defer part of their Enrollment Cancellation Balance. Payment plans are set up over LoboWeb. When enrolling in a payment plan, a portion of the balance will be due at set up and will automatically be drawn from the bank or credit card account specified. In addition, **future payments will automatically be pulled from the specified account on the due date of the payment.** Please visit fastinfo.unm.edu for more information on payment plans.

Third Party Sponsored Students

If a third party is paying your tuition, the Bursar's Office must receive your authorization letter prior to the Enrollment Cancellation deadline. All charges not covered by the authorization, including any prior semester charges, must be paid by the deadline.

Tuition Remission

Refer to Education Benefits Policy, UBP 3700. Instructions and forms can be found at the Human Resources website.

- To avoid Enrollment Cancellation, Tuition Remission forms must be received by the Bursar's Office no later than 5:00 p.m. on the published deadline.
- Any fees not covered by Tuition Remission must be paid in full by the deadline.

- Tuition Remission does NOT cover course fees or late registration fees.
- Employees registering on or after the first day of the semester are subject to the \$30.00 nonrefundable late registration fee.

Tuition Refund Deadlines

All tuition refunds are based on date of withdrawal or official drop. To receive a refund of tuition, students must complete LoboWeb/Phone drop procedures for their classes.

Sixteen-week courses:

Withdrawal or drop in hours:
Prior to first day of class and through
Friday of third week of classes 100%
After third Friday of classes 0%

Eight-week and Twelve-Week Courses:

Withdrawal or drop in hours:
Prior to first day of class and through
Friday of second week of classes 100%
After second Friday of classes 0%

Courses Less than Eight Weeks and Greater than Five Days in Duration or Courses Beginning on Dates Other than the Beginning of the Semester or the First or Second Eight-weeks of the Semester (except Correspondence Courses):

Withdrawal or drop in hours:

Prior to the completion of 20% of the course
(Partial days do not count in calculation) 100%
After 20% of completion 0%

Courses Five Days or Less in Duration:

Withdrawal or drop in hours:
On or before the first day of course 100%
After first day of course 0%

Correspondence Courses:

Withdrawal or drop in hours:
Prior to completion of 9% of the course
(Partial days do not count in calculation) 100%
After 9% completion 0%

Tuition and fees for courses dropped after the above deadlines will not be refunded.

Direct Deposits and Refunds for Paid Charges

Students may choose to deposit financial aid refunds directly into their bank accounts. To select this option, search for Answer ID 2682 in Student Info. Otherwise, refund checks will be mailed to the student's current mailing address. Please confirm your mailing address using LoboWeb by clicking on the Demographic Self-Service (DSS) link.

If a refund is due and payment was made by personal check, there may be a 21-day hold period from the payment receipt date before a refund is processed.

If paid by a credit card, refunds will be processed to that credit card.

Restriction of Services and Sanctions

Withholding Services

Students who have delinquent accounts will be denied privileges and services that are available to students enrolled in the University and in good financial standing. Students with delinquent accounts will be subject to sanctions that withhold:

- Future registrations
- Readmission
- Transcripts
- Payment plan participation
- Future parking and library privileges

Financial Holds

No transcripts or other information relating to any student records at the University shall be released or delivered to the student or on behalf of the student until all debts to the University and all of its affiliates, including external collection agencies, have been paid.

Students have the right to inspect and review educational records to the extent that applicable laws and regulations grant such right.

Registration Sanction

No student shall register at the University until she/he has paid all past due charges.

Service Charges

A service charge will be assessed on a student's past due account balance. An account is considered past due if the billed amount is not paid by the next billing date. Awarded financial aid exempts students from Enrollment Cancellation but does not defer any service charges on student accounts.

Collection Agencies

Monthly statements of account are available through LoboWeb. **Failure to receive a Statement of Account does not relieve student of the responsibility for payment.** If payments are not made on a timely basis, the account may be placed with a collection agency. Should it be necessary for an outside agency to effect a collection, collection costs of at least 20% will be added to the amount due and shall be paid by debtor. If UNM obtains judgment from a court of competent jurisdiction, the debtor shall be liable for the collection agency fee as well as reasonable court costs and attorney's fees.

Enrollment Requirements for Financial Aid

To receive financial aid, students must generally enroll at least half-time as regular students in eligible programs. Scholarships generally require full-time enrollment. Audited classes are not included toward financial aid enrollment requirements. Award amounts are generally prorated according to enrollment status.

Students are responsible for meeting minimum enrollment requirements. Students who knowingly receive aid to which they are not entitled may be in violation of University policy and state or federal laws.

Questions should be directed to the Student Financial Aid Office.

Enrollment Requirements**Undergraduates/Non-Degree****1. Fall/Spring Semesters**

- Full-time: 12 or more credit hours
- Three-quarter time: 9-11 credit hours
- Half-time: 6-8 credit hours
- Less than half-time: 5 or fewer credit hours

2. Summer Session

- Full-time: 6 or more credit hours.
- College of Nursing full-time: 12 or more credit hours
- Three-quarter time: 5 credit hours
- College of Nursing three-quarter time: 9-11 credit hours
- Half-time: 3 or 4 credit hours
- College of Nursing half-time: 6-8 credit hours
- Less than half-time: 1 or 2 credit hours
- College of Nursing less than half-time: 5 or fewer credit hours

Graduate Students**1. Fall/Spring Semesters**

- Full-time: 9 or more credit hours
- Three-quarter time: 7 or 8 credit hours
- Half-time: 5 or 6 credit hours
- Less than half-time: 4 or fewer credit hours.

2. Summer Session

- Full-time: 6 or more credit hours
- College of Nursing full-time: 9 or more credit hours
- Three-quarter time: 5 credit hours
- College of Nursing three-quarter time: 7 or 8 credit hours
- Half-time: 3 or 4 credit hours
- College of Nursing half-time: 5 or 6 credit hours
- Less than half-time: 1 or 2 credit hours
- College of Nursing less than half-time: 4 or fewer credit hours

Crediting Financial Assistance to a Student's Account

Approved and awarded financial aid credits into students' accounts if students register for the required number of hours and meet all the respective financial aid program requirements.

These programs include:

- Federal Pell Grant
- Academic Competitiveness Grant (ACG)
- Science and Mathematics Access to Retain Talent Grant (SMART)
- Federal Supplemental Educational Opportunity Grant (SEOG)
- State Student Incentive Grant (SSIG)
- Federal Perkins Loan
- UNM 3% Grants
- Medical Grants and Scholarships
- Other Grants and Scholarships
- TEACH Grant
- FFELP Loans
- Other Loans

For external scholarship or loan checks, students must visit the Cashier Department to endorse the checks.

After financial aid awards credit into students' accounts and current and past due charges are paid, the remaining balances are either deposited directly into students' bank accounts or checks are mailed to students. Students no longer pick up refund checks from the Cashier Department.

Nonresident Students

The student is responsible for obtaining the correct residency classification prior to the end of the second week of the semester. A student not classified as a New Mexico resident is charged as a non-resident. Refer to the Residency section in this catalog.

Student Housing**Residence Halls**

Facilities. The University of New Mexico residence halls are designed to provide attractive living accommodations that meet the academic needs of students and at the same time offer convenience and economy of housing and dining. The halls are within easy walking distance of classrooms, the library and recreational facilities.

Each of the University's residence halls is supervised by a professional staff experienced in counseling and advising student groups. Residents of each hall elect a governing body that plans and organizes a full program of educational, governmental, social and recreational activities, such as the annual Inter-Hall Olympiad.

To meet the diverse needs, interests, experience and maturity of residence hall students, the University provides a variety of living and dining options. You may select the one best suited to your lifestyle and educational needs. There are six traditional residence halls (Coronado, Hokona, Laguna/DeVargas, Alvarado, Santa Ana, and Santa Clara) where students contract for room and board services. Double rooms and limited singles are available. The University also operates single-student apartment facilities (Student Resident Center

50 STUDENT SERVICES INFORMATION

and Redondo Village Apartments). Although these facilities are open to freshmen, they must choose a meal plan. Meal plans are optional to upperclassmen residing in apartment style facilities during the fall and spring semesters. During the summer session, housing facilities utilized and required meal plan options vary from those for fall and spring semesters. For example, a mandatory meals and/or points package is required of all Summer session residents. Details on all these options are contained on the housing website: <http://housing.unm.edu>. Residence halls primarily house undergraduate students. In selecting a hall assignment, graduate students may wish to consider the Graduate/Senior Class Status Option in the apartment-style facility.

Housing Policy. Students may live either on or off campus. Students electing to live on campus are required to sign a housing contract obligating them for one academic year.

A portion of the residence hall capacity is reserved for returning students. The remaining space is assigned to students new to the University in the order of receipt of housing application and contract, \$50 non-refundable application fee, and \$200 prepayment. Living quarters in residence halls are available to students with a minimum course load of 6 semester hours during the fall and spring semesters. All continuing residents are required to enroll for the summer. All summer student residents are required to enroll for at least 1 semester hour. All freshmen residents are required to take a meal plan. Freshman and sophomore residents assigned in traditional (non-apartment style) residence halls are required to take a meal plan. Upperclassmen assigned to apartment facilities are not required to have a meal plan.

Special Needs. Students with special needs should communicate their requirements on the application materials, and register with UNM Accessibility Services.

Room and Board Fees. A copy of the current rates and payment schedule can be found at <http://housing.unm.edu>. All housing payments are paid through the UNM Bursar's office. A deferred payment plan is available. Rates include utilities and cable TV, plus high-speed Internet connection in each student's room. Except for limited facilities, the rates do not include room between semesters nor are meals provided during official recesses listed in the academic calendar. The rates are subject to adjustment, with appropriate notice, reflecting changes in operating costs.

Reservation Procedure. Students are encouraged to apply early. Historically, demand for residence hall space exceeds capacity during the fall semester. **Application for housing is a separate process from the admission application to the University.** Housing applications may be completed online at <http://housing.unm.edu>, or by writing to: Residence Life and Student Housing MSC02 1530, the University of New Mexico, Albuquerque, NM 87131-0001, FAX (505) 277-4712, telephone (505) 277-2606. You may also visit the Web site <http://housing.unm.edu> or e-mail questions to reshalls@unm.edu.

Student Family and Graduate Housing

Facilities. The University operates 200 student family apartments constructed just south of the main campus. One, two and three unfurnished bedroom units are available.

Housing Policy. To be eligible for student family housing, one spouse must be a student of the University of New Mexico pursuing a degree and taking at least 6 semester hours. Single students with legal dependents also are eligible for student family housing. Domestic partners may also apply if they submit certification from the University of New Mexico Dean of Students Office that they meet the qualifying criteria. Apartment residents may remain in Student Family Housing during the summer without enrolling, if they plan to enroll for the fall semester. All students must complete the summer extension form. Limited number of one bedroom apartments are available to graduate students.

Rental Rates. A copy of the current rates and payment schedule can be found at <http://housing.unm.edu>. Rates are subject to adjustment, with appropriate notice, reflecting changes in operating costs. A \$50 non-refundable application fee is required prior to move in.

Reservation Procedure. Because the number of apartments is limited, applicants may be placed on a waiting list if no apartment is available. Information concerning the reservation procedure, rental rates and applications may be obtained by contacting Housing via e-mail at sfhouse@unm.edu or by writing to: Student Family Housing Office, the University of New Mexico, 961 Buena Vista SE, Albuquerque, NM 87106, Telephone (505) 277-4265, FAX (505) 277-4128. You may also visit the Family Housing link on the Web site <http://housing.unm.edu>.

Student Financial Aid

The following information explains the application process and answers questions about financial aid at the University of New Mexico. To maximize your opportunity for funding, your application must be received by March 1. You must also respond to any request for additional information in a timely fashion. Pell Grants and Federal Stafford Loans remain available to eligible students who submit applications after the March 1 priority date.

The Free Application for Federal Student Aid (FAFSA) is used to apply for all types of federal and state need-based aid. Students can apply for financial aid on the Web or by completing the paper application. We encourage students to apply on the Web. The address is: <http://www.fafsa.ed.gov>. The University of New Mexico's Federal School Code is 002663. All prospective students must be admitted to the University of New Mexico to receive an offer of financial aid.

The costs of attending the University of New Mexico include: 1) tuition and fees; 2) room and board; 3) books and supplies; 4) transportation; 5) personal expenses; and 6) child care costs, if applicable.

To be considered for financial aid, students must apply every year.

For additional information regarding costs and financial aid at the University of New Mexico, access our Web page at: <http://finaid.unm.edu>.

Satisfactory Academic Progress

Students must meet a minimum standard of academic performance in their course work and progression toward a degree. All students' academic progress is monitored at least annually to determine continued eligibility for assistance. Students in Certificate programs are monitored each semester. There are three major components to the University of New Mexico's Satisfactory Academic Progress Policy:

- 1. Grade point average:** Students are required to maintain a grade point average consistent with graduation requirements for their major as follows:
 - While completing the first 30 credit hours as an undergraduate, a student must attain a minimum 1.7 GPA.
 - Students with more than 30 credit hours must sustain a minimum 2.0 GPA.
 - Graduate students must sustain a minimum 3.0 GPA.
 - Law, Medical and Doctor of Pharmacy students must sustain a minimum 2.0 GPA.
- 2. Completion rate:** Students must successfully complete at least 67% of the total credit hours they attempt. Classes in which grades of A, B, C, D or CR are earned are considered completed. Repeated courses were already counted as completed, and are not counted twice. All attempted credit hours from any college (including non-degree hours) are counted whether or not financial aid was received. This calculation includes all hours in which a student is registered at the time of withdrawal. Remedial classes

and English as a Second Language (ESL) classes are also counted as attempted credit hours. Courses taken for AUDIT are not counted in the student's total course load for purposes of financial aid eligibility. For graduate students, 100- and 200-level classes count as hours attempted, but not hours earned, because they do not count toward the completion of a graduate degree.

3. Maximum time frame: Undergraduate students must complete their program of study within 150% of the published length of the program, measured in credit hours attempted. Example: if the published length of the academic program is 128 credits, the maximum time frame for completion is 192 attempted credits. All attempted credit hours from any college, including non-degree hours, and hours attempted in completing a prior certificate or degree will count toward the maximum allowable credits regardless of whether financial aid was received. Courses with assigned grades of F, WF, W, WP, I, NC and "repeated" courses all count as attempted credit hours. In addition, remedial classes and ESL classes are counted in this calculation, even though these classes do not count toward the student's graduation requirements. To receive financial aid, graduate students must complete their degree within the maximum time frame allowed by their graduate program.

Should you fail to meet satisfactory progress, you are no longer be eligible to receive financial aid at the University of New Mexico. Students with extenuating circumstances beyond their control, such as a serious personal illness, divorce, or the death of a close family member are allowed to petition.

Typical Sources of Financial Aid

Program	Per Academic Year	Maximum Award Amount
Federal Pell Grant	Maximum	\$ 5,500
Federal Academic	Freshman	\$ 750
Competitiveness Grant	Sophomore	\$ 1,300
National Smart Grant	Junior	\$ 4,000
TEACH	Senior	\$ 4,000
		\$ 4,000
Federal Supplemental Ed. Opportunity Grant	Maximum	\$ 1,000
State Student Incentive Grant	Maximum	\$ 2,500
State College Affordability Grant	Maximum	\$ 1,000
UNM Grant	Maximum	\$ 2,500
UNM Bridge to Success Scholarship		\$ 1,000
NM Lottery Success Scholarship	Tuition amount Does not include fees	Tuition amount
Federal/State College Work-study	Undergraduate	\$ 5,000
	Graduate	\$ 6,000
Federal Perkins Loan	Maximum	\$ 2,000
Federal Stafford Loan (Subsidized)	Freshman	\$ 3,500
	Sophomore	\$ 4,500
	Junior/Senior	\$ 5,500
	Graduate/Professional	\$ 8,500
Federal Stafford Loan (Unsubsidized)	Freshman	\$ 7,500*
	Sophomore	\$ 8,500*
	Junior/Senior	\$10,500*
	Graduate/Professional	\$20,500*
* Minus any subsidized amount borrowed		
PLUS Loans	Dependent Students	Cost of education minus financial aid awarded

Grad PLUS Loans	Graduate/Professional	Cost of education minus financial aid awarded
Loan for Service	Nursing, Medicine, Pharmacy and Allied Health students only	\$12,000

Student Employment

Students in a degree-granting program seeking part-time employment while attending the University of New Mexico may apply for student employment. Available positions are posted on our Web page along with available work-study positions. The address is: <http://www.unm.edu/~wsstudy/index.html>.

Scholarships

More than 600 individual scholarships exist at the University of New Mexico for qualified students. Students receiving general scholarships awarded through the Scholarship Office must reapply each year. Incoming freshmen must complete the freshmen scholarship portfolio application by **December 1** for Regent's and Presidential Scholarships, by **February 1** for the University of New Mexico Scholars Program (dates subject to change). Deadline dates vary for the Fall and Spring semester for general scholarships. Students applying for departmental or college scholarships should contact those offices.

- *Regents' Scholars*

Full ride scholarships, awarded up to eight semesters, are awarded to entering freshmen in each academic year. The Regents' Scholarship recipients are selected from among the following groups: National Merit finalists; valedictorians; students with ACT composite scores of 31 or higher; students with the strongest college preparatory course work, including advanced, enriched and advanced placement courses; and students with a minimum sixth semester grade point average of 3.90 or higher.

Regents' Scholars are admitted to the University of New Mexico University Honors Program and will receive specialized advisement and course registration privileges. Regents' Scholars represent the University at various community and University functions.

To continue the scholarship a student must maintain a 3.2 GPA on 30 credit hours as a freshmen and a 3.5 GPA in each additional semester (Requirements subject to change).

- *Presidential Scholars*

A most prestigious scholarship at the University of New Mexico, this scholarship is offered to New Mexico residents with a minimum sixth semester grade point average of 3.75, an ACT composite score of 25 or higher and proven academic and citizenship skills as demonstrated in the classroom and in positions of leadership. The scholarship is awarded for up to eight semesters provided the student demonstrates academic progress by completing at least 30 semester hours per academic year with a grade point average of 3.0 ("B") or better (Requirements subject to change).

- *New Mexico Scholars Scholarship Program*

The 1989 New Mexico Legislature approved a new scholarship program intended to recognize well qualified New Mexico high school graduates and to help these students meet the cost of attending college in-state. A student is eligible for the award if he or she meets the following criteria:

Eligibility

1. Is a 2009 New Mexico high school graduate;
2. Has a family income of \$30,000 or less, or \$40,000 if more than one in college.
3. Graduated in upper 5% of high school class or obtained composite score of 25 on the ACT or combined score of 1130 on the SAT, or greater, respectively.

52 STUDENT SERVICES INFORMATION

4. Is a citizen of the United States or has a permanent resident visa.
- **UNM Scholars**
UNM Scholars awards are offered to approximately 150 selected seniors who demonstrate a combination of factors which include a minimum 3.3 grade point average with at least a 24 ACT score. This scholarship is awarded for up to eight semesters provided the student maintains a 3.0 GPA and completes at least 30 semester hours per academic year (Requirements subject to change).
 - **National Scholars Scholarship**
The Scholarship is automatically offered to New Mexico semi-finalists in the National Merit, National Hispanic and National Achievement Scholarship programs. Students must list UNM as their first school of choice with the National Merit Scholarship Corporation to receive this award.
 - **Amigo Scholarships**
This scholarship entitles outstanding out-of-state students to an award of \$500 per semester plus waiver of non-resident tuition rates. In order to qualify for the Amigo Scholarship, a student must:
 1. have a cumulative high school grade point average of 3.50 or higher (on a 4.00 scale) and an ACT composite score of 23 or the SAT equivalent (1060 [combination of SAT Verbal and SAT Math]); or
 2. have a cumulative high school grade point average of 3.00 or higher (on a 4.00 scale) and an ACT composite score of 26 or the SAT equivalent (1170 [combination of SAT Verbal and SAT Math]).
 - **Amigo for International Students**
The scholarship is awarded annually for up to four years provided renewal requirements are met. A student who fails to meet the requirements necessary to renew the scholarship also forfeits the privilege of resident tuition. A student may not use the period in which the scholarship is received toward the 12 month consecutive presence requirement to establish in-state residency.
 - **Transfer Scholarships**
Transfer scholarships are available for qualified transfer students. These scholarships can amount to as much as \$1,000 per academic year. Preference for these awards is given to transfer students who have earned at least 30 semester hours of credit with a minimum 3.25 grade point average in lower-division (freshmen and sophomore) courses at a two-year post-secondary institution. The scholarship is available for two years only. They include the Zia Transfer and New Mexico Legislative Endowed Programs.
 - **College Major Related Scholarships**
Several departments award scholarships to beginning freshmen or upper-class students. Beginning freshmen should write directly to the College of Engineering or the Department of Music or any other department for more information. Juniors and seniors or graduate students may inquire directly to the School of Architecture and Planning, the Robert O. Anderson Schools of Management, the School of Engineering, the Earth and Planetary Sciences Department, the Law School, the Medical School and the College of Nursing.
 - **Presidential Scholarships for Branch Transfer Students**
This scholarship is available for the University of New Mexico branch transfer students who have earned a 3.50 grade point average, completed an associate degree and who have leadership potential. The scholarship may be renewed one additional year.
 - **The "Omega" Scholarship**
This one-year scholarship is designed for students who are nearing the completion of a degree, have a minimum 3.00 GPA, have completed 9 or fewer credit hours in the two most recent preceding semesters, have financial need and have accumulated 120 or more undergraduate credit hours.

- **The PACE Grant**
This one-year award is designed for students who are enrolled for at least 6 hours and who have been out of high school or college for at least five years. This award will cover up to 6 hours tuition and books.

NOTE: For more complete information about these and other scholarship programs, contact:

The University of New Mexico
Scholarship Office
MSC11 6320
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 277-8900
fastinfo.unm.edu
<http://www.unm.edu/~schol/>

Career Services

The Career Services Office, in support of the mission, academic programs and advancement of the institution, assists students and alumni in developing, evaluating, and/or implementing career, education and employment decisions.

Services Include:

Career Advising – Career Development Facilitators are available to assist you with choosing or changing your major, assessing abilities, interests and values, clarifying career goals, writing a resume or cover letter, preparing for interviews, conducting a job search or preparing to attend graduate school.

Cooperative Education – Gain "real world" work experience related to your major while still in school by completing a cooperative education assignment. Visit our office to learn more about how to participate.

Career Resources Lab – Visit our comprehensive, state of the art, resource lab designed to support all facets of your career development and job search needs.

On-Campus Recruiting – This program provides students and employers the opportunity to meet face to face while interviewing for professional entry level and cooperative education positions with national and international organizations from across the country.

Reference Now – Through Reference Now references, transcripts, performance evaluations, and even portfolios can be housed online for a minimal fee. All materials are available to potential employers and/or graduate schools 24/7.

Career Fairs – Career Services hosts several career and information fairs throughout the academic year, providing students the opportunity to learn more about career opportunities and find employment.

Job Listings – Browse thousands of part-time, full-time, internship, cooperative education and/or summer positions available online through the Career Services Web page at <http://www.career.unm.edu>

Workshops – Upon request, Career Services provides a class or an organization with a tailored presentation on Resume Writing, Cover Letter Writing, Cooperative Education, How to Conduct Your Job Search, Career Services Overview.

Career Services is located in the University Enrichment and Advisement Center, Room 220, (505) 277-2531, Web site: <http://www.career.unm.edu>.

Veterans Outreach Center

Located in the Student Support and Services Center, the UNM Veterans Outreach Center (VOC) was established in 2009 as a one-stop location to serve all of New Mexico's veterans to include retired, active-duty, National Guard, or Reserve personnel, and their dependents. The VOC can assist in navigating through the challenges of transitioning from the Military to a civilian / academic environment.

The Veterans Outreach Center is part of a broad network of New Mexico veteran services organizations as well as academic organizations within and without UNM. If a veteran or dependent has a problem that cannot be addressed within the Center, we can personally "handshake" her or him to the appropriate resource in our network. These resources include the VA, the New Mexico Department of Veterans' Services, the New Mexico Department of Workforce Solutions, Disabled American Veterans, and many more agencies, organizations, and individuals who work with veterans. The VOC also works closely with the UNM Veteran Certifying Office to help student veterans design their course of study and utilize their GI Bill or other educational benefits.

Veterans Certifying Office

The University of New Mexico is approved for certification of students eligible to receive educational assistance through the Veterans Administration. To apply for VA benefits or to initiate benefit payments, eligible students must contact the University of New Mexico Veterans Office *each term of enrollment*. The Veterans Office is located in Mesa Vista North One-Stop. For additional information call (505) 277-3514, or write to MSC11 6325.

Veteran students, past or present, can obtain verification of VA benefits for Financial Aid through the Veterans Regional Office, 500 Gold Street, 2nd Floor. For additional information call 800-827-1000.

Finding Out About The University of New Mexico

The Office of Admissions provides general undergraduate information about the University to prospective students. This information includes admission requirements and procedures, degree and course offerings, expenses, financial aid, scholarships, registration, housing, and special services and programs. Visit <http://www.unm.edu/admissions> for more information.

The Office of Admissions also provides opportunities for individual students and their families to visit campus. Visits include a campus tour, housing tour, and information sessions with a University representative. Morning and afternoon sessions are available on Mondays, Wednesdays and Fridays, as well as a morning session on the second Saturday of each calendar month. Reservations should be made at least two weeks in advance. Prospective students can schedule a visit and get more information online at <http://www.unm.edu/visitcampus>. A group tour is available for schools or programs bringing 10 or more visitors. Information on the group tour program can be found at <http://www.unm.edu/visitcampus>.

Dean of Students Office

The Dean of Students Office serves academic as well as extracurricular needs of University students. The office handles student withdrawals, student discipline, leadership programs, new student orientation, national student exchange, and parents relations office. The Dean of Students Office encourages student participation in the University community, recognizes students, and supports student organizations. Sponsored programs are designed to help students cope with any difficulties, academic or extracurricular, they may encounter in the course of their college career. Staff are usually available for consultation on a walk-in basis. The office is located on the second floor of the University Advisement and Enrichment Center, Room 280, (505) 277-3361, TDD 277-6053, Web site: <http://dos.unm.edu>.

New Student Orientation

Orientation is designed to assist new students in making a successful transition into the University. The orientation pro-

grams include information on the University of New Mexico services and policies, academic advisement, registration and strategies for coping with college. Attendance at an orientation program is required for all beginning freshmen and transfer students. It is an ideal time to begin exploring your new environment. The program is coordinated by the Dean of Students Office, located in the University Advisement and Enrichment Center, Room 280, (505) 277-3361, TDD 277-6053, Web site <http://dos.unm.edu>.

Notification of Absences

Students are expected to attend all meetings of the classes in which they are enrolled. Absences due to illness or exceptional circumstances should be reported by the student to his/her instructor(s) and to the Dean of Students Office. If a student is unable to contact his/her instructor(s), the student should leave a message at the instructor's department. The reporting of absences does not relieve the student of responsibility for missed assignments, exams, etc. The student is to take the initiative in arranging with his/her instructor(s) to make up missed work, and it is expected that the faculty member will cooperate with the student to make reasonable arrangements in this regard.

Verification (such as doctor's note, hospital billing, military orders, death notices, etc.) of a student's report of absence are provided on request and in accordance with the following general procedures.

While the Dean of Students Office does not excuse students from class, it is customary for the Dean of Students Office to communicate with faculty about student absences. The Dean of Students Office sends the instructor(s) notices in the event of an extended absence, inability to reach instructor(s) or department(s) or emergency situation(s). Examples include sudden death in the family, sudden hospitalization, incapacitating illness or injury, immediate departure military orders, etc.

The Dean of Students Office will verify a student's reported absence to facilitate the instructor's determination if make-up will be allowed. The reporting of absences does not supercede the instructor's attendance policy as stated in the course syllabus or as communicated by the instructor to a class.

The Dean of Students Office is located on the second floor of the University Advisement and Enrichment Center, Room 280, (505) 277-3361, TDD 277-6053, Web site <http://dos.unm.edu>, E-mail address is doso@unm.edu.

Student Activities Center

Your life outside the classroom is as important as your educational experience. The Student Activities Center provides many opportunities for involvement. Student Activities offers information on more than 400 student organizations; organizes Welcome Back Days and the Recognition Reception; and advises Homecoming, student government, honor societies, and fraternities and sororities. Check the Student Activities Center web page at <http://sac.unm.edu> for more information. Student Activities also publishes the Pathfinder, the Student Organization Handbook, and LeaderHints.

Stop by our office at the Student Union Building Room 1018 or call 277-4706.

The Student Activities Center also offers the Off-Campus Housing web page, which lists rentals of apartments, houses, rooms and roommates wanted. The Off-Campus Housing list is accessible at <http://och.unm.edu>.

The Student Activities Center also offers the Emergency Message Service listed separately in this Student Services Section of the *University of New Mexico Catalog* and numerous publications listed under "General University Publications and Services."

Emergency Message Service

The Emergency Message Service is provided to reach students on campus. When an emergency arises, call (505) 277-7872. The staff will access the student's schedule from the data base file and determine if it is possible to reach the student in class. A staff member then takes a message directly to the student's classroom. The responsibility for informing family, friends, schools and day care centers of this service and its corresponding phone number rests with the student.

Student Conduct, Grievance and Appeals

The Dean of Students Office administers the Student and Visitor Codes of Conduct and has jurisdiction over behavioral disciplinary matters, academic dishonesty (when referred by an instructor) and appeals from students, student court or campus boards (where appeals are provided for in their bylaws and/or the University of New Mexico policy). Questions about these procedures should be directed to the Dean of Students Office. The complete procedures are in the Student Handbook at <http://pathfinder.unm.edu>.

General University Publications and Services**UNM Pathfinder: The Student Handbook**

The *UNM Pathfinder* is the most comprehensive handbook of student services at the University of New Mexico. The *UNM Pathfinder* gives general information, including office locations and telephone numbers, about academic support and cultural programs, athletics and recreation, student organizations, entertainment, financial services, food, health and medical assistance, housing, the University of New Mexico policies affecting students, commuting and parking and other services and programs. The *Pathfinder* is available online at <http://pathfinder.unm.edu>.

Other Useful Publications

The following publications are available at the Student Activities Center, located in the Student Union Building, 1018, lower level.

- *Guide to Chartered Student Organizations*—published three times a year, lists all student organizations officially chartered at the University of New Mexico.
- *Student Organization Handbook*—Provides resources, regulations and guidelines to chartered student organizations and helps with event planning, fund raising, leadership and organizational tools.

Honorary Organizations

There are a variety of honorary organizations, including organizations based on college enrollment, year in college or ethnicity. The Student Activities Center also organizes the Recognition Reception each Spring where the Clauve Outstanding Senior awards, departmental awards, Who's Who in American Colleges and Universities, and many other honors are given out. Visit <http://sac.unm.edu> for a complete listing of awards and honorary organizations at UNM.

Student Organizations

There are more than 400 chartered student organizations at the University of New Mexico. The Student Activities Center assists student organizations in the chartering process each fall. The current organization listing can be found at <http://sac.unm.edu>. Students who wish to charter a new student group

may do so by visiting the Student Activities Center, Room 1018 in the Student Union Building. The categories of student organizations include:

Academic & Departmental
Ethnic & Cultural
Fraternities
Graduate
Honorary
Military
Political
Religious
Residence Hall
Service
Sororities
Special Interest
Sport & Recreation

Current student organization listings can be found at <http://sac.unm.edu>.

Graduate and Professional Student Association (GPSA)

The Graduate and Professional Student Association is the representative governing body for all graduate and professional students. GPSA represents the interests of graduate students through continuing contacts with the Office of Graduate Studies, the University administration, Board of Regents and the state legislature. In addition, GPSA maintains an active network with other graduate student organizations nationally. The primary goal of the association is to enhance graduate educational opportunities for all students at the University. Graduate and professional students from Arts & Sciences, Architecture and Planning, Anderson Schools of Management, Education, Engineering, Law, Medicine, Nursing, Public Administration and Fine Arts participate in GPSA. Each department within the individual schools and colleges selects its own council representatives in the manner prescribed by the students within the department. Council meetings are held once a month and are announced in the *Daily Lobo*. Meetings are always open to the public and interested students are invited to attend. The Executive Board is comprised of the chairpersons of permanent GPSA committees with other members from each non-represented School or College. The GPSA President is elected in a campus-wide election in the Spring semester, and the Council chair is elected by the Council representatives at their regular April meeting. All graduate and professional students are encouraged to participate in the GPSA through its Council and numerous committees. GPSA appoints students to all University committees concerned in any way with graduate education. Students interested in serving on any campus committee should contact the GPSA office for details. Committee participation offers individuals the opportunity to improve the University community in cooperation with faculty, administrators and students from other departments, schools and colleges on campus. GPSA is funded by student fees of \$25.00, per semester collected by the University. From these funds, graduate organizations and programs apply for funding to support projects, research, and travel to professional conferences. Applications from student organizations should be submitted to the Finance Committee in late January. Student research, projects, and travel applications have different deadlines. Additional information is readily available in the GPSA office. The GPSA office is in the Student Union Building, Room 1021, and has a computer lab for student use. For more information, call (505) 277-3803, visit the Web site <http://www.unm.edu/~gpsa>, or e-mail us at gpsa@unm.edu.

Drug-Free Campus

This policy on Illegal Drugs and Alcohol is adopted pursuant to federal laws and reflects the commitment of the University to an environment free of drugs and the illegal use of alcohol. Drug and alcohol abuse on campus poses a serious threat to the health, safety and welfare of faculty, staff and students, impairs work and academic performance, and conflicts with the responsibility of the University to foster a healthy atmo-

sphere for the pursuit of education, research and service. Therefore, the unlawful manufacture, distribution, dispensing, possession or use of controlled substances or alcohol on University property, or as part of any of its activities by any member of the University community—faculty, staff or student—is strictly prohibited. Additional information concerning this policy is available through the Campus Office of Substance Abuse Prevention, the Dean of Students Office, Human Resources and the Faculty Grants and Contracts Office. The University's policy is distributed annually to all students, faculty and staff members and printed in its entirety in each edition of *The Pathfinder*.

Ethnic Programs

To provide equal educational opportunity for persons from all cultures and to preserve and study the cultural diversity of the state, the University of New Mexico has fostered the creation of numerous culturally-oriented academic programs.

The Africana, Chicano/Hispano/Mexicano, and Native American Studies Programs offer courses and seminars and also conduct original research. In addition, African-American Student Services, American Indian Student Services, and El Centro de la Raza, offer support services and cultural programs to enhance retention and student success.

Also, numerous other on-campus programs promote equal opportunity among New Mexico's minority students. These include: the American Indian Law Center, special engineering programs for African-Americans, Hispanics, Native Americans and women, and the Multicultural Education Center.

The College Enrichment and Outreach Programs

The mission of College Enrichment and Outreach Programs is to provide a seamless support structure for students in the development of skills necessary to pursue post-secondary education, and to promote retention of graduate students. The College Enrichment and Outreach Programs Unit provides opportunities through educational, social, and cultural experiences, to increase the recruitment, retention, and development of students in higher education.

Recreational Services

The University of New Mexico students have access to outstanding recreational opportunities through Recreational Services. The program serves the entire University community by promoting relaxation, proper use of time, achievement, and mental and physical health. Present your University of New Mexico Lobo Card to the attendant at the western Main Entrance of Johnson Center to access the facilities. The facilities and programs include:

Facilities—Three gymnasiums, seven tennis courts, three swimming pools, wrestling-combative area, weight room, racquetball courts and numerous playing fields.

Fitness & Wellness Programs—A variety of fitness and wellness classes and workshops including: salsa aerobics, water aerobics, step aerobics, yoga, pilates, kickboxing, and personal training.

Getaway Adventure Program—Activities and clinics such as cross-country skiing, camping and fishing, white-water rafting and exploring ancient cliff dwellings foster skills and opportunities to "get away".

Recreational Sports—Team Activities: Men's, women's and "co-rec" competition in sports such as basketball, cross-country, flag football, slow pitch, soccer, swimming, volleyball and dodgeball. **Individual and Dual Activities:** Include sports such as archery, badminton, billiards, karate, racquetball, table tennis, tennis, arm wrestling and golf.

Outdoor/Bike Shop—Camping and backpacking equipment—tents, skis, backpacks and much more—at very reasonable

rental rates. Other recreational equipment such as volleyball sets, golf clubs, softball equipment and horseshoes are also for rent. The bike shop offers bike maintenance and bike rentals.

Excel: Adaptive Fitness—This program provides recreational opportunities for disabled students, faculty, staff and community members. This program offers classes in adaptive strength training, deep water exercise and stretching.

Sports Clubs—Join a sport club or starting your club. We will point you in the right direction. Current clubs include: Karate, Rodeo, Ultimate Frisbee, Gymnastics and Rugby.

Challenge Course Program—The Challenge Course Program is to provide team-building activities by offering unique challenges through the use of the low ropes course, climbing wall and cooperative games. Its focus is providing unique team building experiences for UNM student groups and UNM departments.

For more program information contact Recreation Services, Johnson Center Room 1102, or <http://recservices.unm.edu>.

Office of International Programs and Studies

The Office of International Programs and Studies (OIPS) is the locus of university-wide efforts to promote international education and exchange. OIPS promotes international linkages, cultural exchange, and the development of international expertise across all sectors of the university. It provides opportunities to study overseas through exchange and proprietary study abroad programs, assists international students and scholars to study and work at UNM, and offers intensive English language programs at the intermediate and advanced level to non-native English speakers in preparation for matriculation as degree-seeking students at the university. The office is organized into three divisions, described separately below.

The Study Abroad Division administers international exchange programs whereby UNM students exchange places for a semester or academic year with international students from some 80 universities in 35 countries. Study abroad advisors work closely with the Latin American and Iberian Institute to promote similar exchanges in Latin America. OIPS also manages a UNM program in Rome, Italy that offers semester-length and summer term programming in several disciplines. Staff members assist students in identifying other study abroad opportunities, such as short-term faculty-led programs, consortia programs abroad, and other third-party international programs. Students can draw from an extensive resource center and online resources when seeking opportunities for international study, research, internships, or volunteer programs. Additionally, advisors offer information and support for students and faculty seeking support from a variety of Fulbright programs, the Benjamin Gilman fellowship program, the David Boren National Security Education Program, and university-sponsored assistance programs. Through pre-departure orientations and continued monitoring and support of program participants while abroad, staff members strive to assure that every student has a safe, productive and stimulating international and intercultural experience. The Study Abroad Division also serves as the institutional host for incoming international exchange students by providing orientation services, social integration, academic advising, and cultural exposure for program participants.

The International Student and Scholar Services Division of OIPS serves more than 1100 international students, faculty and scholars in residence at the university each year, providing orientation and integration activities which familiarize them with the campus and local culture, immigration requirements, and the many services available to them. The office acts as liaison with the U.S. Department of Homeland Security to provides information and assistance on immigration policies and procedures, and with groups of community volunteers who help match international students with members of the local community. A weekly social hour

and cultural programming is organized to provide enrichment and socialization opportunities for such international students, often in conjunction with incoming exchange students and domestic students interested in meeting and socializing with their international counterparts. The division sponsors an annual International Festival on campus to highlight the diverse cultures represented at the university.

The Center for English Language and American Culture (CELAC), the third division within OIPS, provides intensive English courses to non-native English speakers intending to develop college-level proficiency in order to prepare for academic study or employment. CELAC offers five levels of instruction in the following subjects: Grammar, Written Composition, Listening Comprehension and Conversation, and Reading Comprehension and Vocabulary. Classes meet Monday through Friday for four hours every day. For more information on this program visit the CELAC web site: <http://www.unm.edu/celac>; contact the OIPS office by phone (505) 277-4032, or the program office by e-mail celac@unm.edu.

The Office of International Programs and Studies is located in Mesa Vista Hall, Room 2111, (505) 277-4032. For more information visit us at <http://www.unm.edu/oips>.

Other Resources for Students

Academic Adjustments for Students with Disabilities

In keeping with the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, the University is committed to providing equal access to educational opportunities for qualified students with disabilities. The University shall provide reasonable academic adjustments to qualified students with disabilities as necessary to ensure quality of access to the courses, programs, services, and facilities of the University. However, students with disabilities are still required to adhere to all University policies, including policies concerning conduct and performance.

The student is responsible for demonstrating the need for an academic adjustment by providing University Accessibility Services with complete and appropriate current documentation that establishes the disability, and the need for and appropriateness for the requested adjustment(s). The University is responsible for all costs of academic adjustments.

Center for Academic Program Support

Center for Academic Program Support (CAPS) is the University of New Mexico's learning assistance center and houses Online Services, the Tutoring Program, Supplemental Instruction (SI), and the Writing Center. CAPS tutors help with study strategies, content area for UNM courses numbered 100-399, and writing for UNM courses numbered 100-599—assisting students with the many challenges of an academic career.

The CAPS website (<http://caps.unm.edu>) offers a variety of online tutoring, learning, and academic resources, including tutorials, sample problems with solutions, study and writing guides, as well as options to submit questions to tutors and papers to the Online Writing Lab (OWL). Supplemental Instruction (SI) is a series of weekly review sessions associated with courses that are often difficult for students. The sessions focus on not only what to learn, but also how to learn. These collaborative learning environments encourage students to engage each other in order to better understand the material. In an individual tutoring appointment, students work one-on-one with a tutor on specific problems of their choice. Whereas in the Math and Science tutoring labs, tutors circulate among student users to provide assistance, often encouraging students to work together in groups. In the Writing Center, tutors work with students on any stage of the writing process, from generating and organizing ideas to revising essays to improving grammatical skills. The Writing Center also provides workshops for both undergraduate and graduate students, as well as bilingual tutors to help English-as-a-Second-Language students with standard English usage and composition.

Center for Academic Program Support is conveniently located on the third floor of Zimmerman Library. Tutoring and SI take place in a variety of locations across campus, including Zimmerman Library, Mesa Vista Hall, Humanities 309, classrooms, and the Student Union Building (SUB). In addition, Online Services gives students access to academic assistance from computers anywhere. For more information on services, call (505) 277-7205, e-mail us at caps@unm.edu, or visit our Web site at <http://caps.unm.edu>.

THE GRADUATE PROGRAM

Amy Wohlert, Dean
Office of Graduate Studies (OGS)
 The University of New Mexico

Mailing (U.S. Postal) Address:
 Office of Graduate Studies
 MSC03 2180
 1 University of New Mexico
 Albuquerque, New Mexico 87131-0001

Shipping/Physical Address:
 Office of Graduate Studies
 107 Humanities Building
 University of New Mexico
 Albuquerque, New Mexico 87131-0001

Phone: (505) 277-2711 or 1 (800) CALL-UNM
 FAX: (505) 277-7405
 E-mail: grad@unm.edu
<http://www.unm.edu/grad>

In 1916, a Committee on Graduate Study was formed at the University of New Mexico to structure post-graduate programs that would provide students an opportunity to continue their education beyond the baccalaureate. One year later the first master's degrees were awarded in Chemistry and Latin. In 1919 the University formally opened the Graduate School and in 1947 the first doctoral students graduated. The current name, Office of Graduate Studies (OGS), was adopted in 1977.

The University of New Mexico Graduate Studies is an active member of the Council of Graduate Schools and the Western Association of Graduate Schools, and the National Association of Graduate Admissions Professionals.

The Graduate Studies office is responsible for implementing the policies and procedures governing graduate education. Graduate Studies processes graduate assistantships, programs of studies and applications for candidacy. The office maintains graduate student academic records. Office personnel are also charged with processing graduate program materials, including new academic programs, curricular revisions and program reviews. Other graduate student services provided by the Graduate Studies office include assistance in seeking external funding, processing nominations for graduate student recognition and awards, awarding funds for research projects and travel and processing documents for graduation.

The Senate Graduate and Professional Committee (SGPC)

The responsibility for maintaining and enhancing the quality of graduate education at the University and its graduate centers is delegated to the Senate Graduate Committee, which works in consultation with the College/School/Division Graduate Committees and the Dean of Graduate Studies. The SGPC is responsible for the following: coordinating and monitoring graduate activities throughout the University; recommending to the Faculty Senate general policies concerning graduate education (including the creation and termination of graduate degrees); participating in periodic reviews of instructional units and programs; recommending to the general faculty the granting of graduate and honorary degrees; and acting as an appellate body when the need arises.

The Committee consists of at least one faculty member from each school or college. A Graduate and Professional Student Association (GPSA) representative is chosen on a yearly basis. No representatives may serve more than three consecutive terms. The Dean and Assistant Dean of Graduate Studies, the Registrar and the Vice Provost for Extended University are ex-officio members. Chairpersons serve a

two-year term but do not represent their own school or college. That school or college will choose a new representative to serve out the chair's term or begin a new two-year term, as appropriate.

College and School Graduate Committees

Each University of New Mexico academic College or School elects or appoints faculty to serve on its graduate committee. The college/school graduate committee is charged with oversight of its graduate education programs and students.

Graduate Unit

The University of New Mexico has various administrative units offering degrees. The University of New Mexico uses the term "graduate unit" to identify the administrative organization which offers a graduate degree.

Master's Degrees

A master's degree may be earned in the following majors. Parenthetical notations indicate Plan I (thesis) and/or Plan II (non-thesis) options, and the specific degrees offered:

American Studies (I, II; M.A.)
 Anthropology (I, II; M.A., M.S.)
 Architecture (I, II; M.Arch., M.S.)
 Art Education (I, II; M.A.)
 Art History (I; M.A.)
 Biology (I, II; M.S.)
 Biomedical Sciences (I, II; M.S.)
 Chemical Engineering (I, II; M.S.)
 Chemistry (I, II; M.S.)
 Civil Engineering (I, II; M.S.)
 Clinical Laboratory Sciences (I, II; M.S.)
 Communication (I, II; M.A.)
 Community and Regional Planning (I, II; M.C.R.P.)
 Comparative Literature and Cultural Studies (I, II; M.A.)
 Computer Engineering (I, II; M.S.)
 Computer Science (I, II; M.S.)
 Construction Management (I, II; M.C.M.)
 Counseling (II; M.A.)
 Dental Hygiene (I, II; M.S.)
 Earth and Planetary Sciences (I, II; M.S.)
 Economics (I, II; M.A.)
 Educational Leadership (I, II; M.A.)
 Educational Psychology (I, II; M.A.)
 Electrical Engineering (I, II; M.S.)
 Elementary Education (I, II; M.A.)
 English (I, II; M.A.)
 Family Studies (I, II; M.A.)
 French (I, II; M.A.)
 Geography (I, II; M.S.)
 German Studies (I, II; M.A.)
 Hazardous Waste Engineering (II; M.E.H.W.E.)
 Health Education (I, II; M.S.)
 History (I, II; M.A.)
 Landscape Architecture (I, II; M.L.A.)
 Language, Literacy and Sociocultural Studies (I, II; M.A.)
 Latin American Studies (I, II; M.A.)
 Linguistics (I, II; M.A.)
 Manufacturing Engineering (I, II; M.E.M.E.)
 Mathematics (I, II; M.S.)
 Mechanical Engineering (I, II; M.S.)
 Music (I, II; M.Mu.)
 Nanoscience and Microsystems (I, II; M.S.)
 Nuclear Engineering (I, II; M.S.)
 Nursing (I, II; M.S.N.)
 Nutrition (I, II; M.S.)
 Occupational Therapy (I, II; M.O.T.)

58 THE GRADUATE PROGRAM

Optical Science and Engineering (I, II; M.S.)
Organizational Learning and Instructional Technology (I, II; M.A.)
Pharmaceutical Sciences (I, II; M.S.)
Philosophy (I, II; M.A.)
Physical Education (I, II; M.S.)
Physical Therapy (I, II; M.P.T.)
Physician Assistant Studies (II; M.S.)
Physics (I, II; M.S.)
Political Science (I, II; M.A.)
Portuguese (I, II; M.A.)
Psychology (I, II; M.S.)*
Public Administration (I, II; M.P.A.)
Public Health (I, II; M.P.H.)
Secondary Education (I, II; M.A.)
Sociology (I, II; M.A.)
Spanish (I, II; M.A.)
Speech-Language Pathology (I, II; M.S.)
Special Education (I, II; M.A.)
Statistics (I, II; M.S.)
Theatre and Dance (I, II; M.A.)
Water Resources (II; M.W.R.)

*Admission to doctoral status only; students may earn master's degree enroute.

See also: Master of Fine Arts degree.

See also: Master of Business Administration and Master of Accountancy (Anderson Schools of Management)

Master of Fine Arts Degree

A Master of Fine Arts degree may be earned in the following major fields:

Art Studio
Creative Writing
Dance
Dramatic Writing

Doctoral Degrees

(Ph.D. and Ed.D.)

A doctoral degree may be earned in the following major fields:

American Studies (Ph.D.)
Anthropology (Ph.D.)
Art History (Ph.D.)
Biology (Ph.D.)
Biomedical Sciences (Ph.D.)
Chemistry (Ph.D.)
Computer Science (Ph.D.)
Communication (Ph.D.)
Counseling (Ph.D.)
Earth and Planetary Sciences (Ph.D.)
Economics (Ph.D.)
Educational Leadership (Ed.D.)
Educational Linguistics (Ph.D.)
Educational Psychology (Ph.D.)
Engineering (Ph.D.)
English (Ph.D.)
Family Studies (Ph.D.)
French Studies (Ph.D.)
Health, Physical Education and Recreation (Ph.D.)
History (Ph.D.)
Language, Literacy and Sociocultural Studies (Ph.D.)
Latin American Studies (Ph.D.)
Linguistics (Ph.D.)
Mathematics (Ph.D.)
Multicultural Teacher and Childhood Education (Ph.D., Ed.D.)
Nanoscience and Microsystems (Ph.D.)
Nursing (Ph.D.)
Optical Science and Engineering (Ph.D.)
Organizational Learning and Instructional Technology (Ph.D.)
Pharmaceutical Sciences (Ph.D.)

Philosophy (Ph.D.)
Physics (Ph.D.)
Political Science (Ph.D.)
Psychology (Ph.D.)
Sociology (Ph.D.)
Spanish and Portuguese (Ph.D.)
Special Education (Ph.D., Ed.D.)
Statistics (Ph.D.)

Transcribed Graduate Certificates

The University of New Mexico currently offers the following transcribed graduate certificates:

Computational Science and Engineering
Educational Specialist Certificate*
Historic Preservation and Regionalism
Instruction for Students with Intensive Social, Language and Behavioral Needs*
Post Master's Certificate in Management
Post Masters Certificate in Nursing
Systems Engineering
Town Design
University Science Teaching in Biomedical Sciences
Women Studies

*(These are the Ed. Spc. certificates offered through the College of Education)

General Academic Regulations

Students are responsible for complying with all regulations of the University. Their respective colleges and the departments from which they take courses, as well as for fulfilling all degree requirements. Students are responsible for knowing and complying with all academic regulations.

Admission Processes and Policies

Basic Requirements

Bachelor's Degree: Applicants for admission to graduate study must hold a bachelor's degree from an accredited college or university in the United States or its equivalent in another country. (See also: International Applicants and Special Admission.)

Academic Record

In general, applicants must present a cumulative grade point average of at least 3.0 (B) or its equivalent in their last two undergraduate years and in their major field. Applicants may be denied admission if their previous scholastic record indicates little likelihood of success in graduate-level work. Program faculty review each applicant file individually.

Students must indicate all academic institutions they have previously attended on their applications. Failure to disclose any previous college attendance or any other misrepresentation of the record may result in disciplinary action, including revocation of admission to the University.

Prerequisites

Ordinarily, the minimum undergraduate prerequisite is 12 semester hours of upper-division course work (300-level courses or higher) in the major field to which the student is applying, or in cognate areas. Certain departments require more extensive or more specific preparation (consult individual graduate unit requirements).

Admission for Doctoral Study

Although some academic units at the University of New Mexico will admit students with a bachelor's degree directly into a doctoral program, most admit only students who have earned a master's degree within the same or a different program at the University of New Mexico or at another accredited institution. Applicants must present satisfactory evidence of adequate preparation in their major field. (Consult individual departmental sections of this catalog for specific requirements.)

Students who are admitted directly to a doctoral program without obtaining a master's degree may elect to earn a master's degree in the same field while in doctoral status. Such students must meet all requirements for the master's degree as stipulated in this catalog, as well as specific departmental requirements. Students need not file a "Change of Degree Level" form to receive the master's degree.

Master's students at the University of New Mexico who wish to apply for admission to the doctoral program in the same field may do so by means of the "Change of Degree Level" form, available on the OGS Web site. Completion of a master's degree does not guarantee admission to a doctoral program in the same or any other graduate unit. (See Change of Degree section later in this catalog.)

Special Admission to Graduate Study—Domestic Students Only

In rare cases, the University may admit to graduate study a person who does not hold a bachelor's degree from an accredited institution. Such an individual must demonstrate substantial educational and professional experience over a period of many years and have achieved a level of accomplishment clearly superior to that normally represented by a bachelor's degree. An individual who is interested in being considered for special admission should first contact the graduate unit in which study is desired. After a thorough review of the applicant's credentials, if the unit is willing to recommend special admission to graduate study, after gaining the approval of the Department and the College Graduate Committee, the graduate must formally petition the Dean of Graduate Studies supporting such an admission. The petition must include a complete application and documentation that shows:

- the relevance and extent of the applicant's professional experience;
- that the demonstrated level of the applicant's effectiveness in the broad area in which he/she wishes to study is superior to that of the average student accepted for graduate work in that department;
- the department's belief that the applicant's objectives in seeking the advanced degree are realistic and reasonable; and
- its opinion that the probability of success in the graduate program is very high.

If the Dean of Graduate Studies judges the petition is justified, the Dean will notify the graduate unit that it may proceed with an offer of admission. A student admitted under this policy will be classified as a regular graduate student, with the same rights and responsibilities as any other student in regular graduate status.

Readmission Process

Individuals who have previously attended the University of New Mexico in graduate status, but have not been enrolled for three or more semesters (including summer sessions) and wish to resume a graduate degree program may apply for readmission. If a student was in probationary status at the end of his/her previous enrollment he/she will return in probationary status unless the cause of probation was resolved.

Readmitted students must adhere to policies in the catalog in effect at the time of readmission to graduate status or a subsequent version.

Individuals applying for readmission must submit a readmission packet (Application Form, Residency Form and fee) directly to the Office of Admissions prior to the graduate unit's published deadline.

Individuals applying for readmission are responsible for ascertaining the specific additional application materials the graduate unit requires (such as GRE scores, portfolios or writing samples).

The Graduate Studies office holds student files for five years after the semester of last attendance. If transcripts are no longer available in the OGS, or if the applicant has attended another institution since his/her last attendance at the University of New Mexico, he/she must submit new, official transcripts.

Admission Moratoria

On occasion, a graduate unit may impose an admissions moratorium for any or all of its degree programs. In those instances when a moratorium has been placed on a program after students have submitted applications, application fees will be refunded. The University will not be responsible for reimbursement of any other expenses (such as fees for transcripts or postage) incurred by applicants.

Application Process—Domestic Applicants

Transcripts, test scores and letters of recommendation submitted to the University of New Mexico for admission become the property of the University and will not be sent elsewhere or returned to the student.

Applicants are responsible for ascertaining the additional specific application materials the graduate unit requires (such as GRE scores, portfolios or writing samples).

The University of New Mexico offers domestic students two options for applying for admission.

- 1) Online Application (Domestic Students Only).** The online application can be found at the Graduate Studies Web site: (<http://www.unm.edu/grac>). Click on "Admissions." A \$50 non-refundable Application Fee will be charged with the online application. Credit card required. In addition, students must submit one official transcript (unopened) from each academic institution previously attended (except UNM) to the UNM Office of Admissions (PO Box 4849, Albuquerque, NM 87196-4849) by the academic unit's published deadline:

NOTE: Do not list study abroad programs separately on the application form if they are included as part of a transcript program from an accredited U.S. institution.

The following materials must be submitted directly to the academic unit:

- A Letter of Intent
 - Sealed Letters of Recommendation
 - Appropriate entrance examination scores (if required)
 - Additional departmental materials (if required)
- 2) Hard Copy Application (Domestic Students Only).** The following materials must be submitted to UNM Office of Admissions (PO Box 4849, Albuquerque, NM 87196-4849) by the academic unit's published deadline:

- A completed and signed Application Form/Residency Form
- A non-refundable \$50 Application Fee*
- One official transcript (unopened) from each academic institution (except UNM) previously attended

NOTE: Do not list study abroad programs separately on the application form if they are included as part of a transcript program from an accredited U.S. institution.

60 THE GRADUATE PROGRAM

The following materials must be submitted directly to the academic unit:

- a) A Letter of Intent
- b) Sealed Letters of Recommendation
- c) Appropriate entrance examination scores (if required)
- d) Additional departmental materials (if required)

*Application fee waivers are currently available for McNair fellows and "Project 1000" participants.

Hard copy applications may be requested directly from the graduate units or downloaded from the Graduate Studies Web site (<http://www.unm.edu/grad>).

Application Fee Waiver Policy

The University's graduate application fee may be waived for domestic applicants who are affiliated with certain programs, such as the Minority Access to Research Careers (MARC) or McNair programs. A complete list of eligible programs is posted at <http://www.unm.edu/admissions> and <http://www.unm.edu/grad>. In order to receive the waiver, applicants must submit a signed letter of support from the program director along with a completed "Application Fee Waiver Request" from <http://www.unm.edu/grad/forms/forms.html>.

The graduate application fee may also be waived in limited cases of financial hardship. In order to apply for the fee waiver, you must submit an "Application Fee Waiver Request" form <http://www.unm.edu/grad/forms/forms.html> and at least one of the following:

- A copy of the waiver granted by the testing service for the GRE fee within the past year

OR

- An official statement of need signed by a financial aid officer at the college or university you are now attending, including the most recent year's Estimated Student or Family Contribution

OR

- Official verification of current participation in a government aid program based on low income

Fee waiver requests must be submitted at least four weeks prior to the program's application deadline date, in order to provide sufficient time to evaluate the application and determine eligibility. The program you are applying to may require additional fees, which are not covered by this policy. Waivers are not available to international applicants.

Application to More than One Graduate Program

Students may apply to more than one graduate degree program but must submit an application and fee for each program. If admitted to more than one program, students may accept admission from only one, with the exception of admission to dual degree programs.

Change of Degree Level

The University has established abbreviated procedures for currently enrolled University of New Mexico graduate students who wish to change degree levels within their graduate unit by submitting a Change of Degree Level form available on the OGS Web site (<http://www.unm.edu/grad>).

Application Deadlines

Application deadlines vary for each graduate unit, and it is the applicant's responsibility to check with the unit to which he/she is interested in applying to learn the deadline dates that pertain to that application. Deadlines are available on the OGS Web site. Early application is strongly recommended. Any application received by the Office of Graduate Studies after a unit's deadline date will be processed for the following semester if the department accepts applications each semester. If the department only admits once a year, applicants

must update their materials in writing and submit them to the Office of Admissions prior to the next deadline.

If the program's application dates fall on a weekend or a holiday for which the University is closed, the deadline will automatically be moved to the next business day.

Reapplication Process

Individuals who have previously applied to a graduate degree program but never attended the University of New Mexico in graduate status may reapply for admission. Individuals must submit a new Application Form, Residency Form and application fee to the Office of Admissions, along with two official transcripts from any institution they have attended since they last applied to the University of New Mexico. All materials must be received in Admissions by the specified application deadline. Re-applicants must contact the graduate unit for information on specific requirements for admission.

If it has been more than two years since the last application was submitted, new transcripts will be required.

Reinstatement

Students are expected to maintain enrollment in 599 or 699 once registration has begun. However, if extenuating circumstances necessitate a student to discontinue enrollment in thesis or dissertation hours, he/she can petition for either reinstatement or readmission.

The student's petition to the graduate unit requesting return to graduate studies must include justification for his/her return and time line for completion of degree requirements. The graduate unit will evaluate the petition and determine whether or not the student is eligible for return to graduate study and which process (reinstatement or readmission) is appropriate.

Reinstatement is valid if:

1. Student has not been enrolled for up to 3 semesters (not including summer)
2. Student is in good standing
3. Graduate Unit approves
4. Only remaining requirement is completion of thesis or dissertation (599/699)
5. Time to complete the degree is one calendar year or less
6. The petition presents an adequate rationale for failure to request a Leave of Absence.

If **reinstatement** is the appropriate choice, the department will submit the approved petition to OGS for processing. Payment of the reinstatement fee (\$500.00) must be completed with OGS before the student's reinstatement is complete.

Readmission is valid if:

1. Student has not been enrolled for more than 3 semesters AND/OR the student must re-take examination (master's or doctoral comprehensive) AND/OR the student must take additional course work
2. The student is in good standing
3. Graduate Unit approves
4. Student is within time-to-degree limits, or submits petition for extension with a timeline for completing the degree

If **readmission** is the appropriate choice, the department will submit the approved petition to OGS. The student must complete the readmission process (including payment of the application fee) through the Office of Admissions.

International Applicants – Admission Process

The University of New Mexico welcomes applications from international students who have distinguished academic records and have demonstrated English proficiency.

Graduate Admission Requirements for International Students

Undergraduate Education Requirement

Graduate applicants must have an earned degree that is equivalent to the U.S. bachelor's degree. Some non-U.S. bachelor's degrees are based on three-year programs that may or may not be equivalent to the U.S. bachelor's degree. In these cases, the applicant must submit an independent credential evaluation report from a credential evaluation service that is a member of the National Association of Credential Evaluation Services (www.naces.org).

If the credential evaluation report confirms that the applicant does have the equivalent of a US bachelor's degree, the applicant will be considered for graduate study.

If the report states that the applicant **may** be considered for graduate study but does not confirm the equivalent degree, the applicant may petition the Dean of Graduate Studies for consideration of equivalency. The petition must include the support of the graduate unit and College Graduate Committee, along with a complete application packet, a copy of the credential evaluation report, and an explanation of the suitability of the applicant's undergraduate preparation. This documentation must be submitted to the International Admissions Office.

If the Dean approves the petition, the graduate unit may proceed with an offer of admission. A student admitted under this policy will be classified as a regular graduate student with the same rights and responsibilities as any other student in graduate status.

Academic Preparation

A minimum grade point average of 3.0 (on a U.S. 4.0 scale) or comparable grade point average in upper-division (junior and senior level) work and in any graduate work already completed.

A satisfactory score on the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT) as required by the major academic department or college.

Adequate subject preparation for proposed graduate major. Meeting minimum requirements does not guarantee admission since some graduate programs have higher standards and may have limited space. Therefore, it is very important that students contact the departments to which they wish to be admitted.

Demonstrated Proficiency in English

If English is not the official language spoken in a student's country, the student must submit results of the Test of English as a Foreign Language (TOEFL) (<http://www.toefl.org>). The minimum acceptable score is 550 on the paper test or 213 on the computerized test. Individual departments may require a higher score but not less than 550/213. International students whose native language is not English and are seeking graduate teaching assistantships may also be required to submit acceptable scores on the Test of Spoken English (TSE). Applicants who have received a bachelor's or graduate degree from an accredited institution in the United States, English-speaking Canada, the United Kingdom, South Africa, Australia or New Zealand are exempt from submitting TOEFL scores. Contact the International Admissions Office for additional information.

Financial Resources

All international applicants are required to submit documentation verifying adequate funding to meet study and living expenses while in the United States. A minimum amount of

approximately \$24,960 U.S. dollars is required (based on 2004–2005 rates). Proof of support includes a Certification of Financial Responsibility Form completed for all years of study and proof of funds available for the first year of study.

Health Insurance

International students who attend the University of New Mexico and any dependents who may accompany them are required to have medical insurance as offered through the University of New Mexico Student Health Center. Students who demonstrate that they have equivalent health insurance policies may be granted waivers.

Application Deadlines for International Admissions

Fall Semester	March 1
Spring Semester	August 1
Summer Session	January 1

Note: Most graduate units have earlier application deadlines than those listed by the International Admissions Office. It is important that students consult with individual graduate units and meet their specific academic program deadline requirements. Applications and all supporting credentials must be submitted by the International Admissions deadline (see above) or the graduate unit deadline—which ever comes first. Only complete applications will be reviewed for admission.

International Applicants – Application Process

International students should submit the following required documentation to the University of New Mexico International Admissions office. Note: A student who wants any information concerning the applicant file released to any third party must submit a letter of authorization directly to the International Admissions Office. This release must include the student's name and signature.

Required Documents

1. Completed Application Form: Students must submit an application for International Graduate Admission to the Office of International Admissions. Students may also apply online at <http://www.unm.edu>. Click "Apply Online."
2. \$50 non-refundable application fee: Must be in U.S. currency and paid by International Postal Money Order or certified check drawn on U.S. bank.
3. Evidence of English language proficiency: (TOEFL results must be sent directly to the University of New Mexico [code 4845] by Educational Testing Services, PO Box 6151, Princeton, NJ 08541-6151, USA. Phone 609/771-7100.)
4. Academic Records: In order to facilitate the admission decision, the University of New Mexico strongly recommends that students initially submit academic records to any member of the National Credential Evaluation Services (<http://www.naces.org>). Students must still submit official transcripts to the University, but the English translations will not be required. Students who do not utilize a credential evaluation service must have official grade reports (transcripts) and diplomas or certificates from each institution attended sent to the University of New Mexico. Students must submit original or officially certified copies. Notarized, faxed copies or photocopies of these documents are not acceptable. All documents must be submitted in both the original language accompanied by an official certified English translation. Certified copies must contain the original signature(s), stamp(s) or seal(s) of the issuing institution's designated official.
5. Financial Documents: Students must submit the University of New Mexico Certification of Financial

62 THE GRADUATE PROGRAM

Responsibility form along with required supporting documentation.

6. Graduate Unit Requirements: In addition to a letter of intent and letter of recommendations, individual graduate units may require additional credentials. Students must contact the department of intended field of study for specific information and submit all required documents to the International Admissions Office and graduate unit of interest before the earlier deadline.

NOTE: I-20 Statement

The Immigration Form I-20 is valid up to the first day of class for the semester or summer session to which a student is admitted. Students who are not able to attend must immediately return the I-20 form to the International Admissions Office. A \$50 non-refundable deposit is required before the I-20 will be issued. It is later applied to tuition. If a student does not enroll or changes semesters, the deposit is forfeited.

Submit all documents to:

Mailing Address:

International Admissions
Office of Admissions
MSC11 6305
1 University of New Mexico
Albuquerque, NM 87131-0001

Shipping/Delivery Address:

International Admissions
Office of Admissions
The University of New Mexico
Student Support and Services Center
1155 University Blvd., SE
Albuquerque, NM 87106

International Students – Reapplication Process

International students who previously applied to, but never attended the University of New Mexico in graduate status, may reapply for admission through the International Admissions Office, as described above.

Admission Decisions

Each graduate unit makes its own admission decisions. Admission to some graduate units may be particularly competitive. These units may set more rigorous admission requirements than those general requirements listed above. The Dean of Graduate Studies sends the official letter of admission to the student, based upon the graduate unit's admission decision.

Provisional Admission

On occasion a student's degree will not have been conferred before submission of an application for graduate status. Provisional admission is granted for one semester during which the student must submit official transcripts indicating the confirmed degree. A student in provisional status will not be allowed to register for subsequent semesters until the confirmation of degree is certified.

Deferring an Offer of Admission

Offers of admission are made only for the semester for which the student has applied. Students who do not enroll during the semester for which admission is granted will forfeit their admission, unless they submit to the graduate unit and the OGS a written request for deferral no later than the Friday of the third week of classes of the semester of admission. A deferral is limited to a period within one calendar year. After one year's deferral period a student must reapply. Final approval for the requested deferral is made by the Dean of Graduate Studies.

Change of Degree Level

The University has established abbreviated procedures for currently enrolled University of New Mexico graduate students who wish to change degree levels within their graduate unit by submitting a Change of Degree Level form available on the OGS Web site (<http://www.unm.edu/grad>). See section on Admission for Doctoral Study.

Dual Degree Programs – Graduate and/or Professional

The University of New Mexico offers both formal and individualized dual programs. Students must adhere to the general degree requirements as described earlier in this catalog. A brief description of the formal dual programs follows, however students interested in them should review the departmental sections of this catalog and consult with each program for detailed information. With the exception of those programs that involve the J.D. degree, students in dual degree programs must complete both degrees in the same semester.

Adding Graduate Certificates

Current graduate students may apply to a graduate certificate program by completing the Adding a Transcribed Graduate Certificate Form and submitting any required materials directly to the certificate program. No application fee is required. If the certificate program admits the student, the Office of Graduate Studies is informed and adds the graduate certificate program to the student's official record.

The J.D. and M.A. in Latin American Studies

The Juris Doctor/Master of Latin American Studies dual degree is jointly administered by the Dean of the School of Law and the Director of Academic Programs for Latin American Studies. The purpose of this program is to prepare legal professionals for work in Latin America or with Hispanic people in the U.S. By combining legal training with Latin American language and area studies, the program enables students to develop professional skills directly applicable to Latin American nations and populations. In addition, the student earns two degrees in less time and at less expense than would be required if each were pursued separately. The program requires 80 hours of law course work, 9 hours of international law, 24 hours of Latin American Studies, and a 3-hour elective course covering subject matter linking Law and Latin American Studies. Competency in Spanish or Portuguese is required. Entrance requirements must be met for both programs; applications should be submitted simultaneously. Students interested in the program should consult the advisors in the School of Law and in Latin American Studies.

The J.D. and M.B.A. Degree Program

The School of Law and the Anderson Graduate School of Management offer a dual program leading to the degrees of Juris Doctor and Master of Business Administration. Under this program, the School of Law will accept 9 hours of graduate credit from the Business and Administrative Sciences degree toward the J. D. degree, and the Anderson Graduate School of Management will accept 9 hours of credit in the School of Law toward the 15 hours of elective credit in the second year of the M.B.A. program. Students pursuing this program must satisfy the admission and other academic requirements of both schools. Those planning to enter the dual program should consult with the admission officers of both schools as early as possible.

The J.D. and M.ACCT. Degree Program

The School of Law and the Anderson Graduate School of Management offer a dual program leading to the degrees of Juris Doctor and Master of Accounting. Under this program, the School of Law will accept 6 hours of graduate credit from the Master of Accounting Degree toward the J.D. degree and the Anderson Schools of Management will accept 6 hours of graduate credit from the School of Law toward the MACCT degree, coursework subject to pre-approval from the faculty advisor. Students pursuing this program must satisfy the admission and other academic requirements of both schools. Anderson School of Management will accept the LSAT in lieu of the GMAT if the student has already been accepted into the law school and has earned a "B" or better in the two prerequisites for admission into the MACC, MGMT 502 and 503 or equivalent.

Those planning to enter the dual program should consult with the admission officers of both schools as early as possible.

Students who are interested in obtaining a JD/MACCT dual degree must meet with their graduate program advisor to discuss course selection.

The J.D. and M.P.A. Degree Program

Under this program a student will be able to earn the J.D. degree and the Master of Public Administration in approximately three and one half to four years. To enroll in the program the student must have completed the first year in the School of Law; in addition, permission of both the Dean of the School of Law and the Director of Public Administration and formal admission to graduate study are required. Students must satisfy the admission and other academic requirements of both schools.

A student will pursue the normal Law School program. During each semester and summer the student will work toward the fulfillment of the course requirements for the M.P.A. The School of Law will accept up to 6 hours of public administration courses toward its degree requirements, and the School of Public Administration will accept up to 6 hours of law courses toward the M.P.A. degree requirements. In addition, the student may count up to 6 additional hours of law courses toward the M.P.A. electives requirement: these hours, however, will not count toward J.D. requirements. If the student is in a thesis program, the thesis requirement may be completed during the summer or fall following graduation from the School of Law. In choosing courses for any semester, the student must have the advice and consent of the Dean of the School of Law and the Director of Public Administration.

The J.D. and M.A., M.S. or Ph.D. Program

A student in this program is able to earn the J.D. degree and an M.A., M.S. or Ph.D. in an academic field. To enroll, a student must receive permission from the Dean of the School of Law, the Graduate Dean and the chairperson of the graduate unit offering the other degree. Students must satisfy the admission and other academic requirements of both schools.

In choosing courses for any semester, the student must have the advice and consent of the Dean of the School of Law, the major advisor and the chairperson of the department in which a graduate degree is being sought; in the case of a student pursuing the doctorate, the Dean of the School of Law shall appoint one member of the Committee on Studies. The School of Law will accept up to 6 hours of appropriate graduate courses toward its degree requirement, and the graduate unit concerned will accept up to 6 hours of law courses toward its degree requirements.

The M.C.R.P. and M.A. in Latin American Studies

This program is designed particularly for students interested in careers related to Latin America that deal with community and regional planning, and require expertise in various academic disciplines. The program will enable students to develop the skills and background necessary to assess public needs, determine and develop regional planning strategies and programs, and become familiar with land use planning concepts. Students may earn the dual degree in approximately two-thirds of the time it would normally take to earn both degrees separately. A minimum of 53 hours of course work is required for the dual degree.

The M.C.R.P. and M.W.R.

A dual degree between the M.W.R. and M.C.R.P. will prepare students to make important contributions in both water resources and planning through a familiarity with the scientific discourse of water resources and the language and methodologies from community-based planning. Diverse groups are brought together to collaborate in the mediation of water disputes, especially in the Southwest where demands on limited water resources are increasing exponentially. Students will be exposed to the pedagogy of instructors in diverse fields of expertise, such as resource planning and management, dispute resolution and negotiation, hydrology, economic development, and collaborative planning.

Course requirements (59 hours)

CRP 500	Planning Theory and Process	(4)
CRP 510	Planning Communications Workshop	(2)
WR 573	Field Studio	(4)
CRP 521	Advanced Planning Studio	(5)
CRP 580	Community Growth and Land Use Planning	(3)
CRP 511	Analytical Methods for Planning	(4)
CRP 532	Foundations of Natural Resources Planning	(3)
CRP 527	Watershed Management	(3)
CRP 588	Professional Project and Thesis Preparation	(2)
WR 571	Contemporary Issues in Water Resources	(4)
WR 572	Water Resources Models	(4)
CRP 589	Professional Project or Thesis	(6)
	electives from MWR groups 1, 2 and 3	(15)
	(3 hrs from Policy Management Concentration, 6 hrs from Hydroscience, 3 hrs from Water Resources Utilities, and 3 hrs from electives approved by advisor)	

The M.B.A. and M.A. in Latin American Studies

Building upon the University's unique cultural-environmental setting and its distinctive Latin American role, an integrated interdisciplinary dual degree program leading to the degrees of Master of Business Administration and Master of Arts in Latin American Studies is offered cooperatively by the Robert O. Anderson Graduate School of Management and the Latin American Studies program. This program is designed to prepare outstanding individuals for a diversity of dynamic and productive careers throughout the world in businesses, governments, private and governmental foundations, consulting firms, and other institutions with emphases on Latin America. The dual degree can be completed in a minimum of 57 and a maximum of 72 credit hours, depending on the number of core curriculum waivers granted by the Anderson School. Students must come into the program with two years of undergraduate course work, or its equivalent, in Spanish and Portuguese. Applicants must satisfy the requirements of both graduate programs. Those planning to enter this dual degree program are urged to consult with the M.B.A. program office at the Anderson Schools of Management and with the Latin American Studies program office, 801 Yale N.E.

The M.C.R.P. and M.P.A.

The dual degree in Community and Regional Planning (M.C.R.P.) and Public Administration (M.P.A.) is available to students who desire a public sector career in leadership positions requiring the skills of both a trained planner and administrator. The program of studies enables students to acquire skills and background necessary to assess public needs, develop community plans and programs, and in general to become effective administrators of planning organizations in urban, regional or rural settings. Students with undergraduate degrees in any discipline may be admitted provided they meet the entrance requirements of both degree programs. Each student selects either Community and Regional Planning or Public Administration as the home unit and is assigned an advisor accordingly. Together, the advisor and student organize an individualized program of studies that incorporates the core courses in both degree programs, an internship or extra course, a special interdisciplinary seminar on the practice of policy development, and 6 to 9 hours of electives. At the end of the M.C.R.P./M.P.A. course work, students elect to complete either a thesis supervised by a joint faculty committee or a public administration professional paper plus a community and regional planning independent project.

This dual degree program requires a minimum of 61 hours of course work, however the number of hours needed to complete the joint degree program varies according to the core requirements in effect for each degree program. Interested students should consult the M.C.R.P./M.P.A. Dual Degree Program Guidelines for details. In most instances, the M.C.R.P./M.P.A. degrees can be completed in two-thirds the time it would normally take to earn both degrees separately.

The M.S.N. and M.P.A.

The College of Nursing and Public Administration dual degree prepares nurses interested in leadership careers for professional and management policy positions in health care delivery systems. The program of studies enables students to develop skills necessary to assess health care delivery systems, determine goals, planning strategies and evaluation methods and to become capable and effective leaders within health care systems, planning organizations and service agencies. Either the thesis option or the non-thesis option (both requiring 56 credit hours) may be chosen.

The M.S.N. and M.P.H.

The dual degree plan in Nursing and Public Health prepares nurses interested in leadership careers for professional Community Health Nursing and Public Health positions. Nurses will be prepared to perform the core functions of assessment, assurance, surveillance and health policy in the public health arena.

The program of studies in the two disciplines enables nurses with baccalaureate preparation to further develop skills necessary to assess and plan health care delivery systems within the public health system. The detailed plan of studies satisfies the core curriculum in both areas. The thesis option (Plan I) is minimally 54 credits, or non-thesis option (Plan II) is minimally 56 credits, if the designated course plans are followed. Applicants must satisfy admission and other academic requirements of each program.

M.E.M.E. and M.B.A. Program

The School of Engineering (SOE) and the Anderson Schools of Management (ASM) offer a dual degree program leading to the degrees of Master of Engineering in Manufacturing Engineering (MEME) and the Master of Business Administration (MBA). Under this program, seven courses are shared: ASM will accept 9 hours of graduate credit from the Manufacturing Engineering Program (MEP) core and 6 hours of engineering technical electives; the SOE will accept 6 hours of graduate credit from ASM, to be applied

to the MEP core. Engineering Track Electives may come from either the Mechanical and Equipment Manufacturing Track or the Computers in Manufacturing Track (as defined for the MEME degree).

Students pursuing this program must satisfy the admission and other academic requirements of both schools. Students are required to complete a three-month industrial internship in a manufacturing setting (or demonstrate previous equivalent experience). Students are also required to complete a 3 credit hour project in conjunction with a manufacturing enterprise. The 60 credit hour MEME/MBA curriculum is:

CS 492	Introduction to Computers in Manufacturing	3
ME 583	Statistical Methods for Improving Product Quality	3
ME/ECE 585	Modern Manufacturing Methods	3
ME/ECE 586	Design for Manufacturability	3
MGMT 502	Accounting and Management Information Systems I	3
MGMT 504	Microeconomics for Managers	3
MGMT 506	Organizational Behavior and Diversity	3
MGMT 508	Ethical, Social, Political and Legal Environment	3
MGMT 511	Technology Commercialization and the Global Environment	3
MGMT 521	Manufacturing Systems Management	3
MGMT 522	Marketing Management	3
MGMT 526	Financial Management	3
MGMT 598	Strategic Management	3
MGMT 5XX	MOT/OM Elective (512, 513, 514, 515, 516, 519, 530, 532)	3
MGMT 5XX	MOT/OM Elective (512, 513, 514, 515, 516, 519, 530, 532)	3
Elective	Engineering Track Elective	3
Elective	Engineering Track Elective	3
Elective	Engineering Track Elective	3
Elective	Engineering Track Elective (for Plan II)	3
CS/ECE/ME	Project (or 6 hours Thesis, Plan I)	3
Total Credit Hours		60

M.B.A. and M.S. in Electrical Engineering or in Computer Engineering

This dual degree program leading to a Master of Business Administration and a Master of Science in Electrical Engineering or Master of Science in Computer Engineering is aimed at electrical or computer engineering graduate students who have interest in a career that requires graduate level training in both business and electrical or computer engineering. The main advantage of a dual degree program is that it minimizes the time, expense and coursework for earning both graduate degrees, one from the School of Engineering (SOE) and the other from the Anderson Schools of Management (ASM). The advantage is realized by "sharing" courses between the two degrees as stipulated in the program.

The M.A. in L.L.S.S. and the M.A. in Latin American Studies

The College of Education and Latin American Studies offer a dual degree program leading to master's degrees in Language, Literacy and Sociocultural Studies and Latin American Studies. This program is intended to allow education professionals to enhance their secondary school teaching with Latin American topics in the humanities and social sciences. The program combines advanced professional development in education with advanced interdisciplinary study of Latin America and is designed to help students integrate the two fields through coordinated advisement and bridge courses.

The program requires 51 credits of course work for students who hold teaching certificates. It includes three components: 21 hours of Language, Literacy and Sociocultural Studies

courses with a concentration in social studies education; 21 hours of Latin American Studies course work divided between two of the following concentrations: Anthropology, Art History, Brazilian Literature and Culture, Economics, Gender Studies, History, Human Rights, International Management, Political Science, Religion and Philosophy, Sociology, Spanish American Literature, and Spanish Linguistics; and 9 hours of bridge courses: two core courses and one elective.

Completed separately, the two degrees would require 69–72 credit hours. Under the dual degree program, full time students would be able to finish in approximately three years.

Students pursuing this program must meet admissions requirements of both the College of Education and Latin American Studies. Separate applications should be made simultaneously to the Department of Language, Literacy and Sociocultural Studies and Latin American Studies. It is expected that applicants to this program will already have completed the licensure requirements for secondary teaching.

Students who are not licensed upon admission may pursue licensure through the Post-Baccalaureate program in the Department of Teacher Education. This program requires 18 hours of course work (at the undergraduate and/or graduate level). Students should contact the College of Education Advisement Center (505) 277-3190 for individual advisement. Latin American Studies students should be prepared for additional course work for licensure.

M.D./Ph.D.

The M.D./Ph.D. program is designed to provide comprehensive training in both clinical sciences and a basic biomedical science discipline. The intent of the program is to provide students with an integrated and cohesive training experience while obtaining the M.D./Ph.D. degree. Students participate in activities common to both programs while involved in the M.D. curriculum or engaged in Ph.D. dissertation research.

Currently, the program consists of 18 months of the medical school (M.D.) curriculum followed by 3-4 years of Ph.D. dissertation research and the graduate school curriculum. Students conclude with the remaining two years of the medical school curriculum. The joint M.D./Ph.D. program is designed to be completed in 7-8 years. The Ph.D. and M.D. degrees are awarded simultaneously at the end of the entire training period. Students will take three one-month long rotations in research laboratories during the initial 20 months of the program. These experiences are meant to broaden the research experience of the students as they decide in what research area they wish to specialize. Students can pursue many lines of research activity performed by investigators in biomedical research in the School of Medicine. A total of 48 credit hours plus 18 dissertation hours plus good standing throughout the SOM curriculum is required for the M.D./Ph.D. degree.

For more information visit the Web site or contact us:

M.D./Ph.D. Program
SOM Office of Research
MSC08 4560
1 University of New Mexico
Albuquerque, NM 87131-0001
505/2727-1887

Visit our Web site at <http://hsc.unm.edu/som/research/lyons/mdphdprogram/>.
E-mail inquiries are welcomed at bsgp@salud.unm.edu.

M.D./M.P.H.

The dual status M.D./M.P.H. requires five years of integrated learning. This integrated learning enhances opportunities for medical students to acquire public health knowledge and skills with the goals of 1) reducing disparities in health status within New Mexican populations 2) strengthening physician

advocacy and leadership skills in health policy development 3) fostering evidence-based interventions and 4) using assessment skills to better determine population needs and interventions. Each M.D./M.P.H. student would be able to successfully complete both degrees in an integrated fashion.

Student applies simultaneously to both the M.D. and the M.P.H. programs and indicates on the two applications that they are applying for dual status. Students must meet the requirements of both programs and be accepted into both programs in order to be considered dual status.

Students will be admitted to each program separately, yet once they are admitted to both programs, they qualify as dual status students. For more information on the M.D./M.P.H. dual status, contact the M.P.H. program.

Dual Degree Programs – Individual

To pursue an integrated course of study combining two master's degree programs, graduate students may, with prior approval of the two department chairpersons, embark upon their own individualized dual degree program culminating in two master's degrees, under the following conditions:

1. The student must prepare a written rationale for the particular dual degree program, including a description of the objectives to be achieved. The student's rationale and proposed Program of Study must be approved and signed by each graduate unit chairperson (or graduate unit advisor). The completed materials must be submitted to the Graduate Dean for final approval.
2. The student must meet all requirements for both master's degrees, with the exception that a maximum of 6 hours from each major may be counted toward degree requirements in the other major.
3. Application process.
 - a. A new applicant wishing to pursue a dual degree program must submit an application, including application fee, to each unit. The student must also submit his/her rationale for an individualized dual degree, and must identify each graduate unit to the other on both applications. The two departments may review the application together or sequentially. If accepted by both graduate units, the student will be admitted to graduate study with two majors.
 - b. A student who is enrolled in one master's degree program and wishes to add a second master's must submit to the OGS an appropriate form indicating the addition of the second major, together with his/her rationale statement (see #1 above) to the OGS. **Submission of these materials must take place within three semesters of the student's acceptance to the first graduate program.** Acceptance by the second graduate unit will establish the student's status in a dual degree program.
4. The student must work throughout the program with academic advisors from both graduate units, and the entire dual degree program should be constructed to fit the agreed-upon rationale.
5. Both degrees must be completed in the same semester.

M.F.A./M.A. Dual Status (Concurrent Enrollment):

M.F.A. and First or Second Master's (Different field/major code)

While pursuing a M.F.A. degree, a M.F.A. student may choose to pursue a master's degree in a field or discipline (major code) outside the M.F.A. field. Students wishing to pursue dual status must adhere to the following:

1. The M.F.A. student must prepare a written rationale for adding the particular master's degree program, including a description of the objectives to be achieved. The student's proposal must be approved and signed by the M.F.A. graduate unit chairperson (or graduate unit advisor)

- sor). The completed proposal must be submitted to the Graduate Dean for final approval.
- The student must be formally admitted to the added master's program and must submit an application packet indicating the addition of the master's program, together with his/her rationale statement (see #1 above) to the OGS. Acceptance by the second graduate unit will establish the student's dual status.
 - The student must meet all requirements for both the M.F.A. and the master's degree, with the exception that a maximum of 6 approved hours from each degree program may be counted toward requirements in the other degree program.
 - The student must work throughout the program with academic advisors from both graduate units regarding requirements for each degree as well as shared units. The student should obtain from both graduate units written approval of the 6 hours from each program that may be counted toward required hours in the other degree program.
 - Time limits for completion of the two degrees:
 - Students must adhere to the seven-year rule for completion of all requirements for the master's degree (see "Time Limit for Completion of Degree" under Master's Degrees).
 - Students must adhere to their M.F.A. program's rules regarding time limits for completion of the M.F.A. (see "Time Limit for Completion of Degree" of the M.F.A.). No exception will be made to the University time limit for the M.F.A. degree to accommodate completion of the master's degree.
 - If the time needed for completion of the master's degree will extend beyond the completion of the M.F.A., the student must have a Program of Studies for the master's degree approved by the Dean of Graduate Studies before the M.F.A. degree is awarded. If this is not done, the student will not be allowed to count any of the credit used for the M.F.A. toward the master's degree.

Obtaining a First Master's Degree while in a Doctoral Program (same field/major code)

Students admitted directly to a doctoral program may obtain a master's degree in the doctoral field of study while pursuing the doctorate. Specific information regarding the master's degree follows:

- Students must adhere to departmental and university policies regarding the master's degree.
- Credits taken to complete the master's degree may be applied to the doctoral degree, within the limits specified in this catalog under Doctoral Degrees.
- Students must complete departmental and university requirements for the master's degree prior to the submission of the Application for Candidacy for the doctoral degree.

Dual Status (Concurrent Enrollment): Ph.D. and First or Second Master's (different field/major code)

While pursuing a doctoral degree, a doctoral student may choose to pursue a master's degree in a field or discipline (major code) outside the doctoral field. Students wishing to pursue a doctoral degree and a master's degree in different fields concurrently must adhere to the following:

- Students must have written permission from their doctoral program to pursue the master's degree.
- Students must complete application materials and be formally admitted to the new master's program.
- Students must adhere to the seven-year rule for completion of all requirements for the master's degree (see "Time Limit for Completion of Degree" under Master's Degrees).

- Students must adhere to the five-year rule for completion of the doctorate (see "Time Limit for Completion of Degree" under Doctoral Degrees). No exception will be made to the five-year limit for the doctoral degree to accommodate completion of the master's degree.
- If the time needed for completion of the master's degree will extend beyond the completion of the doctoral degree, the student must have a Program of Studies for the master's degree approved by the Dean of Graduate Studies before the doctoral degree is awarded.
- A minimum of 18 hours of course work for the doctoral degree (exclusive of dissertation hours) must be taken in post-master's (i.e., doctoral) status and cannot be used for any master's degree. Graduate units may impose additional requirements.

Joint Degree

Collaborative agreements with international institutions are encouraged. These Joint International Programs are expected to capitalize on the strengths of each of the participating institutions and facilitate transfer articulation. In order to receive a degree from UNM or from any participating institution, all of the degree requirements of each institution must be satisfied. Specific program agreements must be approved by the relevant College Dean, the Faculty Senate Graduate Committee, and the Provost. Unless resubmitted for approval, agreements will become void after seven years.

Regional and/or Targeted Programs

New Mexico/Western Regional Graduate Programs (WRGP)

The University of New Mexico is one of 35 graduate-level institutions in the West cooperating in a regional effort to make certain that graduate programs of limited availability are accessible to graduate students of the 15 participating states.* Qualified students from all other 14 states may enroll in the University of New Mexico programs at resident tuition rates.

The Western Regional Graduate Programs/Concentrations available at the University of New Mexico are as follows: American Studies (M.A., Ph.D.); Art History – Art of the Americas, Art of the Modern World (M.A., Ph.D.); Educational Linguistics (Ph.D.); Latin American Studies (M.A., Ph.D.); Optical Science & Engineering (MS, Ph.D.); Art Studio focusing on Printmaking (M.F.A.); Water Resources (M.W.R.).

Additional information about the Western Regional Graduate Programs may be obtained by contacting the participating units or by contacting the Western Interstate Commission on Higher Education: <http://www.wiche.edu>.

* Participating states include: AK, AZ, CA, CO, HI, ID, MT, ND, NM, NV, OR, SD, UT, WA, WY.

Western Interstate Commission on Higher Education (WICHE)
Western Regional Graduate Program
Post Office Box 9752
Boulder, CO 80301-9752
(303) 541-0200

The McNair Program

The McNair Program is a federally funded program designed to prepare undergraduate participants for doctoral studies through involvement in research and other scholarly activities. McNair participants are from disadvantaged backgrounds and have demonstrated strong academic potential. Institutions work closely with these participants through their undergraduate requirements, encourage their entrance into graduate programs, and track their progress to successful completion of advanced degrees.

Additional information about the University of New Mexico's McNair program is available through their Web site <http://www.specialprograms.unm.edu/new/indexmcnair.html>. The \$50 application fee is waived for McNair scholars applying to UNM graduate programs. A letter from the student's McNair program director is required.

Project 1000

Project 1000 is a national program created to assist under-represented students applying to graduate school. Using one application, students may apply to as many as seven of the over 75 participating Project 1000 institutions of higher education. The University of New Mexico is one of the participating institutions. The application fee is waived for students in this program. More information is available on the project Web site at <http://mati.eas.asu.edu:8421/p1000/index.html> or call 1 (800) 327-4893.

Financial Assistance and Support Programs

The University of New Mexico offers several types of financial assistance for which graduate students may apply. In some cases, the awards are merit-based and highly competitive. In other cases, awards are need-based and there is a limit (i.e., cap) to the combined amount of financial assistance provided. To qualify for need-based awards, students must complete a FAFSA (Free Application for Federal Student Aid) form that is available on the Web: <http://www.fafsa.ed.gov>.

Fellowships

Graduate Studies coordinates a number of fellowship programs for graduate students. Students from groups under-represented in graduate education are particularly encouraged to apply. Information about these fellowships is available through the graduate units and the OGS Web site: <http://www.unm.edu/~grad> under the heading of "Funding Resources" or contact Margaret Gonzales at (505) 277-6062.

In addition to campus resources, there are several national and regional fellowship programs to support graduate students, particularly at the doctoral level.

Scholarships

The University of New Mexico Scholarship Office administers the majority of scholarships at the University, including institutional, departmental and outside and private scholarships. Scholarships are traditionally merit based and competitive.

Additional information about scholarships is available through the University of New Mexico Scholarship Office at (505) 277-6090 and through their home page: <http://www.unm.edu/~schol/> and the OGS Web site: <http://www.unm.edu/~grad> under the heading of "Funding Resources" or contact Margaret Gonzales at (505) 277-6062.

Loans

The University of New Mexico participates in two federal educational loan programs: (1) the Perkins Loan and (2) the Direct Loan. Additionally, students may contact alternative lenders who offer non-federal educational loans. Further information can be obtained through the Student Financial Aid Office at (505) 277-2041 or at their home page <http://www.unm.edu/~finaid/>.

Work Study Opportunities

Many graduate students are eligible to receive funding under Work-Study programs. Graduate Students are encouraged to apply for Work-Study by submitting a Federal Application

for Student Aid (FAFSA). The Office of Graduate Studies will work in conjunction with the Office of Student Financial Aid and graduate units to match students who are work-study qualified with faculty research projects or teaching assignments.

Research and Travel Grants

A limited number of research and travel grants are available to support research projects and/or travel by graduate students who are working towards completion of their degrees. The grants are to be used to defray the costs of research projects, such as materials or equipment, and/or for travel required to collect data or to present the results of the research at professional meetings. All graduate students in good academic standing, full or part time are eligible to apply. These awards are highly competitive. The number of awards granted per semester is dependent upon the number of proposals submitted and the amount of funding available. Information is available at the OGS Web site: <http://www.unm.edu/~grad> under the heading of "Funding Resources" or contact Margaret Gonzales at (505) 277-6062.

Assistantships

An assistantship is a financial award to a graduate student for part-time work in teaching or research while pursuing study toward an advanced degree. The primary goal of an assistantship is to assist students in strengthening and successfully completing their academic program.

Approximately 1,500 teaching and research assistantships are available to qualified graduate students in various departments within the university. Assistantships are competitively awarded at the department level and typically require 10 to 20 hours of service per week. Assistantship appointments are usually made within the students' academic units. However, graduate students may accept an assistantship outside the unit in which they are pursuing a degree. Students interested in being considered for assistantships should contact the chairperson/administrator in the unit in which they wish to hold an assistantship.

Types of Assistantships

Teaching Assistant (TA)/Teaching Assistant Special (TASpec): is directly involved in producing student credit hours, i.e., responsible for one or more classes or lab sections. Teaching Assistants may not teach courses offered for graduate credit.

Teaching Associate (TAssoc): an advanced teaching assistant who holds the master's degree (or equivalent) and who directly produces student credit hours. Students who have been advanced to doctoral candidacy may be approved, as Teaching Associates, to teach courses offered for graduate credit through submission by the graduate unit of an Approval for Graduate Instruction form to the OGS.

Graduate Assistant (GA)/Graduate Assistant Special (GASpec): one whose duties are related to instruction, but who is not directly involved in producing student credit hours.

Research Assistant (RA): assists in research work that is relevant to the assistant's thesis, dissertation or other requirement for a graduate degree.

Project Assistant (PA): performs work required by a research grant, contract or special project that is not necessarily directly related to degree requirements. Employment associated with administrative/office support should not be classified as a project assistantship.

Eligibility for Assistantships

To be employed as a TA/TA Spec, GA/GA Spec, TAssoc, RA or PA a student must meet the following criteria:

1. Have been formally admitted to a graduate program at the University of New Mexico.
2. Be currently enrolled at the University of New Mexico for a minimum of 6 hours of course work, thesis or dissertation hours which count towards the graduate degree. Courses taken for AUDIT are not accepted as part of the minimum hours.
3. Maintain a 3.0 grade point average in graduate course work each semester.
4. Students on Types 1 and 2 probation are ineligible to hold an assistantship. Students on Type 3 probation may provisionally hold an assistantship for one semester (see Academic Probation and Consequences).
5. Be within the time limit for completion of the degree sought.
 - a. **Master's Students:** All work used to meet degree requirements for a master's degree, including transfer credit, must be completed within a seven-year period immediately preceding the granting of the degree.
 - b. **Doctoral Students:** Doctoral candidates have five (5) calendar years from the semester in which they pass their doctoral comprehensive examination to complete the degree requirements.

TAs and GAs classified as "Regular" are eligible for a non-transferable tuition waiver of up to 12 hours per semester and 3 hours during the summer session when the FTE is 50% (prorated for other FTEs). The University of New Mexico considers this tuition waiver as a scholarship and not as payment for services rendered. Unused hours of waived tuition do not automatically carry over to future semesters. Students should consult their academic advisors to determine the relevant policies.

TAs and GAs classified as "Special" are not funded under the basic allocation made to the department and may or may not carry a tuition waiver. If a tuition waiver is granted, the same tuition waiver policy for TAs and GAs classified as "Regular" applies.

TAssocs may, at the discretion of the hiring unit, receive a tuition waiver. If a tuition waiver is granted the same tuition waiver policy for TAs and GAs classified as "Regular" applies.

RAs and PAs are eligible for a tuition waiver provided it is included in the grant or project award budget. The University of New Mexico considers this tuition waiver as payment for services rendered. As such, this tuition waiver is subject to tax withholdings. Unused hours of waived tuition may not be carried over to a future semester.

Stipends and Payments

Assistantship salaries are based on minimum salary guidelines. Teaching Assistants (TA) and Graduate Assistants (GA) are funded under the basic allocation made to the department, those classified as "Special" are funded from other sources (i.e., temporary part-time or non-Instruction & General Budget (I&G)).

TAs/TA Spec and GAs/GA Spec: Typically, differential stipends are received by pre-master's and postmaster's assistants. Stipends are paid in equal monthly installments. Any work performed outside of the approved assignments, i.e., extra compensation, must have prior approval from the OGS. TAs/Spec and GAs/Spec are required to work within their contract dates, which begins one week before the start date of each semester and ends on the last day of the semester. Pay may be adjusted if assistants do not meet their contractual obligations.

TAssoc: Salary is based upon stipend ranges established for temporary part-time faculty. Stipends are paid in equal monthly installments.

If a TA/GA/Tassoc assignment is terminated prematurely, either by voluntary resignation or dismissal, the stipend shall be prorated at the rate of 1/18 of the semester stipend per week worked.

RAs: Salary is determined by the principal investigator based upon a graduate unit's RA salary guidelines or upon the funding agency's guidelines; these guidelines are on file in the OGS. Stipends are paid on a monthly basis for actual number of days worked.

PAs: Salary is determined by the principal investigator based upon a graduate unit's PA salary guidelines; these guidelines are on file in the OGS. The rate is at least equal to the federal minimum wage and is paid via the bi-weekly student payroll on an hourly basis.

Resident Tuition and Tuition Waiver Awards

Out-of-state students awarded TAs, TAssocs, GAs, RAs and PAs are eligible for the resident tuition rate provided the FTE is 25% or higher and they hold the assistantship for at least one-half of the semester. Normally assistantships are held for the full semester and the waiver of the non-resident portion of tuition is available only if the start date of the assistantship is before October 15 for Fall, or March 15 for Spring. The tuition waiver may only be used for courses approved by the graduate program in which the student is currently enrolled.

Health Insurance Benefit

The University of New Mexico provides full payment of the assistantship recipient's insurance coverage premium through the Student Health Center, on a semester-by-semester basis, provided the FTE is 25% or higher, the assistantship is held for at least one half of the semester, and all other eligibility criteria to hold the assistantship is met. The start date of the assistantship must be on or before October 15 for Fall, March 15 for Spring or June 15 for Summer, in order to receive health insurance for that semester.

NOTE: If more than one contract is issued and the student accepts coverage on one and declines on the other the system defaults to "yes" on all coverage.

Assistantship Workload

During the Fall and Spring semesters the typical workload for assistantships is 20 hours per week (.50 FTE). A student may not be appointed for more than 30 hours per week or 75% FTE as a TA/TA Spec, GA/GA Spec, TAssoc, RA or PA alone or in any combination.

NOTE: The Bureau of Citizenship and Immigration Services (BCIS) regulations limit international students on J-1 and F-1 visas to appointments of no more than 20 hours per week or 50% FTE. The rule that allows graduate students to work 30 hours per week does not relieve international students or the University of the responsibility for complying with BCIS regulations.

During the summer session continuing assistantship recipients (including international students) may be employed up to 40 hours per week or 100% FTE provided they are not enrolled. However, entering graduate students awarded an assistantship during the summer session must be enrolled in a minimum of 3 hours of course work which applies to their graduate degree and may not exceed 75% FTE or 30 hours per week. Assistantship recipients who are not enrolled for both summer sessions are required to pay Federal FICA tax (Social Security and Medicare) for that summer session in which they were not enrolled.

Assistantship recipients may concurrently hold a student employment or work-study position provided the combined FTE does not exceed 75% FTE (50% FTE for international students) during the Fall and Spring semester and 100% FTE during the Summer session.

Assistantship recipients may not concurrently hold a University of New Mexico staff position.

Assistantship Reappointments

By definition, assistantships are term appointments. Students should not assume that they will be reappointed merely because notification of termination at the end of the appointment period has not been received. Reappointments are contingent upon the continuing availability of funds, satisfactory performance of the assistantship recipient, relevant departmental policies and academic eligibility.

Termination of Assistantship Before End of Appointment Period

The graduate unit will make notification of termination to the student and forward a copy of this notification to the Dean of Graduate Studies. In the case of students who are placed on academic probation, Graduate Studies will terminate the contract and notify the appropriate graduate unit and the student. The stipend for assignments that are terminated before the end of the appointment will be prorated for the period during which the assistant was employed. If a TA/GA/TAssoc assignment is terminated prematurely, either by voluntary resignation or dismissal, the stipend shall be prorated at the rate of 1/18 of the semester stipend per week worked.

Medical Leave While Holding an Assistantship

Assistantship recipients who suffer a serious medical condition requiring absence from assigned duties for two consecutive weeks may be granted, upon written request to the head of the graduate unit, a two-week sick leave without loss of stipend. After this leave, the student will be paid only for the time the assistantship responsibilities were fulfilled. The graduate unit must notify the Graduate Studies office whenever it grants an assistant a two-week sick leave, as well as the date that the assistant returns to his/her position.

Absence Without Leave

Individuals who are awarded a contract and receive payment from the University of New Mexico, but who do not attend or are absent without leave will be required to repay any stipend collected from UNM.

Procedures for Petition for Assistantship Awards

A student who desires to hold an assistantship appointment under conditions different from those described above (with the exception of those governed by Federal or state mandates) should address a petition to the Dean of Graduate Studies. The petition should include a detailed explanation of what is requested, what the exceptional circumstances are, and why a waiver of policy is desirable from the point of view of progress toward his or her degree. The petition will be reviewed by the chairperson/administrator or principal investigator as well as the graduate director who may either deny the petition or recommend approval to the Dean of Graduate Studies. The Dean of Graduate Studies shall make the final decision.

Grievance Procedures for Students Holding Assistantships

Student who hold assistantships and are seeking direction for submitting a formal grievance related to the assistantship are referred to the section on Academic Freedom of Graduate, Teaching, Research and Special Assistants in the University of New Mexico Faculty Handbook.

Graduate Research and Scholarship Stipulations

Graduate students must adhere to general and university policies governing research and scholarly activities. These include, but are not limited to intellectual property, conflict of interest, research ethics and integrity, and the special circumstances described below.

Use of Classified Material in Research

Graduate students may not use in their course work or thesis or dissertation research classified material or any other data that would cause the dissemination of the research to be limited. Dissemination is defined as "available to anyone without restriction."

Human Subjects in Research

Two Institutional Review Boards (IRB) at the University of New Mexico are authorized by the U.S. Department of Health and Human Services to review, approve and certify all research involving human subjects conducted by, for or with the University of New Mexico faculty and students. Students who plan to utilize human subjects for research purposes must obtain written approval from the appropriate IRB prior to initiating their projects. The Main Campus Institutional Review Board is located at 1717 Roma and oversees all human subjects research under the auspices of the Colleges of Arts and Sciences, Fine Arts, Education and University College, as well as the Schools of Business, Law, Architecture and Planning, Public Administration and Engineering. The Human Research Review Committee located in the Basic Medical Sciences Building reviews all proposals from schools and colleges affiliated with the Health Sciences Center (HSC).

Animal Subjects in Research

Neither students nor faculty may conduct research involving animal subjects until they have submitted a written protocol to one of the two Animal Care and Use Committees at the University of New Mexico and have received written approval for that protocol. Students on main campus may obtain the protocol from Research Compliance Services, Scholes Hall, Room 255; those on the HSC campus should contact the Animal Resource Facility, located in the Basic Medical Sciences Building.

Use of Copyrighted Material in Research and Scholarship

Graduate students must adhere to the policies governing the use of copyrighted material. They must seek permission from the copyright holder when using such works in assigned papers, theses, dissertations or other publications.

General Academic Regulations and Catalog Requirements

Students are responsible for knowing and abiding by the general University rules and regulations pertaining to graduate study at the University of New Mexico and the specific academic requirements of their particular degree program. They are also expected to be aware of their academic standing at all times.

Ignorance of a rule will not be accepted as a basis for waiving that rule.

Students may graduate under the degree requirements of any catalog in effect since the year in which they were first enrolled in a degree-granting graduate program at The University of New Mexico, provided that they have

70 THE GRADUATE PROGRAM

maintained continuous active status and they complete the graduation requirements for the degree sought within the appropriate time period. Students who are readmitted or who transfer from one degree granting program to another within the University will graduate under the catalog in effect at the time of their readmission/transfer or a succeeding catalog. The catalog under which a student intends to graduate must be specified on the first page of their Program of Studies/ Application for Candidacy. Students must meet all the degree requirements for graduation in the catalog chosen.

Notwithstanding the above, the University of New Mexico reserves the right to make changes in the curricula and degree requirements as deemed necessary, with the changes being applicable to currently enrolled students.

Deadlines

If a deadline falls on a weekend or a holiday for which the University is closed, the deadline will automatically be moved to the next business day.

Time to Degree

The University requires that all requirements for master's degrees be completed within seven years prior to the granting of the degree. No course work applied to the degree requirements, including transfer work, may be more than seven years old at the time a master's degree is conferred.

M.F.A. Doctoral students have a five-year time limit for completion of degree requirements commencing with the semester in which they pass the M.F.A. Doctoral Comprehensive Examination.

Semester Course Loads

In general, a graduate student enrolling for and completing a minimum of 9 graduate credit hours per semester is considered to be a full-time student at the University of New Mexico. However, if holding an assistantship, the minimum course load is 6 graduate credit hours per semester.

Graduate students not holding an assistantship and taking 8 credit hours or less per semester are considered part-time students. All graduate students are encouraged to enroll in and complete at least 9 credit hours per semester in order to achieve their expected time-to-degree.

International graduate students without assistantships are required to complete each semester with a minimum of 9 credit hours in order to maintain legal immigration status. International graduates with assistantships are required to complete each semester with 6 credit hours. Grades of W, WP, WF or courses taken for a grade option of "audit" do not count toward the "minimum" enrollment requirements for maintaining legal immigration status. The Office of International Programs and Studies (OIPS) must report any drops below these minimum requirements to immigration within 21 days of the drop (even if the drop occurs after the semester is complete). All international students must speak with OIPS before dropping below these required minimums **FOR ANY REASON**.

Three-Semester Continuous Enrollment

A student who is admitted and completes at least one semester in graduate status at the University of New Mexico will receive registration materials for three subsequent semesters (including summer session) whether they enroll or not. Graduate students will not be required to apply for readmission to resume their studies by registering for classes if they do so within these three semesters. If they are not enrolled by the published registration deadline of the third semester (including summer session), they must apply for readmission. Such "stop-out" periods are included in the time to degree. **NOTE:** Students must be enrolled in a semester in order to use his/her Lobo Card.

Leave of Absence

A student who is unable to continue his/her graduate studies due to exceptional circumstances, must request, in advance, a Leave of Absence. The written request, together with a memo of support from the chairperson or designee of the graduate unit is forwarded to the Graduate Dean who will make the final decision. A Leave of Absence is determined on a semester-by-semester basis and is generally limited to a maximum of one calendar year. The time approved for a Leave of Absence is not counted in the time limit to complete the degree as long as the student is not enrolled in any course at the University of New Mexico. Students who are granted a Leave of Absence will restart their graduate studies under the policies of the Catalog in place at the time of their readmission.

Program of Studies (Master's Degrees and Transcribed Certificates)

A student seeking a master's degree or a transcribed certificate should prepare and submit a Program of Studies indicating the courses that will be counted toward the degree or certificate. The Program of Studies should be approved by the student's advisor and the program director prior to being submitted to the Office of Graduate Studies. This form is available online on the OGS Web page (<http://www.unm.edu/grad/forms/forms.html>).

Application for Candidacy (M.F.A.-Ph.D.-Ed.D.)

A student seeking an M.F.A., Ph.D. or Ed.D. should prepare and submit an Application for Candidacy form (a list of all courses counted toward the degree, including any transfer hours) during the semester in which the comprehensive examination is passed. This form is available online on the OGS Web page (<http://www.unm.edu/grad/forms/forms.html>).

Notice of Intent to Graduate

Students must inform their graduate unit in writing of their intent to graduate. The graduate units must submit their proposed graduation list to OGS no later than 5:00 p.m. on the last day of the semester immediately preceding the semester of graduation.

Grade Requirements for Graduation

To earn a graduate degree at the University of New Mexico, students must have a minimum cumulative grade point average of 3.0 in graduate-level courses taken in graduate status at the time of degree completion as well as a grade point average of at least 3.0 for courses listed in their Program of Studies or Application for Candidacy.

Students may not graduate with Incompletes or unrecorded grades (NR) pending in any graduate course, nor may they graduate while on probation.

Courses taken to meet undergraduate deficiencies/prerequisites cannot be used to meet graduate degree requirements nor are they calculated into the graduate grade point average. It is expected that the student earn at least a B (3.0) in each of these courses. If a grade of less than B (3.0) is earned in any of these, the major department may deem that the prerequisite has not been satisfied.

No more than 6 credit hours of course work in which a grade of C (2.0), C+ (2.33) or CR (grading option selected by student) was earned may be credited toward a graduate degree. Courses offered only on a CR/NC basis and required by the graduate program are excluded from this limitation.

Graduate Credit

In general courses numbered 5xx and 6xx are available for graduate credit. Additionally, some 3xx or 4xx courses are available for graduate credit; these courses are marked with a single asterisk in the printed Catalog, or noted as available for graduate credit in the on-line Catalog. Only students in graduate or non-degree graduate status will automatically receive graduate credit for these courses. Graduate credit cannot be earned by examination as in the College Level Examination Program (CLEP). Exceptions to this policy are given below.

- 1) Selected programs offer courses that are **only** available for graduate credit for students outside the discipline. These courses are marked with a double asterisk. A graduate student who is enrolled in the degree program offering the course must obtain a PROGRAM override from their department. Additional information is available on the OGS website: unm.edu/grad
- 2) Undergraduate students who are either within 10 hours of earning the baccalaureate degree and have an overall minimum cumulative GPA of 3.0 OR already have a completed baccalaureate degree may receive graduate credit for a graduate course by processing a Level Restriction/Graduate Credit Authorization form (green card).

No more than 9 hours of graduate credit taken in undergraduate status may be applied to a graduate degree at the University of New Mexico.

NOTE: Undergraduates may not enroll in graduate "problems" courses for undergraduate degree credit.

Level Restrictions/Graduate Credit Authorization Form/Green Card

The Level Restrictions/Graduate Credit Authorizations form is commonly known as the "green card." It is used to override level restrictions and/or add or delete graduate credit from a course. Green cards must be filed with the Records and Registration office by the last day of the fourth week of classes during the regular semester, by the end of the first week of class during four-week sessions, or by the end of the second week of class during eight-week sessions. Students are responsible for obtaining all signatures and for submitting the GCA to the Registrar's Office by the above deadlines. Additional information and samples are available on the OGS website: unm.edu/grad.

Retroactive Graduate Credit

A graduate student wishing to change her/his enrollment in a course to add graduate credit after the course has been completed may submit a written petition (see Petition Guidelines) to the University Registrar along with a memo from the instructor of record stating that the student completed all of the course requirements to receive graduate credit. Students are only allowed to add graduate credit for a course up to one year after the course has been completed.

Graduate Grade Replacement Policy

The Grade Replacement Policy for graduate students applies only to **required core courses**, which have a program established and published minimum grade as a graduation requirement that has not been met. This policy limits graduate students to a maximum of 9 credit hours of replacement grades in the course of the student's graduate career and requires signature approval by the course instructor, the student's advisor, the unit chair and the OGS.

A required core course may only be repeated once (two instances). The grade from the first instance may be replaced with the repeated grade (second instance), if the student follows the grade replacement procedure.

The original grade will remain on the student's transcript, however the higher grade will be used in the calculation of the student's grade point average and earned credit hours.

Only students in graduate status are eligible to use this policy, although the student may have been in non-degree graduate status when the course was taken. **Only courses taken Summer 2007 forward are eligible for grade replacement.**

The process is not automatic. The student must initiate the process by completing a Grade Replacement form (available in either the Office of Graduate Studies or the Office of Records and Registration). The course number and title must be identical except where equivalencies or a change has been noted in the University of New Mexico Catalog. No substitute courses are acceptable. Forms will be accepted after the second instance in the course has been completed and a grade has been assigned.

Once a grade replacement has been approved, the process cannot be reversed or changed. No grade may be replaced once a degree has been awarded.

Transfer Credit

Students who have completed graduate-level course work at an accredited institution other than the University of New Mexico, whether they were in graduate or non-degree status, may request that these hours be used toward their degree program. Such credits may be transferred into a degree program by listing them on the Program of Studies or the Application for Candidacy, within the limits described in the Catalog sections on Master's, Master of Fine Arts and doctoral degrees.

The student must have earned a grade of B or better in the courses for which transfer credits are requested. Courses taken on a Pass/Fail basis and/or courses taken as extension credit at other universities will not be accepted for graduate credit at the University of New Mexico.

The number of transfer and/or applied (including non-degree) credits used toward a graduate program may not exceed fifty percent of the required coursework for the degree; departments may impose even more restrictive limits on transfer and/or applied credits.

NOTE: Course work that has been counted toward a previous degree may not be counted again toward any other degree except Master's course work for a doctoral degree.

Applied (including Non-Degree) Credit

Courses taken by students at the University of New Mexico while in non-degree, undergraduate, or professional degree status may be applied toward a graduate program degree if they meet the following conditions:

1. The courses must have been taken for graduate credit, and a Graduate Credit Authorization card must have been filed with Records and Registration (see Graduate Authorization Card section);
2. A grade of B (3.0) or better must have been earned;
3. The course must meet all other degree requirements, including time to degree limits;
4. A maximum of 9 credit hours of approved graduate level courses taken in undergraduate status may be applied; and
5. To apply credits taken in a professional degree program to a graduate program degree, the student must petition the Dean of Graduate Studies, unless the credits were taken as part of a formal dual degree program.

The number of transfer and/or applied (including non-degree) credits used toward a graduate program may not exceed fifty percent of the required coursework for the degree; depart-

72 THE GRADUATE PROGRAM

ments may impose even more restrictive limits on transfer and/or applied credits.

NOTE: Undergraduate and graduate course work already applied toward another degree at The University of New Mexico, or at any other institution, may not be applied again toward another graduate degree. The only exception is that course work which was applied to a completed master's degree or M.F.A. degree may be counted toward a doctoral degree, if it is logically related to the doctoral program and approved by the student's graduate unit. For applying credits to certificates, see certificate section.

NOTE: Coursework completed while in graduate status at UNM in a Masters or MFA degree program may be applied to a doctoral program at UNM regardless of grade earned (C or better).

Double-Numbered Courses

Double numbered courses (3xx/5xx or 4xx/5xx) are considered equivalent courses and repeat rules are enforced. Exceptions may be allowed on a case-by-case basis through a petition process initiated by the student and supported by the faculty member teaching the graduate-level course.

Variable Credit

Students registering for a variable credit course need to consult with their program advisor or the course professor concerning course requirements and expectations for variable credits. Students may also review variable credit course information at program specific web sites.

Short Courses and Workshops

The Dean of Graduate Studies must approve all short courses and workshops offered for graduate credit. Short courses and workshops must equal at least 13.3 hours of student contact time per credit hour over a specific period of time.

Correspondence Courses

The University does not accept correspondence credit toward its graduate degrees.

Graduate Credit for Experiential Learning

In extraordinary circumstances, a student with extensive graduate-level learning obtained through experience may be awarded graduate credit through the submission of a prior learning portfolio. The student should first identify those graduate courses (maximum of 6 credit hours) for which credit is being requested. The student must then submit to the department chair/graduate advisor a written request to prepare a prior learning portfolio through a faculty advisor within the graduate unit. If the department supports the student's request, the student will develop a prior learning portfolio with the help of the advisor and the OGS. The portfolio will be submitted to an evaluation committee consisting of three faculty members appointed by the graduate unit. The committee will be composed of faculty who have expertise in the requested areas and at least one member will be the instructor of record in courses relating to the student's request. If the committee recommends full or partial approval, the college graduate committee and the Dean of Graduate Studies will review the request. Disapproval at any level will terminate the process.

If approval is granted, the student must register for the course(s) previously identified and pay tuition at the current rate. Credits awarded through this process will be recorded as "CR" and will not be computed into the cumulative grade point average.

Academic Standing and Grade Requirements

Academic Standing

To remain in good academic standing students must maintain a cumulative grade point average of at least 3.0 in all courses taken for graduate credit after admission to a graduate degree program at the University of New Mexico. A student must have a cumulative GPA of at least 3.0 for courses listed on their Program of Studies/Application for Candidacy.

Incomplete (I) Grades

The grade of "I" is given only when circumstances beyond the student's control prevent completion of the course work within the official dates of a semester or summer session.

According to academic policy, incomplete grades must be completed before a student is eligible to graduate from the University of New Mexico. Students should not re-enroll or re-register (for credit) in a course in which an incomplete has been received in order to resolve the "I" (incomplete) grade. If an instructor requires the student to repeat the class in order to resolve the Incomplete, the student must register for the course on an audit basis.

Incomplete grades received must be resolved no later than one year (twelve months) from the published end day of the semester in which the grade was assigned. Incomplete grades not resolved within the time frame stated in this policy will be converted automatically to a F (failure) grade.

Students resolving Incompletes in their semester of graduation must have the process completed (including the reporting of the grade to the Records and Registration Office by the appropriate deadline. Students are responsible for informing instructors that they are graduating and that the grade(s) must be reported by the appropriate deadline. Failure to complete the process as described could result in the postponement of graduation until the following semester.

The instructor of record reports the final grade for the course in which the Incomplete was assigned to the Records and Registration Office.

Extension of Incomplete

A student may apply for an extension of the time allowed to complete the required course work removing the "I" grade. The request for extension may be obtained in the Office of Records and Registration. Students must submit the form with all required signatures to the Office of Graduate Studies by the applicable deadline dates (November 15 for Fall, April 15 for Spring, July 15 for Summer). For the student who re-enrolls in residence, a one-semester extension may be granted. If an extension is granted, it is the student's responsibility to remove the "I" grade by the date indicated.

Grade Point Average

The Office of Graduate Studies checks the student's grade point average at the end of every semester and summer session for as long as the student is in graduate status. All students whose academic standing is deficient after receiving grades for 12 attempted semester hours or two semesters, whichever comes first, are placed on probation or suspended, according to the university regulations and those of their graduate unit (see Catalog section on Probation).

The grade point average is calculated using all grades earned in graduate course work while a student is in graduate status. Grades earned at other institutions or in non-degree status are not calculated in a graduate student's grade point average. The University of New Mexico extension courses (those

offered by the Extended University) taken prior to admission to a graduate program are not included in the graduate cumulative grade point average; however, the University of New Mexico graduate extension courses taken while a student is in graduate status are included.

The grade point average is calculated by dividing the total number of quality grade points earned (see Catalog section on Grades) by the total number of course work hours attempted, and truncated by two decimal places. Grades of CR, WP, NC and PR are excluded from the cumulative grade point average calculation. Grades of WNC, NC, WF and IF may have an adverse impact on a student's academic standing, financial aid and assistantship eligibility.

Change of Grade/Academic Record

The instructor of a course has the responsibility for any grade reported. Once a grade has been reported to the Office of the Registrar, only the instructor who issued the original grade (Instructor of Record) may submit a change by submitting a grade change form to Records and Registration in the Office of the Registrar. The student's department chairperson and/or college dean and the Dean of Graduate Studies must approve any change of grade submitted more than 30 days after the end of a semester. Any change in grade must be reported within 12 months after the original grade was issued.

Once a student has completed the academic requirements for a graduate degree or certificate, and has received his/her diploma and appropriate notations on his/her official transcript, the University of New Mexico will make no modifications to his/her academic record.

Academic Probation and Consequences

Students who do not maintain good academic standing will be placed on academic probation by the Office of Graduate Studies. There are three types of probation.

Type 1: Grade Point Average

A student whose cumulative grade point average falls below 3.0 for grades earned in graduate-level courses taken while in graduate status will be placed on Type 1 academic probation. The student will be suspended from graduate status if the cumulative grade point average does not reach 3.0 after completion of an additional 12 semester hours of graduate course work or four regular semesters in probationary status, whichever comes first. Students on Type 1 probation are not eligible to hold assistantships, nor are they allowed to take master's examinations, doctoral comprehensive examinations, defend theses or dissertations, or graduate.

Type 2: NC-F-WF-IF Grades

Students who earn any combination of two grades of NC, F, WF and/or IF in graduate courses taken in graduate status, even if their cumulative grade point average remains above 3.0, are placed on Type 2 academic probation. The student will be suspended from graduate status if a third NC, F, WF or IF grade is earned. Students on Type 2 probation are not eligible to hold assistantships, nor are they allowed to take master's examinations, doctoral comprehensive examinations, defend theses, dissertations or graduate. When students on Type 2 probation are ready to take final exams or defend theses or dissertations in order to complete graduation requirements, they must petition the Dean of Graduate Studies to end their probationary status so that they may complete their requirements and graduate. Students on Type 2 probation who maintain a GPA of 3.5 for two consecutive semesters will have the sanctions (ability to hold an assistantship, take culminating exams and graduate) waived and will receive written notification thereof from the Office of Graduate Studies.

NOTE: A student, who is placed on Type II probation after a semester has begun and holds an assistantship for that semester, must resolve his/her probationary status within that semester to maintain his/her assistantship for future semesters. Example: A student who is notified during spring semester that he/she is on Type II probation must resolve the probationary status to be eligible to hold an assistantship for the following summer and/or fall.

Type 3: Incomplete Grades

A student who receives 6 or more credit hours of "Incomplete" grades in graduate level courses will be placed on Type 3 academic probation. Type 3 probation will end when the credit hours of "Incompletes" drop below 6. However, if the student fails to complete the necessary work, or if the final grade is low enough, the student may become subject to Type 1 or Type 2 probation. Students may not take masters' examinations, doctoral comprehensive examinations, defend theses or dissertations, or graduate while on Type 3 probation. They may provisionally hold assistantships for one semester, if their semester GPA is 3.0 or higher.

Suspension

By the Office of Graduate Studies

A student who is suspended from graduate status is removed from graduate student status at the University of New Mexico. A student may not apply for readmission to graduate status for one year after being suspended. The student may apply for admission to non-degree or undergraduate status at any time after being suspended from graduate status, but no class taken during the year in which the student is suspended from graduate status can be counted toward requirements for a graduate degree.

By a Degree Program

If in the opinion of the graduate unit a student shows little promise of completing the degree program (if the student has committed an academic violation [e.g., plagiarism]), the graduate unit will notify the student and the Dean of Graduate Studies in writing that the student is suspended from further work in that unit. Suspended students are not eligible to apply for readmission to any other graduate degree program for a period of one year from the effective date of the suspension.

Readmission after Suspension

If after a period of one year, a suspended student wishes to apply for readmission to graduate studies at the University of New Mexico, he/she must follow the readmission procedure delineated earlier in this catalog.

If a graduate unit decides to readmit a student after academic suspension, it will specify the conditions required by the student to re-establish his/her good standing. The period of suspension will be included in the time limit to complete the degree.

Students who have been suspended or who withdrew from the University while in probationary status will be placed in probationary status when readmitted to the University. Students suspended for low grade point average (Type 1 probation) will have 12 hours or four regular semesters (whichever comes first) to establish a grade point average of at least 3.0. A student who fails to achieve the minimum grade point average within the allotted time will be permanently suspended from their graduate program. Students who have been suspended for earning three grades of NC and/or F and subsequently readmitted will be permanently suspended from their degree program if a fourth grade of NC and/or F in graduate-level course work is earned.

Petitions to Modify Academic Requirements

Graduate students may petition the Dean of Graduate Studies for an exception to any of the university-wide policies or regulations specified in the University Catalog. Petitions are intended to allow students the opportunity to deal with unusual or extraordinary events, particularly circumstances beyond their control that would penalize them unfairly. It should be kept in mind, however, that a hallmark of fairness is the uniform application of the same standards and deadlines to all students.

Petitions must be submitted in the sequence listed below:

1. The student must first submit the petition to his/her instructor of record (for grade changes only) or graduate advisor (for all other academic petitions). The advisor/instructor should indicate whether he/she endorses the student's request and why.
2. The petition must next be submitted to the student's graduate unit—the faculty graduate director, the chairperson or the departmental graduate committee, depending upon the practice in the particular unit. The student may choose to submit the petition to the graduate unit even if the instructor/advisor does not endorse it. The unit should also indicate whether it supports or does not support the student's request and why.
3. This petition should then be forwarded to the Dean of Graduate Studies. The student may choose to submit the petition to the Dean of Graduate Studies even if his/her academic unit does not support it. Additional information may be requested by the Dean of Graduate Studies prior to review of the petition. In certain cases, the Dean or his/her designee may ask the Senate Graduate Committee, serving in an advisory capacity, to review the petition and offer its recommendation for approval or disapproval. The decision of the Dean is final.

A petition, in the form of a memo or letter addressed to the Dean of Graduate Studies, is initiated and signed by the student. It should clearly state the specific nature of the exception or special consideration being requested and provide a complete but concise justification. If the request involves the extension of a deadline, a proposed new deadline date should be indicated. Before considering a petition, the Dean may require that the student have either an approved Program of Studies or Application for Candidacy on file at the OGS. If this has not already been submitted, the documents may be turned in simultaneously, with the petition attached to the front.

A written response to a complete petition will usually be mailed to the student within two weeks from its receipt by OGS and a copy sent to the academic unit. (This period may be extended to allow for University holidays or other periods when the University is not in session.) The original petition will be retained in the student's file at the OGS. Petitions that are lacking required documentation will not be considered until all documentation has been received.

Additional information may be obtained from the Graduate Studies Web site:

<http://www.unm.edu/grad/policies/petitions.html>

NOTE: A graduate student seeking retroactive withdrawal, enrollment or disenrollment; extension of time for removal of an incomplete grade; a grade option change; or other academic record changes involving exceptions to the rules governing registration and academic records which are set forth in the university catalog must submit a petition to the University Registrar. This petition process does not cover disputes involving academic judgments. Petitions must include the student's current return mailing address.

Graduate Student Academic Grievance Procedures

The Graduate Student Academic Grievance (GSAG) procedures have been established to address complaints, disputes or grievances of an academic nature initiated by students enrolled in graduate degree programs at the University of New Mexico. Although conflicts that on occasion occur between students and faculty or administrators may be resolved through formal adjudication, a more informal and productive kind of resolution—one that is mutually agreed upon by the parties involved—is strongly encouraged.

The GSAG procedures are available for the resolution of a variety of possible issues related to the academic process. These may include, but are not limited to, issues related to progress toward a degree and allegedly improper or unreasonable treatment, except that grievances based upon alleged discrimination or sexual harassment should be directed to the Office of Equal Opportunity (OEO). The grievance procedures may not be used to challenge the denial of admission to a degree program nor to appeal the denial by the Dean of Graduate Studies of a petition or an exception to university-wide degree requirements, policies or procedures.

1. A student with a complaint related to academic matters may consult with the Office of Graduate Studies to discuss his/her concerns, seek or clarify pertinent rules and regulations governing graduate study, and explore constructive ways to resolve the problem directly with the faculty member or administrator involved. This should occur as soon as reasonably possible after the student has become aware of the problem.
2. The student should then arrange a meeting with the faculty or administrator involved in the complaint to address the problem and to explore the possibility of a jointly achieved resolution.
3. If agreement cannot be reached, the student may seek the assistance of the departmental faculty graduate advisor and/or the chairperson in resolving the dispute. If the dispute is with a faculty member in a department different from the student's, the appropriate chairperson or advisor would be in the department in which the faculty member resides or in which the course in which the dispute arose was offered. It is expected that these administrators will play an active part in helping to resolve the disagreement. In the event that the graduate unit involved is non-departmentalized, the student may go directly to the dean or director of that unit for assistance.
4. If the matter cannot be resolved at the departmental level, the student may bring the problem to the attention of the school or college Dean. The school or college Dean will determine whether to adjudicate the dispute or to refer the student to the Dean of Graduate Studies for a resolution. If the dispute is with a faculty member in a school or college different from the student's, the appropriate dean would be the one in the unit in which the faculty member resides, or in which the disputed course was offered.

In the resolution of grievances at the level of a school or college Dean or the Dean of Graduate Studies, the following procedures will apply, as described also in the University of New Mexico Pathfinder under "Student Grievance Procedure," Sections 2.3.1–2.3.7.

1. The student must submit a formal, written statement of his/her grievance. This document should summarize the facts that support the grievance, indicate the desired resolution and describe the efforts already made at reaching that resolution, as well as their outcome. Individuals against whom grievances have been filed will be sent a copy of the written statement, and will have two weeks in which to respond in writing to the Dean.
2. The Dean will review all written materials submitted and provide both parties the opportunity to review and respond to all evidence. The Dean will interview each

party, as well as any other persons who may have relevant information. The Dean may elect to hold an informal hearing involving both the parties to the grievance and witnesses. If such a hearing is held, the parties will be given five days' notice. Each party will be allowed to bring an advisor to the hearing but will not be permitted legal representation. Cross-examination of witnesses will be permitted, although the Dean may require that questions be directed through him/her.

- The Dean may choose to convene an advisory committee to help evaluate the grievance. A school or college Dean may utilize a standing committee from that unit; the Dean of Graduate Studies will utilize the Senate Graduate Committee.
- Generally, a written report by the Dean will be issued within a period of four weeks after the grievance has been formally filed. (This period may be extended to allow for University holidays or other periods when the University is not in session.) The report will explain the Dean's findings, conclusions, his/her decision and the basis for that decision. A copy will be sent to each party, and to the chairperson or supervisor of the faculty or staff member involved.
- The decision of the Dean may be appealed by either party to the Office of the Provost within a period of two weeks. The Provost will reconsider that decision only if there are substantive, procedural grounds for doing so (for example, significant evidence that was not accepted or has arisen since the Dean's decision was announced). The decision of the Provost is final.

Graduate Student Recognition and Awards

Recognition of Distinction

To recognize exceptional performance, "Passed with Distinction" may be placed on the transcripts of students who pass the master's examination, final examination for the master's thesis, doctoral comprehensive examination, M.F.A. comprehensive examination and/or final examination for the doctoral dissertation. This status will be determined at the time of the examination through agreement of the examining committee members, with final approval given by the department chairperson, and results forwarded to the Office of Graduate Studies. The examining committee will consider any oral, written and exhibition work related to the examination when deciding whether or not a student passes with distinction. Individual graduate units may choose to set specific guidelines for determining "Passed with Distinction."

NOTE: Only examinations completed Fall 2001 or later are eligible to be considered for this designation.

NOTE: Honors (cum laude, magna cum laude, or summa cum laude are not awarded at the graduate level.)

The Tom L. Popejoy Dissertation Prize

Each year a cash prize is awarded to the author of the outstanding dissertation in one of three major research areas, selected in rotation: (1) Humanities and the Arts; (2) Biological and Physical Sciences, Engineering, Mathematics and Statistics; (3) Social Sciences, Psychology, Business, and Education. This prize was established as a permanent memorial to Tom L. Popejoy, President of the University from 1948 to 1968, to encourage excellence at the highest academic level. Awards are made based on nominations from departments. For more information, see the OGS Web site (<http://www.unm.edu/grad>) under "Awards and Honors."

Faculty Approvals

The Office of Graduate Studies must approve all members of student committees prior to appointment to the committee. Completing the Committee Service Approval form and

submitting it, together with curriculum vitae when appropriate, to the Office of Graduate Studies, request approval. The Committee Service Approval form should be submitted to OGS a minimum of two weeks before the student's committee is announced.

The categories of faculty approvals for service on student committees (with the approval of the unit faculty and the Office of Graduate Studies) are as follows:

Category One: UNM tenured or tenure-track faculty or UNM-National Laboratory Professors. Role: chair or a member of any master's or doctoral committee in any discipline, regardless of the Faculty member's FTE status.

Category Two: Tenured or tenure-track faculty at other institutions. Role: external member on dissertation committee.

Category Three: Individuals whose primary employer is UNM and who hold the titles of research professor, research associate professor, research assistant professor; clinician educators with the rank of professor, associate professor assistant professor or faculty hired onto the flex track or "V" category in the School of Medicine. Role: co-chair or member of master's or dissertation committee; may only chair committees if his/her appointment is within the student's major.

Category Four: Others who are considered experts in the field. Role: voting member of the committee.

Category Five: Emeriti/Emeritae faculty may continue to chair existing committees for up to one calendar year from the date of their retirement if the graduate unit approves. They may not be appointed chair of any new committees once retired. Role: Chair, co-chair, or voting member of the committee.

Category Six: After the first year of retirement, Emeriti/Emeritae faculty may continue to serve on committees if the graduate unit approves. Role: Co-Chair or voting member of the committee.

Emeriti Faculty: The department must notify OGS when a faculty member who is chairing a thesis or dissertation committee retires. If the graduate unit approves, Emeriti/Emeritae faculty are allowed to continue to chair existing thesis/dissertation committees for up to one calendar year from the date of their retirement. They may not be appointed chair of any new thesis/dissertation committees once retired, but may serve as co-chair. If the student has not completed his/her thesis/dissertation within one year of the chair's retirement, the retired faculty member may continue to serve on the committee as a co-chair or member of the committee. The approval is subject to renewal.

Faculty Resignations: The department must notify OGS when a faculty member serving on a committee in Category 1 or 3 leaves the university for another position. The graduate unit may submit a Committee Service Approval Form for Categories 2 or 4. In addition, they may serve as co-chair of existing student committees for which they served as chair.

Committee Compositions

a) Master's Exam and/or Thesis Committees: the role of the examination committee is to approve the exam questions, conduct the exam/defense, evaluate the student response, and report the results. Each committee must consist of a minimum of three members approved by the Office of Graduate Studies.

- Two members must be Category 1 OR one member can be Category 1 and one member may be Category 3 if his/her appointment is within the student's major
- The chair of the exam committee must be Category 1, or Category 3 if his/her appointment is within the student's major
- The third member can be any Category (1-6)
- A co-chair can be from any Category (1-6) as long as the other co-chair is a Category 1, or 3 if his/her appointment is within the student's major.

No more than one voting member can be in Category 4. Departments can impose a more restrictive structure for exam committees.

76 THE GRADUATE PROGRAM

b) Doctoral and M.F.A. Comprehensive Exam Committees: The role of the examination committee is to approve the exam questions, conduct the exam, evaluate the student response and report the results. Each committee must consist of a minimum of three members approved by the Office of Graduate Studies.

- 1) Two members must be Category 1 OR one member can be Category 1 and one member may be Category 3 if his/her appointment is within the student's major
- 2) The chair of the exam committee must be Category 1, or Category 3 if his/her appointment is within the student's major
- 3) The third member can be any Category (1-6)
- 4) A co-chair can be from any Category (1-6) as long as the other co-chair is a Category 1 or 3 if his/her appointment is within the student's major

No more than one voting member can be in Category 4. Departments can impose a more restrictive structure for exam committees.

c) Doctoral and MFA Dissertation Committees: The role of the dissertation committee is to supervise a doctoral candidate dissertation activity. (See appropriate sections of the Catalog for additional information. Each committee must consist of a minimum of four members approved by the Office of Graduate Studies; 2 of the 4 members must have Category 1 approval.

- 1) Chair must have approval as a Category 1, 3, or
- 2) The second member must have approval as Category 1, or 3, if his/her appointment is within the student's major
- 3) The third member (external/outside) must have approval as Category 2 if selected from the faculty of an institution other than UNM, or Category 1 if a UNM faculty member outside the student's discipline
- 4) The fourth member can have approval as Category 1-6
- 5) Co-Chair (optional) must have approval as a Category 1-6

No more than one voting member can be in Category 4. Departments can impose a more restrictive structure for exam committees.

Thesis/Dissertation Grades

Semester grades available for thesis (599) and/or dissertation (699) hours are PR (progress) and NC (no credit). At the time of graduation the student's transcript will indicate that he/she earned either 6 hours of thesis (599) or 18 hours of dissertation (699) credit (CR), dependent on the degree earned. MFA dissertation hours may vary.

The University does not prohibit concurrent enrollment in degree programs (no shared hours). Students must consult their advisor regarding degree requirements. (See the Dual Degree section of this catalog for additional information.)

Transcribed Graduate Certificates

A graduate certificate is a prescribed course of study consisting of a collection of graduate courses that, when completed, affords students a formal record of accomplishment (i.e., transcribed) in either a single or interdisciplinary area of study. Graduate certificates may be offered in conjunction with master's or doctoral degree programs, or they can be offered as stand-alone programs. Only units/programs that offer academic degrees and that have faculty with graduate approval are eligible to offer graduate certificate programs. A graduate certificate is not a concentration within a degree program. Contact the academic programs and the Office of Graduate Studies for additional information.

The University of New Mexico currently offers the following transcribed graduate certificates:

- Computational Science and Engineering
- Educational Specialist Certificate*
- Historic Preservation and Regionalism

Instruction for Students with Intensive Social, Language and Behavioral Needs*

Post-Master's Certificate in Management

Post-Master's Certificate in Nursing

Systems Engineering

Town Design

University Science Teaching

Women Studies

*(These are the Ed. Spc. certificates offered through the College of Education)

Admission Requirements

Applicants to a graduate certificate program must be current graduate students at the University of New Mexico. An application fee is not required. If applying to a stand-alone transcribed certificate program, one must comply with the Graduate Admission Processes and Policies described earlier in this catalog. The certificate program may establish additional admissions requirements.

General Requirements

To meet general requirements for a graduate certificate a student must:

1. Complete a minimum of twelve (12) hours of graduate course work, of which at least six (6) credits must be 500 level or above;
2. Fulfill any additional requirements established by the certificate program;
3. Maintain a minimum cumulative GPA of 3.0;
4. Have a Program of Studies approved by the Dean of Graduate Studies;
5. At least 50% of the course work required for the certificate must be completed after admission to the certificate program, unless further restricted by the graduate certificate program;
6. No more than one-third of the courses applied to the certificate may be "topics";
7. No more than one-fourth of the total course work credits required for the degree may be graded C, C+ or CR (See Grade Point Average policy);
8. Must complete 75% of the course work credits required for the certificate at UNM; and
9. Must be enrolled at the time certificate requirements are completed.

Time Limit for Completion of Graduate Certificates

All work used to meet requirements for a stand-alone graduate certificate must be completed within a three (3) year time period immediately preceding awarding of the certificate. Graduate units may impose a stricter limitation on the time limit for a graduate certificate. Requirements for certificates taken in conjunction with a graduate degree must be completed within the time limits for the graduate degree.

Program of Studies for Graduate Certificates

A graduate certificate student must file a Program of Studies with the Office of Graduate Studies by October 1 for Spring graduation, March 1 for Summer graduation and July 1 for Fall graduation. The Dean of Graduate Studies must approve the Program of Studies. The form may be obtained from the academic unit offering the certificate, the Office of Graduate Studies or from the OGS Web page (<http://www.unm.edu/grad/forms/forms.html>).

Shared Credit Hours Between Graduate Certificates and Degrees

As long as courses taken for a graduate certificate fall within the prescribed time limits for a graduate degree, the University will allow for shared course work between gradu-

ate certificates and a master's or doctoral degree. Programs may have additional restrictions on the number of shared course work credits between graduate certificate and degree programs.

If the certificate is a stand-alone program, completed before the student is admitted to a graduate degree program, the student may use 100% of the course work credit for the certificate toward a future graduate degree.

If the student completes the certificate in conjunction with a graduate degree program, the student may use 100% of the certificate course work toward a graduate degree.

Course work from a completed graduate degree may count for up to 50% of the course work required for a graduate certificate.

Master's Enroute to Ph.D.

Students admitted directly to a Ph.D. without a master's degree may earn a master's degree enroute to the Ph.D. (same major/subject code) by seeking approval from the doctoral program. The student must then follow the master's degree requirements as outlined in the Master's Section of this catalog. With prior approval by the program faculty and the OGS, a doctoral comprehensive examination may serve as the master's examination for students pursuing a master's enroute to the Ph.D. (same subject code). With prior approval by the program faculty and the OGS, a doctoral qualifying examination may serve as the master's examination provided that the committee composition fulfills the requirements for the master's examination.

Master's Degree: General Requirements

To meet general requirements for a master's degree a student must:

1. Complete the course work requirements of a Plan I or II program within the identified deadline dates (described below);
2. Fulfill any additional department or graduate unit requirements (e.g., foreign language or skill requirement, practicum, etc.);
3. Maintain a cumulative grade point average of 3.0 or higher;
4. Have a Program of Studies approved by the Dean of Graduate Studies;
5. Complete at least 50% of required course work after admission to the graduate program, unless further limited by the graduate program;
6. No more than 6 credit hours of course work in which a grade of C (2.0), C+ (2.33) or CR (grading option selected by student) was earned may be credited toward a graduate degree. Courses offered only on a CR/NC basis and required by the graduate program are excluded from this limitation.
7. Pass the Master's Examination and/or Final Examination for Thesis;
8. Meet the time limit for completion of degree requirements.

Requirements specific to individual degree programs are described in the appropriate sections of this catalog.

Time Limit for Completion of Degree

All work used to meet degree requirements for a master's degree, including transfer credit, must be completed within a seven-year period immediately preceding the granting of the degree. Course work older than seven years cannot be used to meet requirements for the master's degree. Graduate units may impose stricter limitations on the time limit for completion of degree requirements.

Plans I (Thesis) and II (Non-Thesis) Options

Master's degree programs at the University of New Mexico are completed under one of two plans, as described below. These are referred to as Plans I and II. Some programs offer students the option of following either of these two plans, while others offer only one. In addition to the general requirements listed above, the following specific requirements apply:

Plan I Requirements

1. A minimum of 24 hours of course work, with a minimum of 15 hours in the major field.
2. A minimum of 6 hours of 500-level course work.
3. A maximum of 6 hours in "problems" courses and a maximum of 5 hours of workshop credit.
4. Six hours of Thesis (599) credit.
5. Completion of a master's thesis.

Plan II Requirements

1. A minimum of 32 hours of course work, with a minimum of 18 hours in the major field.
2. A minimum of 12 hours of 500-level courses.
3. A maximum of 12 hours in "problems" courses and a maximum of 8 hours of workshop credit.

Program of Studies for the Master's Degree

A master's degree student should file a Program of Studies with the Office of Graduate Studies as soon as she/he has planned a program of studies for the degree in consultation with the major advisor. This form may be obtained from the academic unit or the OGS Web site (<http://www.unm.edu/grad>). The Program of Studies must be approved by the graduate unit and submitted to the Office of Graduate Studies by the following deadlines: October 1 for Spring, March 1 for Summer and July 1 for Fall. It must be approved by the Dean of Graduate Studies before a student may take the master's examination.

Within either Plan I or Plan II, the student and the major advisor may design a program of studies in which work is done only in the major graduate unit, in the major and a minor graduate unit, or in the major and one or more related graduate units. The following regulations must be observed:

1. Each Program of Studies must be approved by the student's major graduate unit and by the Dean of Graduate Studies (see Program of Studies);
2. After a Program of Studies has been filed, a student may change between Plans I and II only with the approval of the major graduate unit and the Dean of Graduate Studies and must submit a new/revised Program of Studies;
3. No more than half the graduate program's minimum required course work hours, exclusive of Thesis/Project, may be taken with a single faculty member;
4. When a master's student elects a transcribed minor, the student must consult with the chairperson of the minor graduate unit in the planning of the program of studies. A faculty member from the minor graduate unit must be included on the student's master's examination committee unless this right is waived by the chairperson of that unit (see Transcribed Minors, below);
5. Application/Transfer of Graduate Credit: The application or transfer of graduate credit to a program of studies is never automatic. With the approval of the student's graduate unit, a maximum of 50% of the course work requirements for a master's degree may consist of a combination of applied/transfer credits, assuming they meet the restrictions specified earlier in this catalog. In addition, applied/transfer credit must meet the following criteria:
 - a) The course work was taken at an accredited institution and is judged by both the graduate unit and the

Dean of Graduate Studies to be appropriate to the student's degree program;

- b) The course work is graded at least a B and was completed within the required seven-year period; and
- c) Any additional restrictions that may have been imposed by the particular graduate unit have been fulfilled.

NOTE: Course work that has been counted toward a previous degree may not be counted again toward any subsequent degree with the exception of a master's degree for a doctoral degree.

Transcribed Minors

A master's degree student may declare a transcribed minor in a different graduate unit.

1. Transcribed minors must be fully approved through the UNM curricular process. A list of approved minors is available on the OGS Web site.
2. The student must submit a "Transcribed Minor" form to OGS, approved by both the major and minor units, with the Program of Studies.
3. Approved minors have a minimum of 9 credit hours of course work, or more if the department requires.
4. The minor must be outside the student's major code.
5. The student's master's examination committee or thesis committee must contain one faculty member from the minor field, unless this requirement is waived by the minor department on the Transcribed Minor form.

Required Enrollment

Master's students electing either Plan I or Plan II must be enrolled for and complete at least 1 graduate credit in the term they sit for an examination or complete degree requirements. In order to qualify to sit for a master's exam during the intersession, the student must be registered for the following semester.

Master's Examination

All candidates for the master's degree must pass a master's examination. The examination, drawn from the major field and from minor or related fields as appropriate, may be written, oral or both, depending upon the requirements of the graduate unit.

The examination will be conducted by a committee of a minimum of three members approved for committee service. Two members must be in Category 1 or 3; the chair of the committee must be in Category 1, or 3 if within the student's major; one member must be from Category 1; and no more than one voting member can be in Category 4 (see Faculty Approval section for details).

The master's examination may be taken only after the Program of Studies has received approval by the Graduate Dean and only if the student is in good academic standing. In the case of Plan I students, the thesis defense may be considered as the master's examination; for these students, the thesis chairperson usually serves as chairperson of the master's examination committee. (See Required Enrollment)

The major graduate unit must notify the OGS of the student's scheduled examination date by submitting the appropriate announcement form. The announcement form must be filed at least two weeks before the master's examination, and no later than the published deadline dates (November 1 for Fall, April 1 for Spring or July 1 for Summer). Barring extraordinary circumstances, the graduate unit will notify the student and the Office of Graduate Studies of the results of the examination no later than two weeks from the date on which it was administered. Should such circumstances arise, the unit will inform the student in writing of the reason for the delay and let him/her know when notification can be expected. The results of the examination (pass or fail) must be reported to the OGS by November 15 for Fall graduation, April 15 for Spring gradu-

ation or July 15 for Summer graduation. If a student fails the examination, the graduate unit may recommend a second examination, which must be administered within one calendar year from the date of the first examination. The master's examination may be taken only twice. A second failure will result in the student's termination from the program.

Conditional Pass

Having evaluated the materials required for the examination, if the Committee feels that, although the student has demonstrated knowledge and understanding of the field, it is not quite sufficient to justify a grade of "pass", the committee may assign the grade of "Conditional Pass" and require that the student meet additional conditions before a grade of pass will be awarded. The student must meet the conditions noted on the Conditional Pass by the end of the subsequent term. However, students who plan to graduate in a specific term must resolve a Conditional Pass by the posted deadline for submission of examination results. The committee will note the conditions that need to be met by the student on the examination form. Once the committee indicates the student has met the conditional pass criteria, they will submit a memo to OGS.

Notification of Intent to Graduate

Students must inform their graduate unit in writing of their intent to graduate. The graduate units must submit their proposed graduation list to OGS no later than 5:00 p.m. on the last day of the semester immediately preceding the semester of graduation.

The Master's Thesis

Each candidate for a Plan I master's degree must submit a thesis that demonstrates evidence of the ability to do sound research. The student's thesis committee and the Dean of Graduate Studies must approve the thesis. The student is responsible for providing each member of the committee with a complete draft of the thesis in ample time for review prior to the defense.

Thesis Committee

A thesis committee consists a minimum of three members approved for committee service. Two members must be in Category 1 or 3; the chair of the committee must be in Category 1, or 3 if within the student's major; one member must be from Category 1; and no more than one voting member can be in Category 4 (see Faculty Approval section for details).

NOTE: If the graduate unit approves, Emeriti/Emeritae faculty are allowed to continue to chair existing thesis committees for up to one calendar year from the date of their retirement. They may not be appointed chair of any new thesis committees once retired. If the student has not completed his/her thesis within one year of the chair's retirement, the retired faculty member may continue to serve on the thesis committee as a co-chair or member of the committee.

Thesis (599) Credit

Plan I students must complete a minimum of 6 hours of thesis (599) credit and only 6 credits may be applied to the program of studies. Once initiated, continuous enrollment (Fall and Spring semesters) in thesis (599) is required until the thesis is accepted by the Dean of Graduate Studies. Students who complete degree requirements during a summer session must be enrolled in a minimum of 1 thesis hour. This rule applies whether or not the student is concurrently enrolled for other credit hours.

Students who have enrolled in 599 and subsequently stopped enrollment for one or more semesters (not including sum-

mers) must follow the procedures listed under "Reinstatement Policy" previously given in this catalog. (Procedures for reinstatement are available on the OGS Web site <http://www.unm.edu/grad>).

Thesis in a Foreign Language

Students who want to write a thesis in a language other than English must petition and receive advanced approval by the Dean of Graduate Studies. A thesis submitted in another language must be accompanied by an abstract in English that has been approved by the thesis committee.

Announcement of Final Exam for Thesis

At least two weeks before the final examination is held, and no later than November 1 for Fall, April 1 for Spring or July 1 for summer, the major graduate unit must notify the OGS of its scheduled date by submitting the appropriate announcement form.

Member Attendance at Thesis Defense

All members of a student's thesis committee must be present at the manuscript defense. Although physical presence is strongly encouraged for all members, synchronous participation by telephone/video conference is allowed when necessary.

Proxy Signature

An original signature of each committee member is required for each examination and thesis or dissertation defense form. In the rare cases where an original signature cannot be provided, the committee member may request a proxy signature by submitting the Proxy Request Form at least two weeks prior to the student's examination.

Conditional Pass

Having evaluated the materials required for the examination, if the Committee feels that, although the student has demonstrated knowledge and understanding of the field, it is not quite sufficient to justify a grade of "pass", the committee may assign the grade of "Conditional Pass" and require that the student meet additional conditions before a grade of pass will be awarded. The student must meet the conditions noted on the Conditional Pass by the end of the subsequent term. However, students who plan to graduate in a specific term must resolve a Conditional Pass by the posted deadline for submission of examination results. The committee will note the conditions that need to be met by the student on the examination form. Once the committee indicates the student has met the conditional pass criteria, they will submit a memo to OGS, and the student will have a maximum of 90 days to submit his/her thesis; however, graduating students must meet the term deadline for submission of the thesis.

90-Day Time Limit

A Plan I master's student must submit his/her thesis to the Dean of Graduate Studies within ninety (90) days of passing his/her final examination for the thesis. If the thesis is not submitted within that time, the student must schedule and complete a second final examination for the thesis. In all cases the results of the thesis defense must be submitted to OGS no later than two weeks after the announced date of the thesis defense.

Thesis Preparation

UNM accepts both traditional and non-traditional (hybrid) theses. If a graduate unit accepts both thesis options, the student, in consultation with his/her thesis committee, must decide which format is appropriate.

A traditional thesis is a single written document, authored solely by the student, presenting original scholarship. A non-traditional (hybrid) thesis, as defined by the graduate unit, consists of a collection of related articles prepared/submitted for publication or already published. Each thesis must include "introduction" and "conclusion" sections. The student must meet the general manuscript format criteria set forth in the UNM Catalog/website on manuscript guidelines. Students must adhere to copyright policies for obtaining permission to use a previously published manuscript.

The student is responsible for preparing a thesis in proper format (traditional or non-traditional), which is of high quality and free of grammatical and typing errors. Guidelines on thesis format are detailed and should be carefully followed. Students are urged to print current manuscript guidelines and forms from the OGS Web site (<http://www.unm.edu/grad/manuscripts/manuscripts.htm>); and may want to consult with the OGS manuscript reviewer. Examples of the front matter and reference pages are available on the OGS Web site (http://www.unm.edu/grad/manuscripts/example/front_matter.doc).

Electronic Submission of the Thesis

Theses are submitted to the Office of Graduate Studies in an electronic format. The university encourages open access to all electronic theses and dissertations (ETDs) that are produced in the course of graduate work at UNM. To facilitate this, ETDs will be made available on a server housed in a UNM depository (DSpaceUNM), and will be available for search and download through web search engines such as Google.

In some cases, students and their advisors may prefer to restrict access to their work for some specific period of time. UNM will allow for the embargo (restriction) of ETDs in certain cases. A decision to seek an embargo should be made by the student in consultation with her/his graduate advisor.

- 1) A one-year embargo will be granted in cases where patent protection is actively being sought or is intended. In cases where patent protection has been sought but has not been granted within a year, a student may petition the Dean of OGS for an extension of the embargo. The Dean of OGS will work closely with representatives of STC to ensure that no UNM intellectual property is made public prematurely.
- 2) A six-year embargo will be granted for students who wish to publish their work in whole or in part in its current form, or who plan to revise and expand their work for future publication. This type of embargo covers both scholarly and creative works. A student may petition the Dean of OGS for an extension of the embargo.
- 3) For students receiving the MFA degree, a permanent embargo can be granted for creative works. Similarly, for students whose dissertation involves extensive human subjects research where confidentiality issues are a concern, a permanent embargo may be granted.

In all cases, a former UNM student, in consultation with his/her advisor, may terminate the embargo at any time.

All requests for embargo of ETDs and for extensions of embargos will be reviewed by the Dean of Graduate Studies, with the goal of providing maximum protection of the student's right to ownership and control of her/his work. Even when an embargo is granted, the metadata (or the "citation") associated with every dissertation or thesis submitted will be open access and will not be embargoed. This means that the title, author, and keywords associated with dissertations and theses will be globally released upon submission.

The thesis, with an abstract of no more than 350 words, must be submitted for approval by the Dean of Graduate Studies by November 15 for Fall graduation, April 15 for Spring graduation or July 15 for Summer graduation. If the thesis is not submitted by these deadlines the student will not graduate in that semester. The student's graduate unit may require paper copies (check with the graduate unit).

Graduation Courtesy Policy

University regulations require that the student must be enrolled and complete a minimum of one hour of graduate credit in the term s/he completes degree requirements. Should the student miss the graduation deadline (July 15 for summer graduation, November 15 for fall graduation, April 15 for spring graduation), but completes all degree requirements on or before the last day of that term, the student is not required to register for the next (graduation) term. The degree program must submit the student's name on the proposed graduation list for actual term of graduation.

Accompanying Forms

The following forms, which must be submitted along with the manuscript, may be obtained from the graduate unit or the OGS Web site (<http://www.unm.edu/grad/forms/forms.html>):

1. A "Report on Thesis or Dissertation" completed by each committee member is forwarded to the OGS manuscript reviewer by the graduate unit. The forms must be received by the OGS before the student's thesis receives final approval.
2. A "Certification of Final Form."
3. An "Information Cover Sheet".
4. The UMI's Master's Agreement Form (optional). UMI requires a fee payable by money order or cashier's check made out to PROQUEST. This payment must have a minimum expiration date of one year from date of purchase.
5. "Embargo Request Form" (if requesting an embargo).

NOTE: The student's graduate unit may require paper copies of the thesis and forms.

The Master of Fine Arts

The M.F.A. is the terminal degree in the studio and performing arts. As such, its primary emphasis is on the creative aspects of an individual's work. The M.F.A. usually requires at least three years of intensive study and research beyond the bachelor's degree.

Although the number of formal requirements for the M.F.A. is in some respects comparable to doctoral degrees in other fields, the scope and objectives of the M.F.A. degree are uniquely different. The M.F.A. degree represents strong creative achievement in the arts, an assured grasp of an area of study, a sound knowledge of critical and historical thought about the arts, and a demonstrated expertise in conceiving and executing a significant body of creative work. Thus, as with the doctoral degree, its achievement is no mere matter of meeting requirements.

M.F.A. Degree Requirements

1. A minimum of 48 hours of graduate credit course work (programs may require more hours).
2. At least 24 hours of graduate credit course work must be completed at the University of New Mexico.
3. At least 18 hours of graduate credit course work must be completed at the University of New Mexico after admission to the M.F.A. program.
4. A minimum of 18 hours of graduate credit course work must be earned in the University of New Mexico courses numbered 500 or above.
5. No more than 6 credit hours of course work in which a grade of C (2.0), C+ (2.33) or CR (grading option selected by student) was earned may be credited toward a graduate degree. Courses offered only on a CR/NC basis and required by the graduate program are excluded from this limitation.
6. No more than 50% of the required course credits at the University of New Mexico may be taken with a single faculty member.
7. A minimum of 6 hours of dissertation credits (699) is required for the M.F.A.
8. M.F.A. candidates must be enrolled the semester in which they complete degree requirements, including the summer session.

M.F.A. Time Limit for Completion of Degree Requirements

M.F.A. candidates have five (5) calendar years from the semester in which they pass their M.F.A. comprehensive examination to complete the degree requirements. The final requirement is generally the acceptance of the student's dissertation by the Dean of Graduate Studies, or completion of the final project, whichever is appropriate to the student's program.

Required Enrollment

M.F.A. students must be enrolled for and complete at least 1 graduate credit in the term they sit for an examination or complete degree requirements. To qualify to sit for a comprehensive exam during the intercession, the student must be registered for the following term.

M.F.A. Committee on Studies

Each M.F.A. student is strongly encouraged to assemble a Committee on Studies to assist in planning a program of studies. This program should be designed to foster a fundamental knowledge of the major field, both in depth and in breadth. The Committee generally includes three University of New Mexico faculty members approved by the student's graduate unit. The chairperson is usually the student's major advisor. If the Committee on Studies will also serve as the M.F.A. comprehensive examination committee, they must meet the requirements listed in that section.

The basic role of the committee is to plan, with the student, an integrated individual program of study and research meeting general University and specific graduate program requirements. The Committee may also establish prerequisites when needed, recommend transfer of credit, certify proficiency in a foreign language or alternative skill, approve significant changes in the program of studies, and may serve as the core of the M.F.A. comprehensive examination committee and/or dissertation committee (see composition criteria for dissertation committees).

Appointment of the Committee usually involves the following steps:

1. the student arranges for an appropriate faculty member to serve as Committee Chair;
2. the student and the Committee Chair agree upon the remaining members of the Committee;
3. the Committee must be approved by the graduate unit chairperson or graduate unit advisor, as evidenced by his/her signature on the student's "Application for Doctoral Candidacy."

M.F.A. Comprehensive Examination

An M.F.A. student must pass a comprehensive examination in the major field of study. This examination, which may be written, oral or both, is not limited to the areas of the student's course work, but tests the student's grasp of the field as a whole. It is strongly recommended that the Application for Candidacy be completed and approved by the graduate unit before the student takes the comprehensive examination. The administration of this exam is governed by the following guidelines:

1. The student must have a cumulative grade point average of at least 3.0 at the time of the examination.
2. At least two weeks prior to the date of the examination, the major graduate unit must request approval from the Dean of Graduate Studies to hold the exam. It may not be conducted until the appropriate examination announcement is approved by the Dean of Graduate Studies and returned to the unit.
3. The M.F.A. comprehensive examination committee (usually the student's Committee on Studies) consists of a minimum of three members approved for committee service. Two members must be in Category 1 or 3; the chair of the committee must be in Category 1, or

- 3 if within the student's major; one member must be from Category 1; and no more than one voting member can be in Category 4 (see Faculty Approval section for details).
- In order to qualify to sit for the M.F.A. comprehensive exam during the intersession, the student must be registered for the following semester.
 - Barring extraordinary circumstances, the graduate unit will notify the student and OGS of the results of the examination no later than two weeks after the date on which it was administered. Should such circumstances arise, the graduate unit will notify the student in writing of the reason for the delay, and let him/her know when notification can be expected. The results of the examination must be reported to the Dean of Graduate Studies on the "Report of Examination" form within the appropriate timeframe.
 - If a student fails the examination, the comprehensive examination committee may recommend a second examination, which must be administered within one calendar year from the date of the first examination. The M.F.A. comprehensive examination may be taken only twice. A second failure will result in the student's termination from the program.

Conditional Pass

Having evaluated the materials required for the examination, if the Committee feels that, although the student has demonstrated knowledge and understanding of the field, it is not quite sufficient to justify a grade of "pass," the committee may assign the grade of "Conditional Pass" and require that the student meet additional conditions before a grade of pass will be awarded. The student must meet the conditions noted on the Conditional Pass by the end of the subsequent term. However, students who plan to graduate in a specific term must resolve a Conditional Pass by the posted deadline for submission of examination results. The committee will note the conditions that need to be met by the student on the examination form. Once the committee indicates the student has met the conditional pass criteria, they will submit a memo to OGS.

Application for Candidacy for the M.F.A. Degree

Each MFA student must submit an Application for Candidacy (AC) listing all the courses that apply to the degree. The AC form (http://www.unm.edu/grad/eforms/AC_doctoral.doc) should be filed the term the student passes the comprehensive examination and no later than the last day of the term before the student intends to graduate. If a language or a skill requirement is a criteria of the degree program, meeting this requirement should be noted on the AC form where indicated. If the language/skill requirement is not noted on the AC form a "Certification of Language or Research Skill Requirement" form must be submitted before the student is advanced to candidacy.

M.F.A. Applied (including Non-Degree)/Transfer Credits

The following regulations apply to the application or transfer of credits toward a M.F.A. degree:

- Course must have carried graduate credit.
- Course work must be from an accredited institution.
- Student must have obtained a grade of "B" or better. A maximum of 6 hours of thesis from a completed master's degree or other course work graded Pass or Credit (CR) is transferable.
- The number of transfer and/or applied (including non-degree) credits used toward a graduate program may not exceed fifty percent of the required coursework for the degree; departments may impose even more restrictive limits on transfer and/or applied credits.

- Course must be approved by the M.F.A. Committee on Studies and the graduate unit.
- Course must be listed on Application for Candidacy form.
- All courses must have final approval from the Dean of Graduate Studies.

M.F.A. Foreign Language or Alternative Requirement

There is no University-wide foreign language requirement. Graduate units may require a demonstration of competence in one or more foreign languages, or in some area of skill related to scholarship or research in the particular discipline. Students should consult the graduate unit itself or its particular section in this catalog regarding the details of this requirement.

Advancement to Candidacy for the M.F.A. Degree

A key requirement that must be satisfied in order to earn the M.F.A. degree is Advancement to Candidacy. The student is Advanced to Candidacy (often referred to as "all but dissertation or ABD") by the Dean of Graduate Studies in the term when all the following criteria have been met:

- The doctoral comprehensive examination has been passed;
- OGS has approved the Application for Candidacy;
- Language/skill requirement (if appropriate) is satisfied; and
- OGS has approved the Appointment of Dissertation Committee form.

M.F.A. Dissertation Committee

The dissertation committee (whose members often include those on the Committee on Studies) is charged with the supervision of an M.F.A. candidate's dissertation activities, including the review and approval of the student's dissertation proposal. M.F.A. candidates initiate the process of selecting the dissertation committee by first arranging for a qualified faculty member to serve as the director of their dissertation/committee chairperson. The faculty director and the candidate jointly select the remainder of the committee. The "Appointment of Dissertation Committee" form must be signed by the candidate, the dissertation director, and the chairperson or graduate advisor of the graduate unit, and approved by the Dean of Graduate Studies. This form should be submitted no later than the first semester of 699 enrollment. If the committee changes, a revised "Appointment of Dissertation Committee" form must be submitted to the OGS along with a written rationale for the change. OGS may request additional documentation as appropriate.

Composition of the M.F.A. Dissertation Committee

The committee will consist of at least four members, all of whom are approved by the Dean of Graduate Studies (see Faculty Approval section for details).

- Two members must be Category 1
- The chair must be Category 1, or 3 if within student's major
- One member must be Category 1 AND outside the student's major, or in Category 2
- One member must be Category 1, or 3 within the student's major
- One member may be in Category 4 if the above requirements are met.

(No more than one voting member may be in Category 4.)

NOTE: If the graduate unit approves, Emeriti/Emeritae faculty are allowed to continue to chair existing dissertation committees for up to one calendar year

82 THE GRADUATE PROGRAM

from the date of their retirement. They may not be appointed chair of any new dissertation committees once retired. If the student has not completed his/her dissertation within one year of the chair's retirement, the retired faculty member may continue to serve on the dissertation committee as a co-chair or member of the committee.

Graduate students may supplement the minimum committee membership described above. All supplemental appointments must be identified on the "Appointment of Dissertation Committee" form, and must be approved by the Dean of Graduate Studies.

NOTE: All expenses incurred for member services on a Dissertation Committee are the responsibility of the student.

M.F.A. Dissertation Hours

During the course of their dissertation work, M.F.A. candidates are required to enroll in a minimum of 6 hours of dissertation (699) credit. Enrollment in 699 should not begin prior to the semester in which the student takes the M.F.A. comprehensive examination. Only those hours gained in the semester during which the comprehensive examination is passed and in succeeding semesters can be counted toward the 6 hours required. A student who fails the comprehensive exam cannot apply any 699 credits toward his/her program of studies until the semester in which the comprehensive examination is retaken and passed.

Enrollment for dissertation (699) may be for 3, 6, 9 or 12 hours per semester, with 9 hours the maximum in Summer session. Minimum enrollment in 699 for one semester is 3 hours. Graduate units may require a higher minimum enrollment in dissertation hours each semester.

Students who have enrolled in 699 and subsequently stopped enrollment for one or more semesters (not including summers) must follow the procedures listed under "Reinstatement Policy" previously given in this catalog. (Procedures for reinstatement are available on the OGS Web site <http://www.unm.edu/grad>.)

Graduation Courtesy Policy

University regulations require that the student must be enrolled and complete a minimum of one hour of graduate credit in the term s/he completes degree requirements. Should the student miss the graduation deadline (July 15 for summer graduation, November 15 for fall graduation, April 15 for spring graduation), but completes all degree requirements on or before the last day of that term, the student is not required to register for the next (graduation) term. The degree program must submit the student's name on the proposed graduation list for actual term of graduation.

M.F.A. Notification of Intent to Graduate

Students must inform their graduate unit in writing of their intent to graduate. The graduate units must submit their proposed graduation list to OGS no later than 5:00 p.m. on the last day of the semester immediately preceding the semester of graduation.

Final Examination for the M.F.A. (Defense of Dissertation)

The M.F.A. final oral examination is the last formal step before the degree is awarded, and is conducted with due respect to its importance as such. The focus of the final examination is the dissertation and its relationship to the candidate's major field. Its purposes are:

1. to provide an opportunity for candidates to communicate the results of their research and creative work to a wider group of scholars;

2. to afford an opportunity for the members of the examination committee, as well as others (faculty, students, staff, etc.), to ask relevant questions;
3. to ensure that the research and creative work reflects the independence of the thought and accomplishment of the candidate rather than excessive dependence on the guidance of a faculty member; and finally,
4. to ensure that the candidate is thoroughly familiar not only with the particular focus of the dissertation, but also its setting and relevance to the discipline of which it is a part.

The student is responsible for providing each member of the dissertation committee with complete copies of all written materials and/or creative work in ample time for review prior to the examination.

At least two weeks before the final examination is held, and no later than November 1 for Fall graduation, April 1 for Spring or July 1 for summer, the major graduate unit must notify the OGS of its scheduled date by submitting the appropriate announcement form.

The presentation and examination phases of the exam are open to the University community, and are published in various sources; the deliberation phase is only open to the committee. At the conclusion of the examination, the dissertation committee members will confer and make a recommendation to accept or reject the candidate's work. The committee will then submit the "Report of Examination" to the OGS communicating the examination results.

NOTE: In order to qualify to sit for an exam during the intersession, the student must be registered for the following semester.

Member Attendance at Dissertation Defense

All members of a student's dissertation committee must be present at the manuscript defense. Although physical presence is strongly encouraged for all members, synchronous participation by telephone/video conference is allowed when necessary.

Proxy Signature

An original signature of each committee member is required for each examination and thesis or dissertation defense form. In the rare cases where an original signature cannot be provided, the committee member may request a proxy signature by submitting the Proxy Request Form at least two weeks prior to the student's examination.

Conditional Pass

Having evaluated the materials required for the examination, if the Committee feels that, although the student has demonstrated knowledge and understanding of the field, it is not quite sufficient to justify a grade of "pass", the committee may assign the grade of "Conditional Pass" and require that the student meet additional conditions before a grade of pass will be awarded. The student must meet the conditions noted on the Conditional Pass by the end of the subsequent term. However, students who plan to graduate in a specific term must resolve a Conditional Pass by the posted deadline for submission of examination results. The committee will note the conditions that need to be met by the student on the examination form. Once the committee indicates the student has met the conditional pass criteria, they will submit a memo to OGS, and the student will have a maximum of 90 days to submit his/her dissertation; however, graduating students must meet the term deadline for submission of the dissertation.

M.F.A. Dissertation

Each M.F.A. candidate must prepare a dissertation or final project. The dissertation for the degree of Master of Fine Arts must demonstrate ability to do independent creative work as well as competence in research and knowledge of the field. Each dissertation will be composed of two parts: a public display of work completed specifically as a final project for dissertation and a written work whose format and exact relation to the finished creative work will be determined by the graduate unit. A final, oral examination of the candidate will also be conducted by an approved dissertation committee.

If a graduate unit requires submission of a dissertation to the OGS, it must adhere to the dissertation format, fees, and accompanying forms outlined under the doctoral section of this catalog below.

Doctoral Degrees (Ph.D. and Ed.D.)

The doctorate is a degree representing broad scholarly attainments, a deep grasp of a field of study, and expertise in conceiving, conducting and reporting original and individual research. As such, its attainment is no mere matter of meeting requirements. Those requirements described below should be viewed only as a minimal formal context in which the student is expected to grow to the professional stature denoted by the doctoral degree. Consult the appropriate section of this catalog for the particular requirements of individual programs.

Doctoral Degree General Requirements

1. A minimum of 48 hours of graduate credit course work (certain graduate programs require more hours).
2. Must be enrolled in at least one hour of graduate credit in the semester in which the doctoral comprehensive examination is taken.
3. At least 24 hours of graduate credit course work must be completed at the University of New Mexico.
4. At least 18 hours graduate credit course work must be completed at the University of New Mexico after admission to the doctoral program.
5. A minimum of 18 hours of graduate credit course work must be earned in the University of New Mexico courses numbered 500 or above.
6. No more than 6 credit hours of course work in which a grade of C (2.0), C+ (2.33) or CR (grading option selected by student) was earned may be credited toward a graduate degree. Courses offered only on a CR/NC basis and required by the graduate program are excluded from this limitation. (See Grade Requirements for Graduation policy.)
7. No more than 50% of the required course credits at the University of New Mexico may be taken with a single faculty member. (Course work that has been completed for the master's degree is included in this limit.)
8. A minimum of 18 hours of dissertation credits (699) is required for the doctorate.
9. Doctoral candidates must be enrolled the semester in which they complete degree requirements, including the summer session.

NOTE: Detailed information on doctoral graduation requirements are available on the OGS Web site: http://www.unm.edu/grad/eforms/d_checklist.pdf.

Transcribed Minors

A Ph.D. degree student may declare a transcribed minor in a different graduate unit.

1. Transcribed minors must be fully approved through the UNM curricular process. A list of approved minors is available on the OGS web site.

2. Approved minors have a minimum of 9 credit hours of course work; the program may require more.
3. The student must submit a "Transcribed Minor" form to OGS, approved by both the major and minor units, with the Program of Studies.
4. Approved minors may use no more than 25% of the course work required for the Ph.D. degree.
5. The minor must be outside the student's major code.
6. The student's comprehensive exam committee must contain one faculty member from the minor field, unless the minor department on the Transcribed Minor form waives this requirement.

Eighteen hours of course work must remain exclusive to the Ph.D.

Required Enrollment

Doctoral students must be enrolled for and complete at least 1 graduate credit in the term they sit for an examination or complete degree requirements. To qualify to sit for a comprehensive exam during the intersession, the student must be registered for the following term.

Time Limit for Completion of Degree Requirements

Doctoral candidates have five (5) calendar years from the semester in which they pass their doctoral comprehensive examination to complete the degree requirements. The final requirement is generally the acceptance of the student's dissertation by the Dean of Graduate Studies.

Doctoral Committee on Studies

Each doctoral student is strongly encouraged to assemble a committee on studies to assist in planning a program of studies. This program should be designed to foster a fundamental knowledge of the major field, both in depth and in breadth. The committee generally includes three University of New Mexico faculty members approved by the student's graduate unit. The chairperson is usually the student's major advisor. If the committee on studies will also serve as the doctoral comprehensive examination committee, they must meet the requirements listed in that section (see Faculty Approval section for details).

The basic role of the committee is to plan, with the student, an integrated individual program of study and research meeting general University and specific graduate program requirements. The Committee may also establish prerequisites when needed; recommend transfer of credit; certify proficiency in a foreign language or alternative skill; approve significant changes in the program of studies; and may serve as the core of the doctoral comprehensive examination committee and/or the dissertation committee (see composition criteria for dissertation committees).

Appointment of the Committee usually involves the following steps:

1. The student arranges for an appropriate faculty member to serve as Committee Chair;
2. The student and the Committee Chair agree upon the remaining members of the Committee;
3. The Committee must be approved by the graduate unit chairperson or graduate unit advisor, as evidenced by his/her signature on the student's "Application for Doctoral Candidacy."

Doctoral Comprehensive Examination

A doctoral student must pass a comprehensive examination in the major field of study. This examination, which may be written, oral or both, is not limited to the areas of the student's course work, but tests the student's grasp of the field

as a whole. It is strongly recommended that the Application for Candidacy be completed and approved by the graduate unit before the student takes the doctoral comprehensive examination. The administration of this exam is governed by the following guidelines:

1. The student must have a cumulative grade point average of at least 3.0 at the time of the examination.
2. The student must be enrolled in a minimum of one credit of graduate course work the semester in which he/she takes the doctoral comprehensive examination.
3. At least two weeks prior to the date of the examination, the major graduate unit must request approval from the Dean of Graduate Studies to hold the exam. It may not be conducted until the Dean of Graduate Studies approves the appropriate announcement form and it is returned to the unit.
4. The doctoral comprehensive examination committee (usually the student's Committee on Studies) consists of a minimum of three members approved for committee service. Two members must be in Category 1 or 3; the chair of the committee must be in Category 1, or 3 if within the student's major; one member must be from Category 1; and no more than one voting member can be in Category 4.
5. In order to qualify to sit for a doctoral exam during the intersession, the student must be registered for the following semester.
6. Barring extraordinary circumstances, the graduate unit will notify the student of the results of the examination no later than two weeks after the date on which it was administered. Should such circumstances arise, the graduate unit will notify the student in writing of the reason for the delay and let him/her know when notification can be expected.
7. The results of the examination must be reported to the Dean of Graduate Studies on the "Report of Examination" form no later than two weeks after the date of the examination.
8. If a student fails the examination, the Committee on Studies may recommend a second examination, which must be administered within one calendar year from the date of the first examination. The doctoral comprehensive examination may be taken only twice. A second failure will result in the student's termination from the program.

Conditional Pass

Having evaluated the materials required for the examination, if the Committee feels that, although the student has demonstrated knowledge and understanding of the field, it is not quite sufficient to justify a grade of "pass", the committee may assign the grade of "Conditional Pass" and require that the student meet additional conditions before a grade of pass will be awarded. The student must meet the conditions noted on the Conditional Pass by the end of the subsequent term. However, students who plan to graduate in a specific term must resolve a Conditional Pass by the posted deadline for submission of examination results. The committee will note the conditions that need to be met by the student on the examination form. Once the committee indicates the student has met the conditional pass criteria, they will submit a memo to OGS.

Applied (including Non-Degree)/ Transfer Credit

The following regulations apply to the application or transfer of credits toward a doctoral degree:

1. Course must have carried graduate credit.
2. Course work must be from an accredited institution.
3. Student must have obtained a grade of "B" or better. A maximum of 6 hours of thesis from a completed master's degree or other course work graded Pass or Credit (CR) is transferable.
4. The number of transfer and/or applied (including non-degree) credits used toward a graduate program may

not exceed fifty percent of the required coursework for the degree; departments may impose even more restrictive limits on transfer and/or applied credits.

5. Course must be approved by the doctoral Committee on Studies and the graduate unit.
6. Course must be listed on Application for Candidacy form.
7. All courses must have final approval from the Dean of Graduate Studies.

NOTE: Course work that has been counted toward a previous degree may not be counted toward any subsequent degree, with the exception of master's degree to a doctoral degree.

Foreign Language or Alternative Requirement

While there is no University-wide foreign language requirement, most graduate units require a demonstration of competence in one or more foreign languages, or in some area of skill related to scholarship or research in the particular discipline. Students should consult the graduate unit itself or its particular section in this catalog regarding the details of this requirement.

Application for Candidacy for Doctoral Degrees

Each doctoral student must submit an Application for Candidacy (AC) listing all the courses that apply to the degree. The AC form (http://www.unm.edu/grad/eforms/AC_doctoral.doc) should be filed the term the student passes the comprehensive examination and no later than the last day of the term before the student intends to graduate. If a language or a skill requirement is a criteria of the degree program, meeting this requirement should be noted on the AC form where indicated. If the language/skill requirement is not noted on the AC form a "Certification of Language or Research Skill Requirement" form must be submitted before the student is advanced to candidacy.

Advancement to Candidacy for the Doctoral Degree

A key requirement that must be satisfied in order to earn the doctoral degree is Advancement to Candidacy. The student is Advanced to Candidacy (often referred to as "all but dissertation or ABD") by the Dean of Graduate Studies in the term when all the following criteria have been met:

1. The doctoral comprehensive examination has been passed;
2. OGS has approved the Application for Candidacy;
3. Language/skill requirement (if appropriate) is satisfied; and
4. OGS has approved the Appointment of Dissertation Committee form.

The Dissertation

Each doctoral candidate must prepare a written dissertation. The requirements for the Ph.D. and Ed.D. dissertations are described below.

Ph.D. The dissertation for the degree of Doctor of Philosophy must demonstrate ability to do independent research and competence in scholarly exposition. At an advanced level, it should present the results of an original investigation of a significant problem and should provide the basis for a publishable contribution to the research literature in the major field.

Ed.D. The dissertation for the degree of Doctor of Education must demonstrate ability to do independent research and competence in scholarly exposition. A dissertation may be a professional project, such as the development of a curriculum or an account of the results of an educational innovation. A professional project must involve scholarly research, and the dissertation must demonstrate knowledge of theories, experiments, and other rational processes pertinent to the project.

UNM accepts both traditional and non-traditional (hybrid) dissertations. If a graduate unit accepts both dissertation options, the student, in consultation with his/her dissertation committee, must decide which format is appropriate.

A traditional dissertation is a single written document, authored solely by the student, presenting original scholarship. A non-traditional (hybrid) dissertation, as defined by the graduate unit, consists of a collection of related articles prepared and/or submitted for publication or already published. Each dissertation must include "introduction" and "conclusion" sections. The student must meet the general manuscript format criteria set forth in the UNM Catalog/website on manuscript guidelines. Students must adhere to copyright policies for obtaining permission to use a previously published manuscript.

Dissertation Committee

The dissertation committee (whose members often include those on the Committee on Studies) is charged with the supervision of a doctoral candidate's dissertation activities, including the review and approval of the student's research proposal. Doctoral candidates initiate the process of selecting the dissertation committee by first arranging for a qualified faculty member to serve as the director/chair of their dissertation/committee chairperson. The faculty director and the candidate jointly select the remainder of the committee. The "Appointment of Dissertation Committee" form must be signed by the candidate, the dissertation director, and the chairperson or graduate advisor of the graduate unit, and approved by the Dean of Graduate Studies. The form should be filed no later than the first semester of 699 enrollment. If the committee changes, a revised "Appointment of Dissertation Committee" form must be submitted to the OGS along with a written rationale for the change. OGS may request additional documentation as appropriate.

Composition of the Dissertation Committee

The committee will consist of at least four members all of whom are approved by the Dean of Graduate Studies (see Faculty Approval section for details).

1. Two members must be Category 1
2. The chair must be Category 1, or 3 if within student's major
3. One member must be Category 1 AND outside the student's major, or in Category 2
4. One member must be Category 1, or 3 within the student's major
5. One member may be in Category 4 if the above requirements are met.

(No more than one voting member may be in Category 4.)

NOTE: If the graduate unit approves, Emeriti/Emeritae faculty are allowed to continue to chair existing dissertation committees for up to one calendar year from the date of their retirement. They may not be appointed chair of any new dissertation committees once retired. If the student has not completed his/her dissertation within one year of the chair's retirement, the retired faculty member may continue to serve on the dissertation committee as a co-chair or member of the committee.

Graduate students may supplement the minimum committee membership described above. All supplemental appointments must be identified on the "Appointment of Dissertation Committee" form, and must be approved by the Dean of Graduate Studies.

NOTE: All expenses incurred for member services on a Dissertation Committee are the responsibility of the student.

Dissertation Hours

During the course of their dissertation work, doctoral candidates are required to enroll in a minimum of 18 hours of dissertation (699) credit. Enrollment in 699 should not begin prior to the semester in which the student takes the doctoral comprehensive examination. Only those hours gained in the semester during which the comprehensive examination is passed and in succeeding semesters can be counted toward the 18 hours required. A student who fails the comprehensive exam cannot apply any 699 credits toward his/her program of studies until the semester in which the comprehensive examination is retaken and passed.

Enrollment for dissertation (699) may be for 3, 6, 9 or 12 hours per semester, with 9 hours the maximum in Summer session. Minimum enrollment in 699 for one semester is 3 hours. Graduate units may require a higher minimum enrollment in dissertation hours each semester.

Students who have enrolled in 699 and subsequently stopped enrollment for one or more semesters (not including summers) must follow the procedures listed under "Reinstatement Policy" previously given in this catalog. (Procedures for reinstatement are available on the OGS Web site <http://www.unm.edu/grad>).

Graduation Courtesy Policy

University regulations require that the student must be enrolled and complete a minimum of one hour of graduate credit in the term s/he completes degree requirements. Should the student miss the graduation deadline (July 15 for summer graduation, November 15 for fall graduation, April 15 for spring graduation), but completes all degree requirements on or before the last day of that term, the student is not required to register for the next (graduation) term. The degree program must submit the student's name on the proposed graduation list for actual term of graduation.

Dissertations in a Foreign Language

Prior to writing a dissertation in a language other than English, students must receive written approval by the Dean of Graduate Studies. A dissertation submitted to the OGS in another language must be accompanied by an abstract in English approved by the student's dissertation committee.

Notification of Intent to Graduate

Students must inform their graduate unit in writing of their intent to graduate. The graduate units must submit their proposed graduation list to OGS no later than 5:00 p.m. on the last day of the semester immediately preceding the semester of graduation.

The Final Examination for the Doctorate (Dissertation Defense)

The doctoral final oral examination is the last formal step before the degree is awarded and is conducted with due respect to its importance as such. The focus of the final examination is the dissertation and its relationship to the candidate's major field. Its purposes are:

1. To provide an opportunity for candidates to communicate the results of their research to a wider group of scholars;
2. To afford an opportunity for the members of the examination committee, as well as others (faculty, students, staff, etc.), to ask relevant questions;
3. To ensure that the research reflects the independence of the thought and accomplishment of the candidate rather than excessive dependence on the guidance of a faculty member; and finally,
4. To ensure that the candidate is thoroughly familiar not only with the particular focus of the dissertation but also its setting and relevance to the discipline of which it is a part.

At least two weeks before the final examination is held, and no later than November 1 for Fall graduation, April 1 for Spring or July 1 for Summer, the major graduate unit must notify the OGS of its scheduled date by submitting the appropriate announcement form. In order to qualify to sit for a doctoral exam during the intersession, the student must be registered for the following semester. The student is responsible for providing each member of the dissertation committee with a complete copy of the dissertation in ample time for review prior to the examination.

The presentation and examination phases of the exam are open to the University community and are published in various sources; the deliberation phase is only open to the committee. At the conclusion of the examination, the dissertation committee members will confer and make one of the following recommendations, which must be agreed upon by at least three of them:

1. That the dissertation be approved without change;
2. That the dissertation be approved subject only to minor editorial corrections; or
3. That the dissertation be rewritten or revised before approval.

If either the first or second recommendation is made, the committee may decide that no further meetings are needed. In the second instance the director of the dissertation will be responsible for seeing that all necessary corrections are made before the dissertation is submitted to the OGS. If the third recommendation is made, the full committee may elect to meet again to determine that their concerns have been addressed.

Member Attendance at Dissertation Defense

All members of a student's dissertation committee must be present at the manuscript defense. Although physical presence is strongly encouraged for all members, synchronous participation by telephone/video conference is allowed when necessary.

Proxy Signature

An original signature of each committee member is required for each examination and thesis or dissertation defense forms. In the rare cases where an original signature cannot be provided, the committee member may request a proxy signature by submitting the Proxy Request Form at least two weeks prior to the student's examination.

Conditional Pass

Having evaluated the materials required for the examination, if the Committee feels that, although the student has demonstrated knowledge and understanding of the field, it is not quite sufficient to justify a grade of "pass", the committee may assign the grade of "Conditional Pass" and require that the student meet additional conditions before a grade of pass will be awarded. The student must meet the conditions noted on the Conditional Pass by the end of the subsequent term. However, students who plan to graduate in a specific term must resolve a Conditional Pass by the posted deadline for submission of examination results. The committee will note the conditions that need to be met by the student on the examination form. Once the committee indicates the student has met the conditional pass criteria, they will submit a memo to OGS, and the student will have a maximum of 90 days to submit his/her dissertation; however, graduating students must meet the term deadline for submission of the dissertation.

Quality of the Dissertation

The responsibility of the dissertation committee (especially the director) includes the evaluation of the substance and methodology of the dissertation as well as an assessment

of the candidate's competence in scholarly exposition. The dissertation should reflect a high level of scholarship in the conduct and presentation of the study. If serious questions concerning substance, methodology or exposition arise through a review of the "Report on Thesis or Dissertation" forms, the Graduate Dean may seek the counsel of the dissertation committee, graduate unit chairperson and/or other scholars with particular competence in the field of study before the dissertation receives final approval.

Dissertation Preparation

The student is responsible for preparing a dissertation in proper format that is of high quality and free of grammatical and typing errors. Guidelines on dissertation format are detailed and should be carefully followed. Students are urged to print current guidelines from the OGS Web site before defending their dissertations. The general manuscript format guidelines and most required forms are available on the OGS website (<http://www.unm.edu/grad>). Examples of the front matter and reference pages are available on the OGS website.

The dissertation defense is scheduled once the student and his/her major advisor have agreed that the manuscript is in its final form. The Doctoral students must submit his/her dissertation to the Dean of Graduate Studies within ninety (90) days of passing his/her final examination for the dissertation. If the manuscript is not submitted within that time, the student must schedule and complete a second final examination for the dissertation. In all cases the results of the dissertation defense must be submitted to OGS no later than two weeks after the announced date of the dissertation defense.

Electronic Submission of the Dissertation

Dissertations are submitted to the Office of Graduate Studies in an electronic format. The university encourages open access to all electronic theses and dissertations (ETDs) that are produced in the course of graduate work at UNM. To facilitate this, ETDs will be made available on a server housed in a UNM depository (DSpaceUNM), and will be available for search and download through web search engines such as Google. Dissertations are also sent to Proquest, where they are made part of their Digital Dissertation database.

In some cases, students and their advisors may prefer to restrict access to their work for some specific period of time. UNM will allow for the embargo (restriction) of ETDs in certain cases. A decision to seek an embargo should be made by the student in consultation with her/his graduate advisor.

- 1) A one-year embargo will be granted in cases where patent protection is actively being sought or is intended. In cases where patent protection has been sought but has not been granted within a year, a student may petition the Dean of OGS for an extension of the embargo. The Dean of OGS will work closely with representatives of STC to ensure that no UNM intellectual property is made public prematurely.
- 2) A six-year embargo will be granted for students who wish to publish their work in whole or in part in its current form, or who plan to revise and expand their work for future publication. This type of embargo covers both scholarly and creative works. A student may petition the Dean of OGS for an extension of the embargo.
- 3) For students receiving the MFA degree, a permanent embargo can be granted for creative works. Similarly, for students whose dissertation involves extensive human subjects research where confidentiality issues are a concern, a permanent embargo may be granted.

In all cases, a former UNM student, in consultation with his/her advisor, may terminate the embargo at any time.

All requests for embargo of ETDs and for extensions of embargos will be reviewed by the Dean of Graduate Studies,

with the goal of providing maximum protection of the student's right to ownership and control of her/his work. Even when an embargo is granted, the metadata (or the "citation") associated with every dissertation or thesis submitted will be open access and will not be embargoed. This means that the title, author, and keywords associated with dissertations and theses will be globally released upon submission.

Accompanying Forms

The following forms, which must be submitted along with the manuscript, may be obtained from the OGS Web site (<http://www.unm.edu/grad/forms/forms.html>):

1. A "Report on Thesis or Dissertation" completed by each committee must be received by the OGS before the student's dissertation receives final approval.
2. A "Certification of Final Form."
3. An "Information Cover Sheet"
4. A "Survey of Earned Doctorate" (filled-out at the UNM website.)
5. The "UMI Dissertation Microfilm Agreement" form (available at the Office of Graduate Studies) and a Cashier's check or money order covering UNM fee (with an expiration date of at least one year from the purchase date).
6. Embargo Request Form (if requesting an embargo)

Students are responsible for including two complete sets of the "red-bordered pages" (Signature Approval Page, Dissertation Title Page and Abstract Title Page) submitted to the Office of Graduate Studies. The red-bordered pages are available on the OGS Web site (<http://www.unm.edu/grad/manuscripts/manutemp.html>), or from the UNM Bookstore.

UMI Fee

As part of graduation requirements, all doctoral students must have their dissertations published through University Microfilms International (a subsidiary of ProQuest. Doctoral students should complete a "UMI Dissertation Agreement" form, available from the manuscript reviewer at the OGS. Copies of the dissertation abstract and the title page as well as the microfilming fee must accompany the form. The fee is currently \$55 but is subject to change. It is payable by money order or cashier's check made out to ProQuest (with an expiration date of at least one year from the purchase date).

Copyright Registration

Copyright Registration is optional. If choosing to copyright the manuscript through UMI, the fee is currently \$65 payable by Cashier's check or money order made out to Proquest (with an expiration date of at least one year from the purchase date).



THE ROBERT O. ANDERSON SCHOOL OF MANAGEMENT

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Introduction

The mission of the Anderson School of Management is to seek to develop and inform business and management leaders through a balance of teaching and scholarship, and to contribute to economic development and the quality of life of our constituents.

Our faculty advances management theory and practice and broadly disseminates management knowledge through scholarly activities, classroom applications and service to the public and private sectors. An education from the Anderson School of Management enables individuals to manage existing businesses, develop new businesses and define public policy that encourages economic development balanced with social and environmental responsibility. Anderson is accredited by the Association to Advance Collegiate Schools of Business (AACSB). This body assures standards of excellence in business education with approximately 20% of all schools of business achieving this distinction.

Anderson offers degree programs in the Bachelor of Business Administration, the Master of Business Administration and the Master of Accounting. Our focus on professional management education blends the latest developments in academic theory and business practice while preparing graduates to excel in challenging work environments and in advanced academic study.

The Anderson School of Management fosters an exciting academic environment with collaborative student-faculty interaction, active adult learning approaches, team-based experiences and practical applications. Students are encouraged to think critically, to practice intellectual curiosity, to explore creativity and innovation, to demonstrate scholarly enthusiasm and to pursue business relevance. An outstanding faculty with distinguished academic credentials, research and managerial experience ensures these high standards in programs and performance.

The needs of today's managers and those students who will assume positions of organizational leadership in the next quarter century represent a formidable challenge to professional management education. We fully aspire to join those schools of management which, by focusing their efforts on the development of responsive and innovative leadership, are at the same time establishing new criteria for academic excellence.

Internet address

<http://www.mgt.unm.edu>

Career Services

A distinguishing feature of the Anderson School of Management is the emphasis placed on preparing students to find meaningful employment upon graduation and to develop their lifelong career management skills. Anderson has its own Career Services Office (CSO) which is staffed by seasoned professionals whose mission includes:

- Building relationships with hiring professionals from local, regional, and global organizations to increase internship and full-time employment opportunities for Anderson students and alumni.
- Delivering effective and relevant career management advising and programming to enhance the overall level of professionalism and employability of Anderson students.

The Anderson CSO works in partnership with the UNM Office of Career Services to provide registered students with access to Lobo Career Connection, an online position posting and on-campus recruiting tool. Anderson students are strongly encouraged to utilize Lobo Career Connection and to attend career fairs held on campus each semester to maximize job and internship opportunities.

In addition, both undergraduate and graduate students should plan to enroll in MGMT 398 – Career Management Skills, to build a comprehensive set of life-skills which will prepare them to succeed in the professional job market and to find both internship and full-time job opportunities. Alumni of the Anderson School may also utilize career services.

Degree Programs

Undergraduate Degree Offered

At the undergraduate level, the Anderson School of Management offers the Bachelor of Business Administration.

Graduate Degrees Offered

Graduate degrees include the Master of Business Administration (offered through the traditional M.B.A. and Executive M.B.A. Programs), Master of Accounting, Dual Degree Programs and the Post-Masters Certificate Program.

The Anderson School of Management may change curriculum, degree requirements and policies at anytime, without notice, for all degree programs. Check with Anderson advisors for current information and assistance with program planning.

B.B.A. Admission Requirements

Minimum requirements for transfer or admission to the Bachelor of Business Administration Program are:

1. Completion of or current enrollment in the pre-admission course work.
2. A minimum grade of "C" and an overall cumulative grade point average requirement of 2.5 on all required pre-admission course work. (Students should be aware that, due to space limitations, satisfying the minimum grade point average does not guarantee admission.)
3. An overall combined grade point average of 2.5 on all University of New Mexico and transfer course work.
4. Submission of a formal application for admission to the Anderson School Advisement Center during the semester when the pre-admission course work is to be completed. The application is online at <https://online.mgt.unm.edu>. Application procedures must be completed by:
 - March 1 for Summer admission
 - May 1 for Fall admission
 - October 1 for Spring admission
5. Students have two options regarding the CS 150 pre-admission course work requirement: 1) take the class, or 2) pass the CS 149 waiver test. Applications will be placed on hold and will not be processed until the student satisfies this requirement. Information about the waiver exam is available at <http://cs.unm.edu/~joel/cs149/cs149.html>

NOTE: Students not submitting their application by the deadline date or not completing their admission requirements will be required to reapply for the following semester.

Required Pre-Admission Course Work

- (A) Writing and Speaking: ENGL 101, 102 and 219, Technical and Professional Writing or ENGL 220, Expository Writing.
- (B) Mathematics: MATH 121 (or 150) and 180 (or 162).
- (C) Physical and Natural Sciences: 7 credit hours, including one course with corresponding laboratory (designated L), from the Anderson core curriculum list.
- (D) Social Science and Behavioral Science: ECON 105, 106, 3 credit hours from either *General Psychology* (PSY 105) or *Introduction to Sociology* (SOC 101) and 6 additional credit hours selected from American Studies, Anthropology, Economics, Geography, History, Political Science, Psychology or Sociology.
- (E) Humanities: 3 credit hours chosen from Anderson's core curriculum course list. Note that the University of New Mexico core curriculum requires 6 credit hours of Humanities. Anderson requires students to complete the additional 3 credit hours as part of their upper-division requirements.
- (F) Fine Arts: 3 credit hours chosen to fulfill Anderson's core curriculum requirement.
- (G) Second Language: 3 credit hours.
- (H) Management 202 (*Principles of Financial Accounting*).
- (I) One of the following statistics courses: STAT 145 or 245 or 345, or MGMT 290
- (J) Students must complete CS 150L or must pass the CS 150 waiver exam, CS 149, administered by the Department of Computer Science. CS 150 and equivalent courses must have been completed within 5 years of the semester in which the student is seeking admission to the B.B.A. Program. If more than 5 years have elapsed, the student must complete the CS 149 waiver exam or repeat the course (no credit for repeating the course).

Pre-admission total: 52 credits or 55 credits with CS150L.

NOTE: Students who are missing pre-admission course work will not be considered for admission until all pre-admission course work has been completed. Applications for admission will not be reviewed until all pre-admission course work grades have been posted.

B.B.A. Graduation Requirements

To graduate with the degree of Bachelor of Business Administration, the student must meet the following requirements:

1. Completion of all pre-admission requirements and admission to the Anderson School.
2. Completion of a minimum of 128 hours, excluding Introductory Studies courses, Business Education/ Secretarial Science courses and Business Technology courses. A maximum of 1 credit hour of Physical Education will be applied toward the B.B.A. A grade of "C" or better is required in all pre-admission course work. A minimum grade of "C-" is required in all Anderson School core and concentration courses. A minimum grade of "C" (not C-) is required in the upper-division Humanities course.
3. Completion of a minimum of 24 credit hours in residence at the Anderson School.
4. Completion of the following course requirements:
 Pre-admission course work including CS150L 55^{1,2}
 Anderson School Core 30
 Upper-Division Humanities 03
 Concentration and Free Electives 40³
Total degree requirements 128
5. Application for graduation in the semester prior to a student's final semester. Applications are available online at <https://bba.mgt.unm.edu/forms>.

Footnote:

- 1 Students who elect to take the CS150 waiver exam will have 52 pre-admission course work hours and must make up the 3 hour difference within their concentration and free electives course work.
- 2 B.B.A. students pursuing an IFDM concentration must also complete the IFDM lower-division course work (12 cr.). See also Interdisciplinary Undergraduate Studies.
- 3 See your Anderson advisor about specific concentration and free electives requirements. In addition, a minimum of one-half of your core and concentration requirements must be completed in residence at Anderson.

Upper-Division Management Courses

(A) Management Core: All students must complete a group of professional management courses. Students must achieve a "C-" or better in all core classes, listed below.

Anderson School Core courses are the following:

MGMT 300 Operations Management	3
MGMT 303 Managerial Accounting	3
MGMT 306 Organizational Behavior and Diversity	3
MGMT 308 Ethical, Political and Social Environment	3
MGMT 310 Legal Issues for Managers	3
MGMT 322 Marketing Management	3
MGMT 326 Financial Management	3
MGMT 328 International Management	3
MGMT 450 Computer-Based Information Systems	3
MGMT 498 Strategic Management*	3
Total Anderson School Core **	30

* Must be taken in graduating semester or within 15 hours of graduation.

** The upper-division core requirements are subject to change. Students are responsible for meeting core requirements in effect at the time of their admission to the School.

(B) Upper-Division Humanities: an additional 3 credit hours at the 300 or higher level from: American Studies, Classics, Comparative Literature, English, History, Philosophy or Religious Studies.

(C) Management Concentrations and Electives: Students must complete requirements for a management concentration with additional free electives such that the concentration and free electives total a minimum of 40 credit hours. Students are encouraged to complete a minor outside of the Anderson School.

Concentrations

<http://bba.mgt.unm.edu/concentrations>

Candidates for the B.B.A. may choose not to declare a concentration by completing 30 hours of management core classes plus 12 hours of management courses beyond the core from four different concentrations. Students who wish to declare a concentration should do so no later than the first semester of their senior year. The specific concentration requirements are listed below.

Accounting—18 hours

<http://bba.mgt.unm.edu/concentrations/accounting.asp>

In addition to the core courses required of all B.B.A. candidates, the accounting concentration consists of these courses: MGMT 340, 341, 343, 346, 443, 449.

MGMT 342, 348 and 444 may be taken as free electives. Transfer students selecting the Accounting concentration must complete a minimum of 12 hours of upper-division accounting concentration courses, including 341, while in residence at the Anderson School. Students interested in careers in professional accounting are urged to consider additional study leading to the M.B.A. degree or the Master of Accounting degree.

For students who are interested in sitting the CPA exam upon graduation with a B.B.A., information is available in the Anderson Advisement Office regarding the NM Public Accountancy Board requirements for sitting the CPA exam. Students may also visit the NM Public Accountancy Board site at: <http://www.rld.state.nm.us/accountancy/index.html>

Entrepreneurship—15 hours

<http://bba.mgt.unm.edu/concentrations/entrepreneurial.asp>

The Entrepreneurship Concentration is for students who seek to start their own business or manage a small business with an entrepreneurial focus. It is also suited for students interested in working in small entrepreneurial businesses.

Students are required to take MGMT 324, MGMT 384, and MGMT 495 plus two electives. The electives are MGMT 362, MGMT 421, MGMT 493, MGMT 496 and MGMT 556.

Finance—15 hours

<http://bba.mgt.unm.edu/concentrations/finance.asp>

In addition to MGMT 326, the Finance Concentration requires the following courses: 426 and 471.

In addition three courses must be chosen from the following: 470, 473, 474, 476, 479, and 496.

Human Resources Management—15 hours

<http://bba.mgt.unm.edu/concentrations/hr.asp>

Students must take MGMT 463 and 464 plus any three of the following courses: MGMT 457, 465, 466, 468, 469, 492 and 493. Other Anderson School courses, or courses outside the Anderson School, may be substituted with the department chair's prior written approval.

Interdisciplinary Film and Digital Media—15 hours

<http://bba.mgt.unm.edu/concentrations/ifdm.asp>

Management students who are interested in a business career in digital media, including film, should meet with their Anderson academic or faculty advisor to tailor a suitable program of study.

Students must be admitted to Anderson and complete the Anderson core, as required of all B.B.A. students. Students pursuing a B.B.A. with an IFDM concentration must also take fifteen credit hours from MGMT 300- or 400-level courses. The fifteen hours include:

MGMT 324, 384, 433, and additional hours that students will select in consultation with the concentration advisor.

Students pursuing a B.B.A. with a concentration in IFDM must also complete the IFDM core courses: IFDM 105, CS 152L, IFDM 205, IFDM 210, IFDM 300, IFDM 310, IFDM 400, IFDM 410, IFDM 450, and IFDM 451. See also Interdisciplinary Undergraduate Studies for complete IFDM course and program descriptions.

International Management–15 hours

<http://bba.mgt.unm.edu/concentrations/international.asp>

The International Management concentration is designed for students who seek to prepare themselves for a career in international business. To enhance preparedness for an international career, students in the program develop competency in a foreign language and obtain first-hand international experience in addition to regular coursework.

Course Requirements:

1. Students must complete MGMT 421 (International Entrepreneurship) and MGMT 474 (International Finance).
2. Three elective concentration courses must be taken from among the following courses, or other appropriate courses with the approval of a faculty advisor: MGMT 420 (Management in Latin America), MGMT 422 (Seminar on Mexican Economy & Markets), MGMT 483 (International Marketing), MGMT 492 (Negotiation Strategies) and special topics courses offered in the department.
3. Students are required to complete a portion of their coursework internationally by participating in either a UNM-approved exchange with a foreign university or a UNM program. Specifically, at least two (but no more than four) of the courses applied to the concentration must be completed outside the country. Students facing economic hardship may obtain a waiver of this requirement from the faculty advisor under limited circumstances.
4. **Students must complete a minimum of two upper-division (i.e., 300-level and above) foreign language courses.**

International Management in Latin America–15 hours

<http://bba.mgt.unm.edu/concentrations/international.asp>

Students who are interested in careers in International Management in Latin America should meet with a faculty advisor early in their program to discuss career options and to have their course selections approved. Students who are serious about an international management career should also consider acquiring some first-hand international experience by living and working or studying abroad.

Course Requirements:

1. Students must complete MGMT 420 (Management in Latin America), MGMT 421 (International Entrepreneurship), MGMT 422 (Mexican Economy & Markets), and MGMT 474 (International Finance).
2. One elective concentration course must be taken from among the following courses, or other appropriate courses with the approval of a faculty advisor: MGMT 483 (International Marketing), MGMT 492 (Negotiation Strategies) and special topics courses offered in the department.
3. Students are required to complete a portion of their coursework internationally by participating in either a UNM-approved exchange with a foreign university or a UNM program. Specifically, at least two (but no more than four) of the courses applied to the concentration must be completed in Latin America. Students facing economic hardship may obtain a waiver of this requirement from the faculty advisor under limited circumstances.
4. **Students must complete a minimum of two upper division (i.e., 300-level and above) foreign language courses in Spanish or Portuguese.**

Management Information Systems–15 hours

<http://bba.mgt.unm.edu/concentrations/mis.asp>

MGMT 329 and 330 and 459 plus two additional MIS electives from 331, 336, 337, 437, 439, 461, and other courses approved by the management information systems advisor or department chair.

Marketing Management–15 hours

<http://bba.mgt.unm.edu/concentrations/marketing.asp>

MGMT 480 and 481 plus three additional marketing electives from 433, 483, 484, 485, 486, 487, 488, and 489. Other Anderson School courses or courses outside Anderson School may be substituted with faculty advisor prior written consent.

Operations Management–15 hours

<http://bba.mgt.unm.edu/concentrations/operations.asp>

MGMT 434, plus four courses from 433, 462, 486, 488 and CS 452, or other courses may be substituted with faculty advisor prior written consent.

Organizational Leadership–15 hours

<http://orgleadership.mgt.unm.edu/bbacurriculum.asp>

The Organizational Leadership concentration focuses on leadership theory and principles and their application to practice. Core ethical principles and theories, the role of the leader in managing change and innovation, and leading a diverse workforce will be emphasized. The concentration will prepare students for a career in all types of organizations (private, government, non-profit) in which they expect to play a leadership role. Students are required to take MGMT 307, 362, and 458 plus any two of: MGMT 457, 462, 469, 492.

Within this concentration, students may substitute other Anderson School courses, or courses outside the Anderson School, with the department chair's prior written approval.

Minor Study

Management Minor

For those schools and colleges accepting a minor in management, the requirements are a total of 18 credit hours. Six to nine hours must be selected from MGMT 113, 202, STAT 145 or one of the following economics courses: ECON 105 or 106 or 300 (economics courses are allowed for non-economics majors only). The remaining credit hours should be selected from these Management courses (300, 303, 306, 308, 310, 322, 324, 326, 328, 329, 330, 459). Students must receive a grade of C- or better in all courses applied to the minor.

International Management Minor

For those schools and colleges accepting a minor in international management, the requirements are a minimum total of 18 credit hours. Six hours must be selected from MGMT 113, 202, STAT 145 or ECON 106 (economics courses are allowed for non-economics majors only). Students must also complete MGMT 328 (International Management). The remaining nine credit hours should be selected from courses listed under the international management B.B.A. concentration (420, 421, 422, 474, 483, 492 and relevant special topics courses). Students must receive grades of C- or better in all courses applied to the minor.

Additional Information

Dean's List/Honor Roll

B.B.A. students may qualify for Dean's List and/or Honor Roll each Fall and Spring semester. The Dean's List honors the top 10% of full-time (12 hours or more) Anderson students according to their cumulative University of New Mexico grade point average. The Honor Roll honors the top 15% of full-time (12 hours or more) Anderson students according to their semester grade point average.

Pass/Fail (CR/NC) Option

Coursework in the following areas cannot be taken on a pass/fail (CR/NC) basis either at the University of New Mexico or another institution: pre-admission coursework, management core courses, upper-division Humanities requirement and concentration classes. Students should refer to the Grade Options section of the Student Services Information section of this catalog for further information.

Enrollment Preference

First preference for enrollment in all upper-division Management courses will be given to students who have been admitted to the Anderson School.

Students not in Anderson will be accepted on a space available basis provided they **satisfy all prerequisites**. Students must have a transcript on file with the Undergraduate Advisement Center each semester that they take a restricted course. Students may take up to 9 hours of 300-level management classes prior to their admission to the Anderson School of Management. Certain exceptions for individuals possessing a Bachelor's degree and enrolled in Non-Degree status may be made for accounting courses only.

The Anderson School reserves the right to disenroll from a class any student who lacks proper prerequisites or who is enrolled in more than one section of the same course.

Prerequisites

It is the firm policy of the Anderson School that course prerequisites must be observed. Management courses taken out of sequence may not be used to fulfill degree requirements regardless of the grades earned in such courses. The Anderson School reserves the right to disenroll from a class any student who lacks proper prerequisites.

The University of New Mexico Probation and Dismissal

See the regulations concerning academic probation and dismissal shown in the Student Services Information section of this catalog.

Internal Probation and Dismissal

Students with a cumulative grade point average of less than a 2.00 will be placed on internal Anderson School and University of New Mexico probation. Students placed on probation may be dismissed from the Anderson School if they fail to improve their academic performance in the following semester.

Scholastic Regulations

It is emphasized that students are solely responsible for complying with all regulations of the University, their respective colleges and the departments from which they take courses as well as for fulfilling all degree requirements. Therefore, students are advised to familiarize themselves with the academic regulations of the University.

Testing

Advanced Placement and CLEP Credit

The Anderson School will accept general or subject CLEP credit and AP credit provided appropriate scores have been achieved.

Transfer Policies

Transfer from Other Accredited Institutions

Students planning to complete their first two years of study at a junior college or at a four-year college other than the University of New Mexico should take only those courses that are offered as freshman or sophomore level courses at the University of New Mexico.

Transferring students must meet normal requirements for admission to this University as well as admission requirements of the Anderson School.

Transfer of credit is a two-part process. (1) The Office of Admissions and Outreach Services prepares a credit evaluation statement as soon as possible after admission status has been determined. This statement contains a listing of course work generally acceptable to the University. (2) Each college or school then determines if and how this transferable work may be used to meet individual degree requirements. Determination of the use of transferable work is made at the time of admission to the Anderson School. Evaluations or opinions offered prior to admission are unofficial and nonbinding.

Students desiring to transfer credit for any upper-division Anderson School course must receive prior approval from a faculty member possessing expertise in the area. Forms for such approval are available at the Advisement Center at the Anderson School. Students requesting credit from institutions outside of the United States should be prepared to provide information about the number of classroom hours per course and the quality of the institution.

A minimum of 24 hours must be taken in residence at Anderson. At least fifty percent (50%) of the management core and fifty percent (50%) of the concentration classes must be taken at Anderson unless the student obtains a written waiver from the Department Chair. Individual departments may establish additional residency requirements. The Anderson School will not accept credit from educational programs of noncollegiate organizations.

Special Information for Those Transferring from Two Year or Branch Colleges

Students transferring from accredited junior, community or branch colleges should note that no transfer credit will be given for courses which are offered at the upper-division level at the University of New Mexico unless specifically articulated. Lower-division credit will be determined in the manner mentioned above.

Transfer Module for Business Degree between New Mexico Colleges and Universities

Special Information for Those Transferring from Two Year or Branch Colleges

NMCC#	UNM#	UNM Title
BCIS1113	CS 150L	Computing for Business Students
ECON 2113	ECON 105	Introduction to Macroeconomics
ECON 2123	ECON 106	Introduction to Microeconomics
BUSA 1113	MGMT 113(4)	Management: An Introduction
MATH 2313	MGMT 290	Introduction to Business Statistics or STAT 145 or STAT 245 or STAT 345
ACCT 2113	MGMT 202(1)	Principles of Financial Accounting
ACCT 2123	MGMT 303	Managerial Accounting
BLAW 2123	MGMT 310(2)	Legal Issues for Managers
MKTG 2113	MGMT 222(3)	Introduction to Marketing
MGMT 2113	(Free Elective)	Free Elective(4)

- (1) Students not having completed six credit hours of accounting shall be required to demonstrate appropriate competency in the subject area.
- (2) Credit toward B.B.A. degree given for either MGMT 309 or MGMT 310. Accounting majors must take MGMT 310.
- (3) MGMT 222 must have ENGL 102, ECON 106 equivalents as prerequisites for conditional waiver.
- (4) Will accept as free elective credit only.

The most current version of the matrix can be found at: <http://business.nmsu.edu/administration/articulation/>

The Five-Year Rule

The Anderson School faculty believes that managerial skills and knowledge change frequently. Courses taken more than five years ago may become outdated. Undergraduate students are normally expected to complete their studies at Anderson within five years of admission. Generally, a student continuously enrolled in the Anderson School or who is granted a formal leave of absence due to health or family emergencies will not be required to repeat course work that

becomes outdated. However, students who interrupt their studies at the University of New Mexico for one full year are not considered to be continuously enrolled and may be required to repeat management course work taken over five years ago. Students approaching the five-year deadline should see an Anderson advisor and prepare a formal plan for completion of their studies.

Graduate Programs

Degrees Offered

Master of Business Administration (M.B.A.)

The M.B.A. program at the Anderson School is based upon a strong core curriculum which is both challenging and continuously evolving to keep pace with the issues facing today's managers. Students with degrees in any discipline may apply for admission to the M.B.A. program. The M.B.A. program is a 48 hour program with two degree tracks: (1) an M.B.A. with no concentration consisting of 30 hours of core plus 18 hours of general management electives, or (2) an M.B.A. with a concentration consisting of 30 hours of core, 15 hours of concentration requirements, plus 3 hours of general management electives to total 48 hours. Some concentrations require more than 15 hours. Concentrations that are currently offered are listed beneath the General M.B.A. Core.

M.B.A./M.Acct. Admission Requirements

The minimum requirements for unconditional admission to the M.B.A. and M.Acct. are (1) a G.P.A. of 3.0 for the last 60 hours of college course work including any post baccalaureate work; and (2) a score equal to or greater than 500 on the Graduate Management Admission Test (GMAT) or (2) a Graduate Record Examination (GRE) score that is equal to or greater than 500 on the quantitative section and 500 on the verbal section.

GMAT Waiver Policy

Applicants to Anderson graduate degree programs may petition the Entrance & Credits Committee to waive GMAT/GRE admission requirements if the applicant has completed a graduate degree with evidence of significant quantitative or statistical course work. The decision to waive or not waive the GMAT/GRE admission requirements rests entirely with the Entrance & Credits Committee.

M.Acct. (Advanced and Tax Concentrations)

The minimum requirements for admission to the Master of Accounting Program are (1) a grade point average of 3.0 for the last 60 hours of college coursework including any post-baccalaureate work as well as an average of 3.0 for all accounting courses; and (2) a score equal to or greater than 500 on the Graduate Management Admission Test (GMAT) or (3) a Graduate Record Examination (GRE) score that is equal to or greater than 500 on the quantitative section and equal to or greater than 500 on the verbal section. The GMAT/GRE is waived for students who have an undergraduate major in accounting from an AACSB accredited school with a minimum of 3.25 GPA in both upper-division and accounting classes.

M.Acct. (Professional Concentration)

The minimum requirements for admission to the Master of Accounting Program are (1) a grade point average of 3.0 for the last 60 hours of college coursework including any post baccalaureate work, and (2) a score equal to or greater than 500 on the Graduate Management Admission Test (GMAT) or a Graduate Record Examination (GRE) score that is equal to or greater than 500 on the quantitative section and a score equal to or greater than 500 on the verbal section. The GMAT/GRE is waived for students who have a B.B.A. from an AACSB accredited school with a minimum of 3.25 GPA in all

upper-division coursework. Students granted the waiver must also attend the Anderson School Writing workshop.

The professional concentration accepts applications for Fall, Spring, or Summer admission. However, the professional concentration primarily admits students to begin the program in the Fall Semester because of course scheduling. If you are applying for admission to the professional concentration of the Master of Accounting in the Spring or Summer, please email ProfMACCT@mgt.unm.edu prior to submission of your application to determine if you meet the course requirements necessary for consideration of a Spring or Summer admission.

A formal application, plus all additional admission requirements, must be submitted by all students, including graduates of the Anderson School of Management. Applications for admission are available online at <http://mba.mgt.unm.edu>. A nonrefundable application fee of \$50.00 must accompany the application.

M.B.A./M.Acct.

Domestic Students: For best consideration, application must be postmarked by:
 Fall semester: April 1
 Spring semester: October 1
 Summer session: February 1

International Student Application Deadline:

Fall semester: May 1
 Spring semester: October 1
 Summer session: March 1

Prospective applicants with questions concerning the curriculum or other matters are invited to write or contact the Anderson Graduate Programs Office, Anderson Graduate School of Management, MSC05 3090, 1 University of New Mexico, Albuquerque, New Mexico 87131-0001. Telephone: (505) 277-3147, FAX: (505) 277-9356.

General M.B.A. Core

The general M.B.A. core consists of 10 courses (30 credit hours), as follows:

- MGMT 501 Statistical Analysis for Management Decisions
- MGMT 502 Accounting and Management Information Systems I
- MGMT 504 Microeconomics for Managers
- MGMT 506 Organizational Behavior and Diversity
- MGMT 508 Ethical, Social, Political and Legal Environment
- MGMT 511 Technology Commercialization and the Global Environment
- MGMT 520 Operations Management
- MGMT 522 Marketing Management
- MGMT 526 Financial Management
- MGMT 598 Strategic Management

All M.B.A. students must complete these 10 courses. Students who have recently completed a B.B.A. from the Anderson School of Management or at a comparable AACSB-accredited program may request waivers for some core courses, with the exception of MGMT 598, which all students must take as a capstone course. In addition to these 10 courses (30 hours), all students must complete an additional 18 hours of combined concentration and/or elective courses. All students, including those waiving some core courses, must complete a minimum of 33 graduate hours of which only 6 credit hours may be transferred in from another AACSB-accredited graduate school. Students are expected to maintain a 3.0 GPA and must have a 3.0 GPA at graduation. The M.B.A. program may be completed on a full-time or part-time basis. For many students whose professional commitments preclude full-time study, pursuing an M.B.A. on a part-time basis is a viable option. Late afternoon and evening classes are offered to accommodate the needs of working students.

M.B.A. Concentrations

Accounting—15 hours

<http://mba.mgt.unm.edu/concentrations/accounting.asp>

Requirements:

MGMT 503, 540, 541, 543, 544.

Students who have taken the equivalent of one or more of the required classes (students should check with an advisor if they think they have already taken an acceptable graduate or undergraduate equivalent) may substitute any of the required classes with an elective from the following list (again provided they have not taken an equivalent): MGMT 542, 546, 547, 548, 559, 590, 591, 592, 593, 640, 641, and 594 (Accounting special topics only). Students who are planning on taking the CPA exam are strongly recommended to visit with a faculty advisor before selecting courses from the list of electives.

Finance—15 hours

<http://mba.mgt.unm.edu/concentrations/finance.asp>

In addition to MGMT 526, the Finance Concentration requires the following courses: 571 and 577. Also, three courses must be chosen from the following: 516, 570, 573, 574, 576, 579.

Information Assurance—15 hours

<http://mba.mgt.unm.edu/concentrations/ia.asp>

Requirements:

15 hours from the following:

MGMT 544, 636, 637, 641, 642, 647, 648, and Special Topics course MGMT 594 entitled Internal Auditing and Investigations, MGMT 647 System and Network Administration, MGMT 648 Advanced Information System Security, Special Topics course MGMT 639 entitled Computer Forensics, or Special Topics Course 639 entitled Information Assurance.

Multiple MGMT 594 and 639 sections may be counted toward the concentration requirements as long as the topics vary and are related to IA. (Students should check with the faculty concentration advisor before taking any special topics courses numbered MGMT 594 and/or MGMT 639 to be sure the course will count toward the concentration.) MGMT 551 and 552 (independent study) sections covering IA-related topics may count toward the concentration requirements with advance approval.

International Management—15 hours

<http://mba.mgt.unm.edu/concentrations/international.asp>

Requirements:

15 hours from the following:

MGMT 524, 548, 560, 569, 574, 583, 595, 596, 597, and 594 (International Management special topics only).

International Management in Latin America—15 hours

<http://mba.mgt.unm.edu/concentrations/international.asp>

Requirements:

MGMT 524 and 595.

Three courses from the following:

MGMT 548, 560, 569, 574, 583, 596, 597, and 594. (International Management special topics only.)

Management Information Systems—15 hours

<http://mba.mgt.unm.edu/concentrations/mis.asp>

One semester of programming experience (i.e., CS 152L, MGMT 330, or equivalent) is a prerequisite for the concentration.

Requirements:

MGMT 634 and 637.

In addition to the two required courses, students must select three additional courses from the following: MGMT 630, 631, 632, 635, 636, 639, 647, and 648. Multiple MGMT 639 sections may be used to satisfy concentration requirements as long as the topics vary. (Students should visit with the faculty concentration advisor to determine what additional course options are available).

Management of Technology—15 hours

<http://mba.mgt.unm.edu/concentrations/mot.asp>

Students who are interested in careers in the Management of Technology (MOT) area should meet with a faculty advisor early in their program to discuss career options and to have their course selections approved. The MOT concentration prepares a student for a life-long career in various aspects of technology commercialization and technological entrepreneurship. All M.B.A. students are required to take the principles course MGMT 511.

Requirements:

Two courses from the following:

MGMT 512, 513, 514, 516.

Three courses from the following (if not chosen for above requirement):

MGMT 512, 513, 514, 515, 516, 517, 518, 519.

Marketing Management—15 hours

<http://mba.mgt.unm.edu/concentrations/marketing.asp>

Marketing Management serves students interested in careers in product management, marketing research, advertising, logistics, supply chain management, sales, and customer relations.

Requirements:

MGMT 581 and 582 plus three additional marketing electives from *489, 523, 580, 583, 584, 586, and 588. Other courses may be substituted with prior consent of the Marketing concentration faculty advisor.

Operations Management—15 hours

<http://mba.mgt.unm.edu/concentrations/operations.asp>

The Operations Management concentration serves students wishing to learn how to apply analytic and modeling techniques to a wide range of problems facing modern businesses.

Requirements:

15 hours from the following:

MGMT 521, 523, 525, 532, 586, 588. (Students should visit with the faculty concentration advisor to determine what additional course options are available.)

Organizational Behavior/Human Resources Management—15 hrs

<http://mba.mgt.unm.edu/concentrations/obhrm.asp>

Organizational Behavior/Human Resources Management (OB/HRM) concentration focuses on developing student knowledge and skills to better manage people to foster organizational success. Careers resulting from the OB/HRM concentration include positions in human resources management, organizational development, organizational consulting, and general management.

Requirements:

Five courses from the following:

*465, *466, *468, *469, 507, 560, 561, 562, 564, 565, 566, 567, 568, and 569. Other Anderson School courses, or courses outside the Anderson School, may be substituted with the approval of the faculty advisor.

Policy and Planning—15 hours

<http://mba.mgt.unm.edu/concentrations/policy.asp>

The Policy and Planning (P&P) concentration is oriented toward cross-functional problem-solving and analysis. Careers and employment resulting from the P&P concentration include strategic planning, public policy analysis, public affairs, nonprofit management, and other cross-functional positions.

Requirements:

Five courses from the following:

569, 650, 651, 652, 653, 654, 655, 657, 658, and other relevant courses approved by the faculty advisor. Students may also substitute one related graduate-level course from outside Anderson with the approval of the faculty advisor.

Master of Accounting Degree

The Master of Accounting degree offers three concentrations. All concentrations are a 33 credit hour program of study.

1. The **Advanced Concentration** is designed for individuals who have already earned a B.B.A. with a concentration in accounting. The Advanced Concentration consists of a minimum of 15 hours of graduate accounting courses and a maximum of 24 hours of graduate accounting coursework of which no more than 6 hours may be in taxation, plus a minimum of 9 hours of non-accounting electives at the graduate level.

Course requirements: Students must choose between 15-24 hours of accounting coursework from the following: MGMT *546, 548, *549, 550, *559, 594 (special topics in accounting only), 640, 641, 642 and 643 and not more than 6 hours of accounting coursework can come from the following tax courses: MGMT *542, *543, 547, 590, 591, 592, 593. Accounting coursework should not exceed 24 credit hours.

*If students have taken the undergraduate equivalent of any graduate course, they may not repeat the course for credit at the graduate level. The GMAT/GRE is waived for students who have an undergraduate major in accounting from an AACSB-accredited school with a minimum of a 3.25 GPA in both upper-division classes and accounting classes. Students must fulfill all other admission requirements.

2. The **Professional Concentration** is designed for individuals who have a non-accounting undergraduate degree and wish to enter public accounting as a certified professional. The Professional Concentration requires two prerequisites consisting of an introductory financial accounting course, and an introductory managerial accounting course prior to admission in the program and consists of 27 credit hours of specified graduate accounting coursework, plus 6 credit hours of specified graduate non-accounting coursework.

Course requirements: Students may complete the two prerequisites by taking MGMT 502 and MGMT 503. Students should visit with the accounting faculty advisor about other coursework that will satisfy the prerequisite requirements. Students must complete the following courses: MGMT 540, 541, 542, 543, 544, 546, 549, 550, 559, 640 or 643¹, and 626²

¹Students must complete either MGMT 640 or 643.

² Students must visit with the accounting faculty advisor and request written approval for alternate graduate coursework that will satisfy the MGMT 626 requirement. Students who have completed MGMT 326 at Anderson at the undergraduate level should not take MGMT 626 and must visit with the accounting faculty advisor about which graduate course to take instead of MGMT 626.

The GMAT/GRE is waived for students who have a B.B.A. from an AACSB-accredited school with a minimum of 3.25 GPA in all upper-division coursework. Students granted the waiver must also attend the Anderson School Writing workshop. Students must fulfill all other admission requirements.

3. The **Tax Concentration** is designed for individuals who have already earned a B.B.A. with a concentration in accounting wishing to pursue advanced studies in taxation. The Tax Concentration consists of a minimum of 15 hours of graduate level taxation classes and up to an additional 9 hours of graduate level accounting and/or taxation classes, plus a minimum of 9 hours of graduate level non-accounting electives.

Coursework:

Students must choose a minimum of 15 hours of tax accounting coursework from the following tax courses: MGMT *542, *543, 547, 590, 591, 592, 593 and 594 (special topics tax courses only). For additional accounting coursework, students may choose a maximum of 9 hours from the following accounting courses: MGMT *546, 548, *549, 550, *559, 594 (special topics in accounting only), 640, 641, 642 and 643. Accounting coursework should not exceed 24 credit hours.

*If students have taken the undergraduate equivalent of any graduate course, they may not repeat the course for credit at the graduate level. The GMAT/GRE is waived for students who have an undergraduate major in accounting from an AACSB-accredited school with a minimum of a 3.25 GPA in both upper-division classes and accounting classes. Students must fulfill all other admission requirements.

The “Three-Two” Program

The Anderson School's Three-Two Program allows students completing an undergraduate degree outside the Anderson School to begin their M.B.A. studies early. It is recommended that students complete Business Calculus and Microeconomics before applying. For the first three years of university studies, the student pursues a normal program of undergraduate work. During the junior year (90 hours) of academic work, the student applies for admission to the M.B.A. program of the Anderson Graduate School. Students must not take any management classes prior to their acceptance into this program with the exception of MGMT 113. In the senior year of academic work, the student begins the first year of the M.B.A. program and also completes the requirements for a bachelor's degree in the undergraduate field using their graduate work to complete a business minor. In the final year of study, the student completes the second-year requirements and electives of the M.B.A. program.

Dual-Degree Programs

For information on the **J.D./M.B.A., M.B.A./M.A. in Latin American Studies** and **M.B.A./Engineering dual-degree programs** see the M.B.A. Program Manager, the Admissions Manager at the School of Law, the School of Engineering and the Latin American Studies Program Advisor.

The J.D./M.Acct. Dual Degree Program (119 hours)

The School of Law and the Anderson Graduate School of Management offer a dual program leading to the degrees of Juris Doctor and Master of Accounting. Under this program, the School of Law will accept 6 hours of graduate credit from the Master of Accounting Degree toward the J.D. degree and the Anderson School of Management will accept 6 hours of graduate credit from the School of Law toward the M.Acct. degree, coursework subject to pre-approval from the faculty advisor. Students pursuing this program must satisfy the admission and other academic requirements of both schools. Anderson School of Management will accept the LSAT in lieu of the GMAT if the student has already been accepted into the law school and has earned a “B” or better in the two prerequisites for admission into the M.Acct., MGMT 502 and 503 or equivalent.

Those planning to enter the dual program should consult with the admission officers of both schools as early as possible.

Students who are interested in obtaining a J.D./M.Acct. dual degree must meet with their graduate program advisor to discuss course selection.

Requirements:

1. Students must complete 6 hours of prerequisite accounting coursework: MGMT 502, 503.
2. Students must complete the 33 hours of curriculum requirements for a Master of Accounting Degree, which may include 6 hours of electives from the School of Law.
 - a. 15 specified hours of accounting coursework: MGMT 540, 541, 550, 640, and 594-Special Topics entitled “Business and Finance Concepts for Accountants” only.
 - b. 12 hours of accounting electives selected from the following list: MGMT 542, 543, 544, 546, 547, 548, 549, 590, 591, 592, 593, 641, 642 or 594-Special Topics entitled “Internal Auditing and Investigations” only.
 - c. 6 hours of non-accounting graduate level electives selected from the list of electives in Footnote 2.

3. Students must complete the 86 credit hours of curriculum requirements for a law school degree, which may include 6 hours of electives from the Anderson School selected from the list of electives in Footnote 2.

M.A.CCT. Prerequisite Credit Hour Requirements: **6(1)**

Juris Doctor Credit Hour Requirements	86
Master of Accounting Credit Hour Requirements	33
Total	125
Less shared hours for dual degree program	6(2)
Total Number of Dual Degree Credit Hours Required	119

(1) One or both of the prerequisites may be waived if the student has completed undergraduate or graduate equivalents of these courses. Please identify these equivalent courses to your graduate programs manager prior to admission to obtain approval to waive the coursework.

(2) Six credit hours from the Juris Doctor curriculum and 6 credit hours from the Master of Accounting curriculum reduce the total required hours for the J.D./M.A.CCT. Dual Degree to 119 hours. The six credit hours from the School of Law must be selected from the following list of courses: LAW 520, 521, 523, 527, 530, 531, 534, 537, 545, 546, 564, 566, 581, 582, 584, 593, 611, 622, 623, 629, 631, 642, 658, or 679. The six credit hours from the Anderson School of Management must be selected from the following list of courses: MGMT 542, 543, 544, 546, 547, 548, 549, 590, 591, 592, 593, 641 and Accounting Special Topics Courses 594.

Additional Information

The Seven-Year Rule

All work used to meet degree requirements for a master's degree, including transfer credit, must be completed within a seven year period immediately preceding the granting of the degree. Coursework older than seven years cannot be used to meet requirements for the master's degree. Graduate units may impose stricter limitations on the time limit for completion of degree requirements.

Current Policies

This catalog provides basic information about Anderson School graduate programs. Students admitted to the graduate program should consult the Anderson School of Management Graduate Programs Policy Manual for additional information about current policies.

Non-degree

Non-degree students must petition for permission to enroll in graduate-level courses in the Anderson Graduate School. Students are allowed only 6 hours of graduate-level course work, then must be admitted to the M.B.A. program to take additional graduate classes. Generally, students with an undergraduate degree will be allowed to take Anderson graduate courses if there is space available and if the student meets the prerequisites for the course.

The Executive M.B.A. Weekend Program (<http://emba.mgt.unm.edu>)

The Executive M.B.A. program (E.M.B.A.) is an intensive, two-year course of study designed specifically for experienced business professionals who wish to enhance their managerial acumen, accelerate their career progression or pursue new opportunities. Because classes meet every other weekend, executives, professionals, middle managers and entrepreneurs are able to earn their master's degree without interrupting their careers. Classes are held every other weekend on Fridays from 1:00-6:00pm and Saturdays from 8:00am-1:00pm. Classes meet on the University of New Mexico's main campus.

Participants, whose average age is 37, complete a lock-step curriculum consisting of 48 credit hours, with an emphasis on strategic management within the global economy. The cur-

riculum is updated on a regular basis to reflect current business practices and is therefore subject to change. Faculty are drawn from the senior ranks of the Anderson School and are selected for their ability to challenge adult students and to facilitate the exchange of ideas and interaction in the classroom. A variety of teaching formats are used including the case method, group projects and peer learning through formal study teams. E.M.B.A. classes are limited to E.M.B.A. program participants.

The E.M.B.A. program sets its own all-inclusive fee each year to include tuition, books, parking, refreshments and complete administrative support. Payments are prorated over the (7) seven semesters of the program; student loans are available. The only additional cost is for participation in the optional, 10-day residency abroad.

The E.M.B.A. program starts once each year in late June with a mandatory, two-day orientation. Applications are accepted year-round on a rolling admissions process. Candidates must have at least five years of significant work experience (managerial, supervisory, budgetary or project management) and hold an undergraduate degree in any field.

For consideration, applicants must submit the following: E.M.B.A. application form and fee, current resume, statement of purpose, official copies of all transcripts, official GMAT/GRE score (taken within the last five years) and three letters of recommendation, including one from the sponsoring organization. Once all of these items have been received, an interview with the program director is scheduled prior to final review by the Anderson School's selection committee. The best consideration deadline for the E.M.B.A. program is April 1. The early admission deadline is January 15.

For more information, contact the E.M.B.A. Program, Anderson School of Management, MSC05 3090, 1 University of New Mexico, Albuquerque, New Mexico 87131-0001. Telephone: (505) 277-2525, FAX: (505) 277-0345. Email address: emba@mgt.unm.edu.

Post-Masters Certificate in Management Program

The Post-Masters Certificate in Management Program offered by the Anderson School of Management provides holders of the M.B.A. or other management-related Masters degree from an AACSB-accredited institution an opportunity to further their professional management education through the regular graduate course offerings of the school.

The program consists of five courses (15 credit hours) to be selected by the student and approved by a faculty member at the time of admission. The courses must be completed within four years, and a 3.0 (B) average is required for the certificate.

Students must pursue a concentration in the areas listed below. Students must file a plan of study approved by the graduate advisor for their chosen concentration.

Finance

Students must complete 15 hours from the following: MGMT 570, 571, 573, 574, 576, 577, 578, 579 or other courses approved by the finance graduate advisor.

Information Assurance

Information Assurance students must complete five of the following courses: MGMT 544, 594, 636, 637, 639, 641, 642, 647, and 648. MGMT 594 and 639 sections must be topics related to information assurance. Multiple MGMT 594 and 639 sections may be taken as long as the topics vary.

International Management

Students must complete MGMT 574, 583, 596, 597, and one other course approved by the international management graduate advisor.

International Management in Latin America

Students must complete MGMT 524, 583, 595, 596, and one of the following courses: MGMT 548, 560, 574, and 597.

Management Information Systems

One semester of programming, such as CS 152L or MGMT 330 or equivalent programming experience is a prerequisite for this concentration. Students must complete MGMT 634 and 637 and three of the following courses: MGMT 630, 631, 632, 635, 636, 639, 647, 648, or other courses approved by the concentration advisor.

Management of Technology

Students must complete 5 courses (15 credit hours) selected from MGMT 512, 513, 514, 515, 516, 517, 518, 519, and other courses approved by the concentration advisor. Two of the five courses must be selected from MGMT 512, 513, 514 and 516.

Marketing Management

Students must complete MGMT 581 and 582 plus three additional marketing electives from *489, 523, 580, 583, 584, 586, and 588. Other courses may be substituted with prior consent of the Marketing concentration faculty advisor.

Operations Management

Students must complete five of the following courses: MGMT 521, 523, 525, 530, 532, 586, 588 or other courses approved by the operations management graduate advisor.

Organizational Behavior/ Human Resources Management

Students must complete five of the following courses: MGMT *465, 466*, 468*, 469*, 507, 560, 561, 562, 563, 565, 566, 567, 568, 569, or other courses approved by the organizational behavior/human resources management graduate advisor.

Policy and Planning

Students must complete five of the following courses: MGMT *411, 569, 650, 651, 652, 653, 654, 655, 657, 658, or other courses approved by the policy and planning graduate advisor.

Further information and application forms may be obtained from the Graduate Program Office of the Anderson School of Management.

Management (MGMT)**105. Business Co-op Work Phase. (0)**
Offered on a CR/NC basis only.**113. Management: An Introduction. (3)**

Modern concepts of organizations and their management in a dynamic world. An overview of managerial activities within business and other organizations. (Fall)

158. Ethics in Organizations. (3)

Introduction to ethical issues in business, government, and nonprofit organizations and how to deal with those issues. Emphasis on ethical reasoning and cases of ethical and unethical behavior in management and the professions.

190. Special Topics in Management. (3 to a maximum of 6) Δ

Selected offering of management topics not represented in the regular curriculum.

202. Principles of Financial Accounting. (3)

An examination of the conceptual framework of accounting and the functions of accounting in a business-oriented society. Topics include valuation theory and its applications to assets and liabilities, concepts of business income, funds-flow analysis, problems of financial reporting.

222. Introduction to Marketing. (3)

A complete overview of the system for assessing customer needs, allocation of scarce resources to fulfill those needs, transmittal of market related information, completion of exchange processes and profit maximization in free markets. Emphasis on interdisciplinary tools for management, decision-making and developing marketing strategies in domestic and international market applications. (Credit not applicable toward B.B.A. degree.)

290. Introduction to Business Statistics. (3)

An overview of the use of statistics in business, descriptive statistics and numerical characteristics of data, introduction to probability, statistical inference including t-tests and regression, confidence intervals; application to business problems will be emphasized.
Prerequisite: MATH 180.

300. Operations Management. (3)

Survey of methods and models for the design, control, and improvement of service and manufacturing systems including project management, product/service design, process analysis, quality improvement, inventory control, capacity scheduling, and Just-In-Time (lean systems).
Prerequisite: STAT 145.

303. Managerial Accounting. (3)

Primary emphasis on the role of accounting in the processes of management decision-making for planning and control. Topics include: relevant cost analysis, standard costing and analysis of variances; budgeting and responsibility accounting, planned capital expenditures.
Prerequisite: 202.

306. Organizational Behavior and Diversity. (3)

Emphasis on application of behavioral science theory and concepts. Focus on individual, interpersonal and group processes in a diverse work force.
Prerequisite: ENGL 102.

307. Organization Change and Innovation. (3)

Intensive examination of behavioral science research and theory as a basis for understanding, managing and changing organizations. Emphasis is on a comparative organizational approach, public or private, as a socio-technical system.
Prerequisite: 306.

308. Ethical, Political and Social Environment. (3)

The influence of environmental change on the structure and operation of the organization. Social, political, economic, ethical and technological systems are examined as they relate to each other and to the management of small- and large-scale organizations.
Prerequisite: ENGL 102.

310. Legal Issues for Managers. (3)

A general overview of the legal system and common legal principles. Emphasis on legal topics relevant to business such as contracts and torts. Explores sources of liability and presents strategies to minimize legal risk.
Prerequisite: ENGL 102.

314. Professional Selling. (3)

Professional aspects of the selling function in consumer and industrial markets and the role of selling in the economy. Emphasis on selling methods and applications for entrepreneurs. (Credit not applicable toward B.B.A. degree.)
Prerequisite: 222 or 322.

322. Marketing Management. (3)

A complete overview of the system for assessing customer needs, allocating scarce resources to fulfill those needs, transmittal of market related information, completion of exchange processes and profit maximization in free markets. Emphasis on interdisciplinary tools for management decision-making and developing marketing strategies in domestic and international market applications.
Prerequisite: ENGL 102 and ECON 106.

324. New Venture Strategies. (3)

Examines strategies, both personal and commercial, for effectively embarking on new ventures. Focuses on phases of entrepreneurship occurring between generation of the initial new venture idea, up to and including the first commercial sale.
Prerequisite: ENGL 102 and ECON 106.

326. Financial Management. (3)

Principles and practices of funds management in private and public organizations. Sources and uses of short- and long-term funds, determination of capital requirements, obtaining capital,

financial forecasting, lease or buy decisions, application of capital and cash budgeting techniques, choices involving risk. Prerequisite: 202 and STAT 145 and MATH 180 and ECON 106 and CS 150.

328. International Management. (3)

Provides an understanding of international operations and of international institutions in the private, not-for-profit and public sectors and of their managerial and environmental problems. Analyzes the structure, functions and decision-making of international organizations. Prerequisite: ECON 106.

329. Data Management. (3)

The management of data resources to support information systems in organizations. Logical database structures, applications and physical implementation of information systems using database management systems.

330. Business Programming Fundamentals. (3)

Introduction to object-oriented programming language syntax and semantics with application to functional business areas and computing problems. Intended for B.B.A. students concentrating in management information systems.

331. Business Application Programming. (3)

Development of complex business application programs with object-oriented tools and techniques. Prerequisite: 330. Pre- or corequisite: 329.

336. Information Systems Security. (3)

Overview of telecommunications and cryptography/security issues in information systems. Hands-on lab projects managing online systems and securing them against hacking techniques or known vulnerabilities.

337. Survey of Computer Systems and Software. (3)

An overview of hardware/software configurations as integrated systems. Acquisition, evaluation, selection and management of the computer resources. Emerging information system technologies, including office automation, data communications and networks.

340. Financial Accounting I. (3)

Financial reporting theory, applied financial accounting problems, contemporary financial accounting issues. The accounting cycle, asset valuation; revenue recognition; issues resulting from the corporate form of organization. Prerequisite: 202.

341. Financial Accounting II. (3)

Continuation of 340. Problems relating to liabilities and equities; the analysis and interpretation of financial statements including the impact of income taxes and benefit plans. Prerequisite: 340.

342. Income Tax Accounting I. (3)

Technical tax course primarily for accounting majors. Covers the Federal Income taxation of individuals, including capital gains and losses, accounting methods, income, deductions, Social Security, installment sales and alternative tax methods.

343. Income Tax Accounting II. (3)

Covers corporation, partnerships, estate and gift taxes, fiduciaries, tax planning and tax shelters.

346. Cost Accounting. (3)

Procedures involved in the development, presentation and interpretation of accounting information as an aid to management. Usefulness and limitations of accounting data in evaluating and controlling operations, collecting cost information; cost estimation and allocation; standard costs; budgeting; cost-value relationships. Prerequisite: 303.

348. Legal Concepts for Accountants. (3)

Intensive examination of legal concepts underlying accounting theory and practice. Selected topics in uniform commercial code, debtor-creditor relationships, business associations, government regulation of business, property and professional and legal responsibility of accountants.

362. Leadership Development. (3)

Focuses on developing leadership skills and behaviors at multiple organizational levels. Includes self-assessment and peer assessment of leadership potential. Discusses how to develop peer potential and working in a dynamic, changing environment. Prerequisite: 306.

374. Simulation Modeling Using Excel®. (1)

This course covers the use of spreadsheet models to perform simulation analysis. Topics include random variable generation, data tables and statistical analysis of simulation results. Applications are taken from finance, marketing and operations management. Prerequisite: STAT 145.

375. Optimization Using Excel®. (1)

This course covers the use of spreadsheets to model and solve mathematical programming models. Topics include linear, integer, non-linear programming and sensitivity analysis. Applications are taken from finance, logistics and operations management. Prerequisite: STAT 145.

384. Professional Selling. (3)

Professional aspects of the selling function in consumer and industrial markets and the role of selling in the economy. Emphasis on selling methods and applications for entrepreneurs. (Not applicable for credit toward Marketing Management Concentration.) Prerequisite: 322.

398. Career Management Skills. (1 credit hour for undergraduate students; graduate students may audit class with instructor permission)

Develop career management skills to prepare for entrance into the professional job market. Emphasis on cover letters, resumes, interviewing skills, networking, organizing job searches and salary negotiations.

***411. Travel and Tourism Management I. (3)**

Introductory overview of particular management skills needed and special managerial problems in hotels, restaurants, travel agencies, airline customer services, convention centers, tours, car rentals, vacation lodges and related recreation facilities. Prerequisite: 202.

***412. Hotel and Restaurant Management. (3)**

Scope and importance, managerial organization, management functions and particular managerial problems of the hotel and restaurant industry. Special emphasis on economic, legal and technological environments of the industry, and their impacts on management. Prerequisite: 411.

***413. Travel and Tourism Management II. (3)**

Scope and importance, managerial organization, marketing and particular problems of travel and tourism industry (excluding hotel and restaurant sector). Special emphasis on industry's economic, legal and technological environments, and their impacts on management. Prerequisite: 411.

420. Management in Latin America. (3)

Analysis and diagnosis of Latin American environments as they offer opportunities and pose constraints in the performance of managerial responsibilities. Special emphasis is given to the Mexican environment and its relationship to the world.

421. International Entrepreneurship. (3)

Teaches the practical science and craft of international business operations, such as exports. The international business strategies of firms are analyzed through fundamental analysis and technical analysis using real cases.

422. Seminar on Mexican Economy Markets. (3)

A historical overview of developments in the Mexican economy with an emphasis on the causes and effects of repeated financial crises. An examination of recent economic and political events that present opportunities or risks for business in Mexico.

426. Advanced Problems in Financial Management. (3)
 Planning, directing, controlling and financing current operations as well as long-term capital commitments. Internal versus external financing, programming techniques for managing working capital and debt structure. Development of a policy-making framework for sound decision-making under conditions of uncertainty and risk.
 Prerequisite: 326.

433. Management of Service Operations. (3)
 This course focuses on understanding the distinctive features of service delivery systems and presenting management techniques to address the unique challenges in the design and delivery of services.
 Prerequisite: 300.

434. Manufacturing Systems Management. (3)
 An introduction to the principles and techniques necessary for the efficient design and operation of production and inventory planning, scheduling and control systems.
 Prerequisite: 300.

437. System and Network Administration. (3)
 A detailed coverage of system administration in both centralized and distributed information systems. Installation, operation and maintenance of hardware and software resources. Technology and management of computer networks.

439. Business Intelligence Technologies and Applications. (3)
 Business intelligence technologies, tools, architectures, and methodologies for management support, decision-making and organizational performance analysis. Business intelligence applications used for strategic competitive advantage.

440. Financial Accounting III. (3)
 Continuation of 340 and 341. Problems and theory related to advanced accounting topics including: partnership operation and liquidation, consolidated financial statements, bankruptcy and corporate reorganization, government entities, not-for-profit entities, and estates and trusts.
 Pre- or corequisite: 341.

443. Auditing. (3)
 Auditing principles and procedures; preliminary considerations, planning the audit program, classes of audits, audit reports, professional ethics and legal responsibility; case problems.
 Pre- or corequisite: 341.

444. Accounting for Not-for-Profit Organizations. (3)
 Theory and practice of accounting in not-for-profit organizations: municipalities, federal government, public schools, universities and health organizations. Special topics considered will be fund accounting, zero-based budgeting, financial audits and operations auditing.
 Pre- or corequisite: 340.

449. Accounting Information Systems. (3)
 An examination of the relationship between computer-based management information systems and accounting. Applications of MIS techniques in the design and operation of accounting systems.
 Prerequisite: 340.

450. Computer-Based Information Systems. (3)
 Course presents foundation concepts in Management Information Systems (MIS). Students apply and integrate MIS concepts with those from other management disciplines to analyze, evaluate and present management cases. A variety of software is used.
 Prerequisite: 300 and 303 and 306 and 322.

451-452. Problems. (1-3, 1-3 to a maximum of 6) Δ
 Special permission of the advisor and of the Dean of the Anderson School of Management required. Arrangements must be made with individual instructor before enrolling for Problems. A maximum of 6 hours of Problems courses is acceptable for credit toward the B.B.A. degree.

455. Washington Campus for Undergraduate Students. (3)
 One week intensive on "Business Leadership in Washington: The Political Marketplace" in summer on site and enrollment in 1st 8-week fall session for research project. Limited enrollment; special application required. Additional fees for travel and cost of program. Restriction: permission of instructor.

457. Diversity in Organizations. (3)
 Addresses the changing nature of modern organizations in their employee composition. Focuses on all dimensions of diversity and how to harness the potential of a diverse workforce to reach organizational goals.
 Prerequisite: 306.

458. Managerial Ethics. (3)
 An issues- and problems-oriented course in applied management ethics. How to reason ethically about management problems and choices. Focus is on the crises of conscience and the everyday conflicts of role and obligation that characterize our professional lives.
 Prerequisite: 308.

459. Information Analysis. (3)
 Information system analysis and system design in organizations. Topics include application development strategies, information system life cycle, requirements determination, analysis and specification.

461. System Development Project. (3)
 Integrative case or field study in the analysis, design, implementation and evaluation of an information system. Individual or team application development.
 Prerequisite: 329. Pre- or corequisite: 331.

462. Management of Quality. (3)
 Traditional variation control and reduction approaches are introduced, as well as techniques to control and reduce human error. Emphasis is placed on understanding management approaches that drive process improvement.
 Prerequisite: 300.

463. Employment Law. (3)
 A survey of statutes and case studies of common, statutory and administrative law. Emphasis on modern employment legislation and related court and administrative decisions representing all aspects of employment law.
 Prerequisite: 306 and 310.

464. Human Resources Theory and Practice. (3)
 Behavioral theories and applications in HR. HR planning, job analysis and design, recruitment, selection, performance management, training and development, employee involvement, compensation, labor relations, occupational health and safety.
 Prerequisite: 306.

***465. Labor Relations. (3)**
 Background and practice of Labor Relations from unionization through collective bargaining to grievance administration and arbitration. Theory and case analysis emphasizing employment problems, management prerogatives and collective bargaining issues.
 Prerequisite: 306.

***466. Training and Development. (3)**
 Examines 1) theories of human development and their relationships to workforce and managerial development, and 2) reviews theories and provides practice in design, delivery and evaluation of training programs for private and public sector organizations and management.
 Prerequisite: 306.

***468. Compensation and Benefits. (3)**
 Focus on theory and practice of compensation and benefit systems in modern organizations. Reviews alternative approaches and emphasizes experience-based learning.
 Prerequisite: 306.

***469. American Indian Business and Management. (3)**
Examines the theory and practice of managing American Indian organizations as well as legal and indigenous planning aspects.
Prerequisite: 306.

470. Financial Markets and Institutions. (3)
Analysis of markets for mortgage, state and local, corporate and Federal debt; flow of funds and their influence on credit conditions, lending, investment and liquidity policies. Behavior of term structure and risk structure of interest rates. Study of alternative regulatory and structural frameworks of the financial markets.
Prerequisite: 326.

471. Investment Analysis and Management. (3)
Theory and techniques basic to control of investment risks and optimization of investment returns. Security market operations, portfolio theory, profitability analysis, planning and management of investment programs, timing of securities transactions.
Prerequisite: 326.

473. Commercial Banking. (3)
Emphasizes coordinated asset and liability management of the individual bank. Frequent use will be made of cases to develop major aspects of bank management under changing monetary conditions and competitive forces. Primary emphasis is placed on the analysis of bank financial performance, obtaining funds, investment and loan policies and capital requirements.
Prerequisite: 326.

***474. International Financial Management. (3)**
Application of concepts of managerial finance in the international setting. Reviews and develops as background the financing of international trade and balance of payments problems, including currency hedging in the money and foreign exchange markets. Cases are used to study financial decision problems of working capital management, capital budgeting and providing of funds for international corporate operations with emphasis on Latin America.
Prerequisite: 326 or 526.

476. Derivatives (Futures and Options). (3)
Teaches the practical science and art of analysis of derivative (financial) assets, such as forwards, options and futures, and securities with embedded options, for purposes of investment, hedging and speculation. Emphasizes valuation methods, including various binomial and trinomial models and on hedging strategies. Derivative securities are analyzed using various data sources and software.
Prerequisite: 326.

479. Applied Investment Management (3 to a maximum of 6) Δ
Active management of funds allocated by numerous institutional investors. Encompasses investment policy statement (portfolio objectives, constraints, benchmarks, reports), performance evaluation/attribution, analysis (economic, industry, company), valuation, recommendations, portfolio rebalancing, trade execution, ethics of money management.
Prerequisite: 471. Restriction: permission of instructor.

480. Buyer Behavior. (3)
Interdisciplinary analysis of buyer behavior through review of theories, explanatory and predictive models, empirical studies and consumer research methodologies. Emphasis on model building and marketing strategy formulation.
Prerequisite: 322.

481. Marketing Research I. (3)
Research methodologies and techniques as an aid to management decision-making and marketing strategy formulation. Emphasis on design of measurement instruments, sampling, collection and analysis of data.
Prerequisite: 322.

483. International Marketing. (3)
Analysis of foreign marketing opportunities. Develops familiarity with concepts, terminology, decision-making criteria, use of marketing intelligence, constraints on marketing planning and marketing strategy formulation.
Prerequisite: 322.

484. Sales Management. (3)
Focuses on industrial purchasing behavior and the systems required to satisfy the needs of commercial buyers. Emphasis on management of the corporate field sales force.
Prerequisite: 322.

485. Retailing Management. (3)
Management of the retail level of the distribution system. Emphasis on management decision making. Project orientation.
Prerequisite: 322.

486. Logistics Systems Management. (3)
Management of the logistics channel including the manufacturing, wholesale and retail levels and related logistics activities. Focus on structural and functional analysis, design and evaluation of logistics systems.
Prerequisite: 300 and 322.

487. Promotion Management. (3)
Analysis of personal and non-personal forms of marketing communications in both industrial and consumer markets. Emphasis of promotion as a marketing mix strategy, budgeting and media analysis, and incorporating research in the development of promotional strategies.
Prerequisite: 322 and 480. Pre- or corequisite: 481.

488. Materials & Supply Chain Management. (3)
Management of the supply, manufacturing and distribution network as a part of the buying and selling process in an industrial or commercial marketing context in both the private and public sectors.
Prerequisite: 300 and 322.

***489. Marketing of Services. (3)**
Integration of traditional marketing management thought into strategic and analytical processes for adoption and implementation by service organizations and individuals in both the private and public sectors of the economy. Project orientation.
Prerequisite: 322.

490, 493. Special Topics in Management. (1-3, no limit; 3) Δ
Selected offerings of management topics not represented in the regular curriculum.
{Offered upon demand}

492. Negotiation Strategies. (3)
This course addresses negotiation problems that are faced by entrepreneurs and managers of small and large businesses. Through a combination of case studies, lectures and actual practice in negotiating, students learn to negotiate effectively.

***495. Managing and Operating Small, Growing Businesses. (3)**
Examines principles and knowledge required for efficiently and effectively operating and managing small, growing businesses faced with resource constraints. Semester-long field cases of real businesses are the focus of study.
Prerequisite: ENGL 102 and ECON 106.

***496. Seminar in Entrepreneurial Financing. (3)**
Focuses on the processes and knowledge utilized during the acquisition of debt and equity for growing businesses. Specific entrepreneurial financing processes, techniques and methodologies are covered.
Prerequisite: ENGL 102 and ECON 106.

498. Strategic Management. (3)

Emphasizes the functions of top management. Case studies offer the student an opportunity to develop a habit of administrative thinking as company-wide objectives and policies are formulated and consistent plans and programs are carried into action. Enrollment normally limited to students in final semester of B.B.A. Program.
Prerequisite: 300 and 303 and 306 and 308 and 310 and 322 and 326 and 328.

Graduate-Level Courses**500. Quantitative Analysis I. (3)**

Mathematical foundations for the quantitative analysis of problems of organizations. Linear systems, matrix algebra and introduction to differential and integral calculus. Applications to management and administrative situations.
Note: students scoring less than 25 on the quantitative portion of the GMAT are strongly urged to pursue additional background work in mathematics (MATH 121 recommended) before enrolling for credit in 500. This course may not be applied toward M.B.A. degree requirements.

501. Statistical Analysis for Management Decisions. (3)

Apply inferential statistics, using numerical and graphical summaries of data, to make informed business decisions. Tools include spreadsheet applications to analyze real world decision making situations.

502. Accounting and Management Information Systems I. (3)

Accounting concepts and procedures used in preparation of corporate financial statements: balance sheet, income statement, statement of cash flows. Measurement of reporting choices within Generally Accepted Accounting Principles. Foundations of corporate financial statement analysis.

503. Managerial/Cost Accounting. (3)

Study use of accounting data in managing businesses by applying techniques for product costing, planning, control, and performance evaluation. Topics include: CVP analysis; variable, absorption, job, activity-based and standard costing; budgeting; responsibility accounting; capital budgeting.
Pre- or corequisite: 502.

504. Microeconomics for Managers. (3)

This is a course in microeconomics, which is the study of individual decision making in a world in which wants exceed the available resources.

505. Macroeconomics for Managers. (3)

This course is intended to provide the student with a theoretical and applied knowledge of macroeconomics, money and banking, and international economics.
Prerequisite: 504.

506. Organizational Behavior and Diversity. (3)

Intensive examination of behavioral science research and theory as a basis for understanding, managing and changing organizations. The course emphasizes effective management with diverse individuals.

507. Organizational Behavior and Theory Seminar. (3)

Further examination of organizations drawing upon behavioral science research and theory. Alternative theories of organizations are discussed.
Prerequisite: 506.

508. Ethical, Social, Political and Legal Environment. (3)

Influence of the external environment on management decisions and organizational welfare and how organizations affect the external environment and society. Examination of impacts of ethical, social, political, legal and technological systems and trends on management and how managers can deal with external issues.

510. Introduction to Information Processing. (3)

Managing MIS resources, services and strategies to support organizational productivity, effectiveness and efficiency. Case studies highlight MIS fundamentals and stress integration and interdependence of MIS with other functions in an organization.

511. Technology Commercialization and the Global Environment. (3)

Fundamentals of technology commercialization and international management are covered along with the interconnectivity of the two topics. The course will cover the nature of international competitive markets and how technology commercialization impacts these markets.

512. Strategic Management of Technology. (3)

Concepts of technology-based strategy, industrial policy, competitiveness, technological strategy tools and the effect of technology on organizational structure and processes. Lessons learned from successful technology-based companies and their application of strategic principles.
Prerequisite: 511. Restriction: permission of instructor.

513. Technological Forecasting and Assessment. (3)

Methods used in forecasting broad scientific and technological advances and assessing their applicability in the commercial world, with stress upon the broad macro-level economic issues such as competition, positioning of technology in the market and further research to apply the innovation to commercially viable products.
Prerequisite: 511.

514. Technological Entrepreneurship. (3)

A clinical experience in the development of a new firm to exploit a significant technological innovation. Student teams work with inventors/entrepreneurs, faculty, and external resources to establish new companies. {Offered upon demand}
Prerequisite: 511.

515. Innovative Product Development. (3)

Topics covered include innovation diffusion models, consumer needs models, marketing mix and organizational mechanisms such as Venture teams.
Prerequisite: 511.

516. Entrepreneurial Finance in High Technology. (3)

Theory as contributed to the study of strategic alliances by numerous disciplines including economics, finance, business policy, strategic management and law. Includes the development of an original case study of one technology-based strategic alliance. Permission of the instructor required.
Prerequisite: 511.

517. E-commerce: Business Models and Technology. (3)

The business models used to create Internet companies as well as the effect the Internet had on the success and failure of companies in many different business areas are examined. The economic issues related to the technology are covered in terms of their effect on the many industries using it.
Prerequisite: 511.

518. Technology Management and Economic Development. (3)

The development of new technology-based companies as well as the creation of cluster supports the increase in job and wealth creation in the region. Other factors such as education, taxation, infrastructure, technology development and entrepreneurial support are studied for their effect on technology entrepreneurship and contribution to economic development.
Prerequisite: 511.

519. Project in Technology Commercialization. (3)

An environment for application of tools and techniques of technology management that offers real problems of managing a technology-based product. Considers effects of practical constraints upon the analysis, design and process, and focuses student's capabilities on the solution of a practical problem and presentation of the solution.
Prerequisite: 511.

520. Operations Management. (3)

A managerial level examination of operations strategy with emphasis on application of quantitative models as guides to managerial decision making. Includes project management, product and service design, Just-In-Time (lean systems), mass customization, and systems thinking.
Prerequisite: 501.

521. Manufacturing Systems Management. (3)

An introduction to the principles and techniques necessary for the efficient design and operation of production and inventory planning, scheduling and control systems. Topics include master planning, capacity management, inventory control, production activity control, JIT, MRP and synchronous manufacturing.

Prerequisite: 300 or 520.

522. Marketing Management. (3)

Analysis of the marketing effort and decision-making process in private, not-for-profit and public institutions. Normative models for decision-making in different marketing situations. Analytical tools available for appraising, diagnosing, organizing, planning and implementing market plans. Analysis of economic, social and political forces leading to change in the market place. Development of concepts useful in evaluating marketing situations, including those in the international setting.

523. Service Operations Management. (3)

This course focuses on developing strategic insight into the distinctive features of service delivery systems and developing and critiquing management techniques to address the unique challenges in the design and delivery of services.

Prerequisite: 300 or 520.

524. Seminar on Mexican Economy Markets. (3)

A historical overview of developments in the Mexican economy with an emphasis on the causes and effects of repeated financial crises. An examination of recent economic and political events that present opportunities or risks for business in Mexico.

525. Management of Quality. (3)

The strategic issues and management approaches surrounding quality improvement are discussed and critiqued. Tools for traditional variation control and reduction, as well as techniques to control and reduce human error, are also covered.

Prerequisite: 300 or 520.

526. Financial Management. (3)

The finance function and its relation to other functions of a firm. Topics include: analysis and budgeting of funds, management of current assets, financing short-term and intermediate-term needs, planning long-term debt policy and capital structure, capital costs and budgeting, dividend policy, valuation, mergers and acquisition.

Prerequisite: 501 and 502.

530. System Perspectives. (3)

Learn how to be a systems thinker and apply systems philosophy to managing organizations. Use the Theory of Constraints, its five-step focusing process and its set of logic-based thinking process tools to manage continuous improvement.

Pre- or corequisite: 300 or 520.

532. Simulation. (3)

(Also offered as CS *452.) Study of a variety of simulation methods as an aid to managerial decisions involving both micro- and macro-systems. Problems and projects require active computer programming of simulations.

Pre- or corequisite: 300 or 520.

540. Financial Accounting I. (3)

Financial reporting theory, applied financial accounting problems, contemporary financial accounting issues. The accounting cycle, asset valuation; revenue recognition; issues resulting from the corporate form of organization.

Prerequisite: 202 or 502.

541. Financial Accounting II. (3)

The application of advanced accounting principles to practical cases and accounting problems.

Prerequisite: 340 or 540.

542. Seminar in Personal Tax Planning. (3)

Technical tax course primarily for accounting majors. Covers the Federal Income taxation of individuals, including capital gains and losses, accounting methods, income, deductions, Social Security, installment sales and alternative tax methods.

Prerequisite: 202 or 502.

543. Seminar in Business Tax Planning. (3)

Continuation of 542. Covers corporation, partnerships, estate and gift taxes, fiduciaries, tax planning and tax shelters.

Prerequisite: 202 or 502.

544. Assurance Services. (3)

An examination of assurance processes involved in developing knowledge bases to support decision makers. The course will include auditing techniques and emerging issues such as ElderCare, Performance View, SysTrust and WebTrust will be explored.

Prerequisite: 340 or 540. Corequisite: 541.

545. Seminar in Accounting Theory and Its Development. (3)

The study of accounting literature with emphasis on the development and current state of accounting theory. Topics include early history, formal statements of principles, relation of economics and accounting and current controversial issues.

Prerequisite: 540.

546. Financial Accounting III. (3)

The advanced study of problems and theory related to advanced accounting topics including partnership operation and liquidation, consolidated financial statements, bankruptcy and corporate reorganization, government entities, not-for-profit entities, and estates and trusts.

Prerequisite: 340 or 540. Corequisite: 541.

547. Tax Research, Procedure, Compliance and Practice. (3)

Practical problems encountered in a tax practice emphasizing tax research and preparation necessary for resolving disputes with the IRS. Procedures and compliance requirements for initial filing of return to Appellate Conference with IRS will be covered.

Prerequisite: 542 or 543 or 342 or 343.

548. Seminar in International Accounting. (3)

International diversity in accounting theory and practice. Institutional, economic and cultural contexts of these differences. Locating differences within framework highlighting their importance for financial and managerial decision making. Developments harmonizing international accounting practice.

Prerequisite: 202 or 502.

549. Accounting Information and Control Systems. (3)

An examination of the relationship between computer-based management information systems and accounting applications for management control and financial reporting for complex organizations.

Pre- or corequisite: 540 or Prerequisite: 340.

550. Professional Accounting. (3)

Professional Responsibility and concerns of auditors, tax practitioners, management consultants, and internal professionals. Structure of the profession, issues of ethics and responsibility, legal environment and future of the profession.

Prerequisite: 340 or 540.

551-552. Problems. (1-3 to a maximum of 6, 1-3 to a maximum of 6) Δ**556. Starting New Business. (3)**

This covers general topics and skills for embarking upon successful new enterprises either within large corporations or new independent companies. (Students interested in starting new technological ventures should consider MGMT 514, *Technological Entrepreneurship*.)

557. Entrepreneurial Internship. (3)

Entrepreneurial internship supervises field projects, on a one-on-one basis, with practicing entrepreneurs. Entrepreneurial projects are accepted, as well as projects pertaining to the student's own business. Classes meet weekly.

559. Law for Accountants. (3)

An intensive examination of legal concepts underlying accounting theory and practice, selected topic in contracts, uniform commercial code, debtor-creditor relationships, business associations, government regulation of business property and professional and legal responsibility of accountants. Prerequisite: 540.

560. Seminar in Cross-Cultural Organizational Behavior. (3)

Comparative study of public and private organizations in the U.S.A., Asia and in selected European and Latin American countries. Emphasis on the influence of cultural and political factors on the management of human resources. Prerequisite: 506.

561. Interpersonal and Team Dynamics. (3)

Exploration of the boundaries, strategic variables and sub-stance of interpersonal relations. Particular emphasis upon effective communication strategies, and team building and maintenance. Prerequisite: 506.

562. Organizational Change and Development. (3)

The course focuses on planned change to improve an organization's problem-solving and renewal processes, particularly through a more effective and collaborative management of organization culture. Prerequisite: 506.

564. Human Resources Management: Theory and Applications. [Human Resources Management: Theory and Applications I]. (3)

Human Resources Management is designed to relate theory and concepts of the management of human resources to the personnel practices that occur in the organizational environment. Prerequisite: 506.

565. Internship in Organizational Behavior and Human Resources. (3)

Students will be assigned to an organization where they will work on a project under the direction of a supervisor. Faculty provides oversight of individual field experience with classroom debriefings and follow-up.

566. Diversity in Human Relations. [Diversity in Human Relations Lab.] (3)

A series of intensive experiences to develop self-awareness and diagnostic ability in interpersonal, group, organizational and community behavior. Special emphasis on the management of diverse groups in organizations. Prerequisite: 506.

567. Women in Management. (3)

This course examines the changing role of women in the work force, especially in management. Focus is on the economic, political and sociocultural environment affecting managerial women.

568. Creative Leadership and Innovating Organizations. (3)

This is a developmental seminar, constantly changing. Together we will seek to actively explore the dimensions of creative, transformational leaders and innovative learning organizations. Prerequisite: 506.

569. Negotiation Strategies. (3)

This course addresses the theory and practice of negotiations. Through a combination of case studies, lectures and actual practice in negotiating, students learn to negotiate effectively.

570. Analysis of the Financial System. (3)

Analysis of the financial system—capital markets, financial instruments and institutions, and regulatory agencies—in which both financial and nonfinancial firms operate. The demand for, and supply of, credit and capital. Study of the mechanisms of monetary adjustment and interest rate determination. The role of liquidity in risk management. Prerequisite: 526.

571. Security Analysis and Investment Management. (3)

The theory and techniques of optimization of investment return subject to control on investment risk. Topics include development of valuation models, analysis of securities and security market operation, survey of information availabilities and requirements, the role of participants in trading activities, theories of market behavior and price movements, portfolio programming and the implications of diversification for risk and return. Prerequisite: 526.

573. Seminar in Management of Financial Institutions. (3)

Principles of the financial management of financial institutions emphasizing commercial banks. Analytical tools are developed for managing capital, liquidity, asset and liability structure and the extension of credit. Features computerized bank management simulation game, cases and selected readings. Prerequisite: 526.

574. Seminar in International Financial Management. (3)

International flows of funds, balance of payments adjustment mechanism, role of international reserves, international financial institutions, corporate financial planning for foreign operations, including analysis of sources and uses of corporate funds abroad. Prerequisite: 526.

576. Seminar in Futures and Options. (3)

Descriptive characteristics, fundamental valuation theory and trading strategies involved in futures and options markets. Prerequisite: 526.

577. Applications in Business Finance. (3)

Analytical and planning techniques in managerial finance. Computer-based case applications of financial forecasting, credit analysis, capital budgeting, lease analysis, capital structure planning, firm valuation, firm failure resolution, mergers and acquisitions, derivatives and hedging.

578. Fixed Income Securities. (3)

This course provides an integrated, self-contained analysis of the pricing of fixed income securities, which account for over one-half of the market value of all outstanding securities, and their derivatives. Prerequisite: 526.

579. Applied Investment Management (3 to a maximum of 6) Δ

Active management of funds allocated by numerous institutional investors. Encompasses investment policy statement (portfolio objectives, constraints, benchmarks, reports), performance evaluation/attribution, analysis (economic, industry, company), valuation, recommendations, portfolio rebalancing, trade execution, ethics of money management. Prerequisite: 571. Restriction: permission of instructor.

580. Buyer Behavior. (3)

Study in behavior of consumer/buyers as decision makers through review of theories, models and research findings. Applications to marketing management strategy formulation. Prerequisite: 322 or 522.

581. Research for Marketing Management. (3)

Study of research and information requirements for decision making and strategic planning in marketing. Emphasis on concepts, skills and knowledge needed by executives for evaluation research proposals and using research findings in developing marketing plans. Prerequisite: 501 and (322 or 522).

582. Marketing Strategy. (3)

Analytical approach to strategy formulation for marketing management activities of global and domestic organizations. Uses analytical and logical methods for case analysis and behavioral simulations. Should be taken during last semester. Prerequisite: 522.

583. International Marketing Management. (3)

Analysis of marketing opportunities abroad and major constraints and information needs in international marketing planning. Management of development and implementation of marketing mixes in different cultures and nations. Some special emphasis on Latin America.
Prerequisite: 322 or 522.

584. Sales Management. (3)

Critical examination of sales force management concepts and their implementation and application from a decision-making perspective. Encompasses the formulation, evaluation and control of a strategic sales program.
Prerequisite: 322 or 522.

586. Strategic Logistics Management. (3)

Management of logistics processes from both theoretical and applied viewpoints. Includes coverage of order processing, inventory management, transportation, warehousing and location. Special emphasis placed on measuring logistics value and financial control of logistics.
Prerequisite: (300 or 520) and (322 or 520).

587. Marketing Communications Management. (3)

Analysis of market communications, including market, audience and individual behavior. Discussion and analysis of promotional strategy and budgeting, media analysis and evaluation.
Prerequisite: 322 or 522.

588. Supply Chain Strategy. (3)

Develop an understanding of the strategic importance of the supply chain design, planning and operation. Coverage of analytical tools necessary to solve supply chain problems and key drivers of supply chain performance.
Prerequisite: (300 or 520) and (322 or 522).

590. Corporate Taxation. (3)

Tax planning for the creation, operation, liquidation and restructuring of regular and subchapter S corporations, including equity and other compensation planning and planning for distributions and redemptions.
Prerequisite: (342 or 343) or (542 or 543).

591. Estate and Gift Taxation. (3)

Tax planning to minimize transfers taxes, including the gift and the estate tax, using marital and other family transfers, valuation issues for transfer tax purposes and methods of transferring ownership within the family.
Prerequisite: (342 or 343) or (542 or 543).

592. Partnership and LLC Taxation. (3)

Tax planning for partnerships and limited liability companies, including entity classification and formation, sales and exchanges of partnership interests, liquidating and non-liquidating distributions and compensation paid to owners.
Prerequisite: (342 or 343) or (542 or 543).

593. Real Estate Taxation. (3)

Tax planning for the acquisition, development, operation and disposition of real estate, including entity choice, financing, taxable and tax-free sales and exchanges, limitations on losses and installment sales.
Prerequisite: (342 or 343) or (542 or 543).

594. Special Topics in Management. (3)

Selected offerings in management covering topics not represented in the regular curriculum.

595. Management in Latin America. (3)

Analysis and diagnosis of Latin American environments as they offer opportunities and pose constraints in the performance of managerial responsibilities. Special emphasis is given to the Mexican environment and its relationship to the world. (Offered upon demand)

596. International Entrepreneurship. (3)

Teaches the practical science and craft of international business operations, such as exports. The international business strategies of firms are analyzed through fundamental analysis and technical analysis using real cases.

597. International Strategy. (3)

Different organizational and cultural settings acting as constraints upon management efficiency and the transferability of managerial skills will be studied. Some special emphasis on Latin America.
Prerequisite: 511 and (548 or 574 or 583).

598. Strategic Management. (3)

This course presents the principles for strategic management through case analysis. Cases are analyzed by drawing upon principles learned in other functional areas and then applying strategic principles to the case.

626. Financial Management for Accountants. (3)

Focuses on budgeting of funds, management of current assets, working capital management, capital structure, dividend policy, valuation, mergers and acquisition.
Prerequisite: 340 or 540. Restriction: M.Acct. Faculty Advisor permission.

630. Management of Information Systems. (3)

This course covers issues in managing information systems as corporate resources. Topics include strategic planning for information resources, organization of the information function, management of MIS enhancement, and/or development projects and trends in information technology. It stresses integration of information management with other functions within the firm.

631. Information System Project Management. (3)

Managing information system development and procurement projects. Topics include planning, organizational and political environment, personnel, scheduling, budget, tracking, and automated project management tools.

632. Web Application Development. (3)

Developing Web- and Internet-based information system applications. Topics include analysis, design, programming, tools and techniques. Not intended for students who have completed MGMT 461.
Prerequisite: 330 or CS 152L. Restriction: permission of instructor.

634. Information Systems Analysis and Design. (3)

Fundamentals of object-oriented systems analysis and design. Emphasis is on performing object-oriented modeling, using Unified Modeling language (UML), to define the requirements and design of information systems.
Prerequisite: 330 or CS 152L. Restriction: permission of instructor.

635. Decision Support and Business Intelligence Systems. (3)

A conceptual understanding of the key technical and managerial issues and the trends in the effective design, development, use, and evaluation of intelligent decision-support systems (DSS) and business intelligence (BI) systems in business organizations.

636. Information Systems Security. (3)

Overview of telecommunications and cryptography/security issues in information systems. Hands-on lab projects managing online systems and securing them against hacking techniques or known vulnerabilities.

637. Database Management Systems. (3)

Introduction to the concepts and methods of database development and management in an MIS, Logical data organization, physical implementation and operational requirements. Review and discussion of commercial database management systems.
Prerequisite: 330 or CS 152L. Restriction: permission of instructor.

639. Advanced Topics in Management Information Systems. (3, no limit) Δ

Selected offerings in management information systems not represented in the regular curriculum.

640. Accounting for Not-for-Profit Organizations. (3)

Theory and practice of financial accounting in not-for-profit organizations, public schools, universities and health organizations. Class will also address tax and audit issues for non-profit organizations.
Prerequisite: 340 or 540.

641. Forensic Accounting. (3)

Techniques and perspectives in the field of financial investigation: concepts of law; process of evidence, sources of information and differences between criminal and civil fraud investigations focus on accounting, banking and financial record keeping.
Prerequisite: 642.

642. Fraud Examination. (3)

This course provides an overview of the methodology of fraud examination which involves obtaining documentary evidence, interviewing witnesses and potential suspects, writing reports and testifying to findings. Also covers procedures to detect and deter fraud.
Prerequisite: 540.

643. Governmental Accounting. (3)

Accounting and reporting for governmental entities. Introduces the basic principles of governmental accounting, including fund accounting, budgetary process, budget accounting of revenues, appropriations, disbursements, and assessments.
Prerequisite: 340 or 540.

647. System and Network Administration. (3)

System administration in both centralized and distributed information systems. Installation, operation, and maintenance of hardware and software resources. Technology, configuration, and management of computer networks.

648. Advanced Information System Security. (3)

Technical aspects of information system security including system assessment, secure authentication, secure communication, cryptography, and wireless network security.
Prerequisite: 336 or 636.

650. Competitive Analysis. (3)

Examination of the major theoretical approaches to the analysis of macro-organizational issues, specifically the interplay between the organizations and its market, political, and social environments.

651. Regulation and Social Control of Business. (3)

Government legislation and regulation of business activities in the U.S., including government controls of prices, regulation of public utilities, public ownership, economic planning and social regulation of environmental quality health and safety, etc.
Prerequisite: 504 and 508.

652. Public Affairs and Public Relations. (3)

Examination of principles and practices of public affairs and public relations to develop expertise in communication with the public and participating in public policy.
Prerequisite: 508.

653. Environmental Sustainability and Business. (3)

Intensive study of environmental responsibilities and effective strategies for environmental protection by corporations and other organizations. Topics range from current challenges to address environmental issues to innovative works of advanced thinkers about the natural environment.
Recommended prerequisite: 508.

654. Advanced Legal Topics for Managers. [Legal Topics in Management.] (3)

Topics include corporate governance relationships, product liability, administrative law, white collar crime, and other contemporary legal issues relevant to an ever-changing business environment.

655. Washington Campus Program. (3)

One week intensive "Washington Back-Stage: A Primer on the Public Policy Process for M.B.A. Students." Three ses-

sions offered (spring break, late May and late June). Limited enrollment; special application required. Additional fees for travel and cost of the program. 508 recommended.

657. Nonprofit Management. (3)

Introduction to the challenges of managing a nonprofit organization with a special emphasis on creativity and social entrepreneurship.

658. Managerial Ethics. (3)

This seminar will help managers and other professionals identify the ethical dimensions of issues and dilemmas they face, and provide processes and tools to create more ethical organizations.
Prerequisite: 508.

663. Employment Law. (3)

A survey of statutes and case studies of common, statutory and administrative law. Emphasis on modern employment legislation and related court and administrative decisions representing all aspects of employment law.
Prerequisite: 506.

Management 700-level classes restricted to EMBA students

700. Management Perspectives. (1)

Establishes the conceptual foundation of the EMBA program. Prepares students to function effectively in a collaborative learning environment and as members of productive work teams. Includes individual assessment of management/personality profile to gain insights into leadership and communication styles. **Offered on a CR/NC basis only.**

701. Statistical Analysis for Management Decisions. (3)

The practical applications of statistics and the analysis of data to make meaningful organizational decisions. Topics include probability, sampling, confidence intervals, hypothesis testing, regression analysis, and quality improvement.

702. Financial Accounting. (3)

Accounting concepts and procedures used to prepare corporate financial statements: Balance Sheet, Income Statement and Statement of Cash Flows. Reporting choices within Generally Accepted Accounting Principles in deriving performance measures and the analysis and interpretation of financial data.

703. Managerial Accounting. (3)

The derivation and use of accounting information to manage strategic and operational choices, determine pricing and profitability, control costs and evaluate performance. Spreadsheets are used to solve managerial accounting problems and to make sound business decisions.

704. Economics for Managers. (3)

A survey of both microeconomics, the study of individual and organizational decision-making, and macroeconomics, which investigates national and international concerns. Economic theory will be complemented by practical applications and discussions of current policy issues affecting business.

706. Organizational Behavior and Diversity. (3)

Draws on behavioral science research and theory as a basis for understanding, managing and changing organizations. Through experiential learning, examines individual and group behavior; communication, power and politics; conflict resolution and negotiation; and motivating and managing a diverse workforce.

707. Executive Leadership. (2)

Further grounding in organizational behavior issues, with a special emphasis on assessing leadership competencies and changing corporate cultures. Includes self-assessments, analyses of leading companies, skill building strategies and direct application of material to individual work settings.

708. Ethical, Social, Political and Legal Environment. (3)

Examines the roles and responsibilities of business, relationships with stakeholders, key legal concepts and ethical decision-making processes by individual managers. Blends

theory and application for more effective responses to the external environment, including political and social interests.

711. Management of Technology and Innovation. (3)
Employs a multi-disciplinary approach to understanding how to maximize competitive advantage through technological innovation. Provides the concepts and tools needed to manage effectively in changing technological environments.

712. Business Communications. (3)
The elements of written and oral business communication. Addresses grammar, rhetoric, style, audience analysis, format, presentation and delivery. Effective communication strategies for professional settings are defined through various assignments including memos, proposals and individual/group presentations.

720. Operations Management. (3)
Survey of use of decision-making methods and models in the management and control of manufacturing, distribution, and service operating systems. Utilizes readings, problem solving, and projects to understand and apply concepts.

722. Marketing Management. (3)
Overview of concepts and theories related to consumer behavior/segmentation, marketing research, competitive positioning, marketing information systems, distribution, pricing, promotional considerations and relationship marketing. Focuses on products and services, and the creation of an actual marketing plan.

726. Financial Management. (3)
Examines the role of finance in management including working capital management, the pricing of capital, the valuation of real assets and financial securities, and the sources of capital and their costs.

728. Global Business Environment. (2)
Strategies for entering new international markets and managing international operations. Discussion of cultural differences, regional economic integration, and emerging markets, with special emphasis on implications for New Mexico's economy and the border with Mexico.

751. Practicum. (3)
Second-year students choose one of the following options: 1) participation in international seminar including study trip abroad; 2) attendance at "Washington Campus" and follow-on research paper; 3) enrollment in approved M.B.A. elective; or 4) completion of independent research project.

755. Washington Campus for EMBA Students. (3)
Enrollment in executive or EMBA session on site at Washington Campus. Significant research project on topic related to business-government relations or current public policy issue. Additional fees for travel and cost of the program. Restriction: must be admitted to the Executive MBA program.

794. Special Topics. (2 to a maximum of 4) Δ
Two, 2-hour electives offered during the second year, based on current business issues and student interest.

798. Strategic Management. (3)
The application of strategic management concepts, principles and techniques through case analyses. Draws upon professional experience and concepts learned in other functional areas to develop a general management perspective and the ability to impact organizational direction and performance.

The Ph.D. Program

The Ph.D. in Business and Administrative Sciences is authorized and offered in the various areas of management. General requirements for the Ph.D. degree are specified in earlier pages of this catalog. The Anderson School of Management is not currently accepting applications to the Ph.D. program. Further information may be obtained by writing to the Graduate Program Office of the Anderson School of Management.

699. Dissertation. (3-12)
Offered on a CR/NC basis only.



SCHOOL OF ARCHITECTURE AND PLANNING

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Introduction

The School of Architecture and Planning is the only institution in New Mexico granting professional degrees in architecture, planning and landscape architecture. The School is committed to preparing students who will assume leadership roles in the professions, become responsible citizens, and contribute their knowledge and expertise as members of diverse communities. The programs and faculty of the School are nationally recognized for design excellence, scholarship, and the advancement of practices essential in achieving sustainable development and design.

There is growing public awareness of the underlying importance of the built environment on the quality of life. Design and planning decisions that are critical to the advancement of civilization are both wide-ranging and complex. Cities and communities are increasingly dependent upon qualified professionals capable of meeting the challenges of future development and change. The fields of architecture, planning, landscape architecture and environmental design provide essential skills and knowledge necessary in understanding the complex relationships between people and the built and natural environments.

The School's mission is to provide an excellent educational experience that is enabling and inspired by a solid base of scholarship, research and professional practice. The underlying academic philosophy of the School is keyed to three primary objectives: to elevate the aesthetic, ethical and theoretical foundations of our professions; to understand the significance of ecological and social conditions in planning and design decisions; and to be responsive to the culture and history of New Mexico and the region. The faculty of the School is committed to increasing public awareness of the importance of the natural and built environment and the relationship of design to societal needs and aspirations.

Academic Programs

The academic programs are deeply rooted in the traditions and environment of this region—an unparalleled cultural heritage, diverse and resplendent natural landscapes, the unique, historic urban settlements of Albuquerque and Santa Fe and the spectacular climates of the arid Southwest.

Graduate: The faculty is organized according to the three professional programs—Architecture, Community and Regional Planning and Landscape Architecture—in offering the degrees **Master of Architecture (M.Arch.)**, **Master of Science in Architecture (M.S.)**, **Master of Community and Regional Planning (M.C.R.P.)** and **Master of Landscape Architecture (M.L.A.)**. Individuals who hold (or will soon receive) an accredited undergraduate degree in any subject area are eligible to apply directly to these programs.

The school also offers two graduate certificate programs, **Historic Preservation and Regionalism** and **Town Design**. These certificate programs are opportunities for interdisciplinary study in areas that are directly applicable to the special needs of the state and region. Other opportunities for multidisciplinary study are available through the School's professional and dual degree programs.

Undergraduate: The School offers two undergraduate degree programs, the **Bachelor of Arts in Environmental, Planning & Design (B.A.E.P.D.)** and the **Bachelor of Arts in**

Architecture (B.A.A.). Undergraduate students committed to attaining the professional *Master of Architecture* degree must apply and be accepted to enroll in the preparatory degree program, *Bachelor of Arts in Architecture*. Students interested in pursuing careers in either Planning or Landscape Architecture are encouraged to apply to the *Bachelor of Arts in Environment, Planning & Design* program at the undergraduate level. Recognizing the need for a multidisciplinary education to prepare students for a broad spectrum of environmental and development issues, the *B.A.E.P.D.* also serves those interested in pursuing a variety of career opportunities or future specialized graduate studies.

Curriculum

The curricula of the School develop abilities necessary to analyze and synthesize issues essential to the planning and design professions. Students become conversant with concepts and methods that will enable them to address complexities of historical and cultural contexts as well as behavioral, technological and socioeconomic factors. Courses are intended to nurture students' creative efforts, intellectual development, and judgment in individual and collective efforts to craft the built environment. While developing these skills, students are expected to perform within a set of ethics consistent with community-based values and the necessity for fostering sustainable environments.

Working with the faculty, students develop a strong awareness of "place" and place-making. Courses and projects frequently utilize historic urban areas such as Albuquerque and Santa Fe as well as rural communities and landscapes throughout the Southwest Region as laboratories for learning fundamental concepts and analytical methods.

Various courses offered at both the undergraduate and graduate levels are available to majors in other disciplines as well as practitioners. The School provides continuing education for professionals as well as educational opportunities directed toward part-time and non-traditional students.

Students typically engage in traditional and non-traditional educational programs in the summer. These may include international travel and exchange programs; off-campus workshops and field studies; and internships in professional offices and public agencies.

Honors and Special Recognition

For undergraduate students to be placed on the **Dean's List** in the School of Architecture and Planning, students must achieve a 3.5 grade point average or higher based on a minimum of 12 credit hours (graded) in one semester. Undergraduate and graduate students enrolled in the School who meet the eligibility requirements are also nominated for membership in **Tau Sigma Delta**, a national honor society that recognizes high scholastic achievement in the design and planning fields. In addition, the School's professional programs annually grant special honors and other awards to deserving students.

Degree Programs

Undergraduate

Bachelor of Arts in Architecture (pre-professional)
Bachelor of Arts in Environmental, Planning & Design

Graduate

Master of Architecture (professional)
Master of Science in Architecture (post-professional)
Master of Community and Regional Planning (professional)
Master of Landscape Architecture (professional and post-professional)

Graduate Certificates

Town Design
Historic Preservation & Regionalism

Research/Studies

The Office of Community Outreach

The office of Community Outreach is comprised of the following centers:

The Design and Planning Assistance Center (DPAC)

The interdisciplinary Design and Planning Assistance Center was created in 1969 by the Architecture Program at the University of New Mexico, with support from the Albuquerque Chapter of the American Institute of Architects. DPAC was formed in response to the urgent need for architectural and planning services to assist communities and non profit groups in New Mexico. DPAC provides opportunities through employment and coursework for students to work on projects under faculty direction with community, agency, and client group representatives.

The Resource Center for Raza Planning (RCRP)

RCRP, a center within the School of Architecture and Planning, was established to contribute to the community development efforts of traditional communities in New Mexico. The Center promotes integration between higher education and traditional communities through the application of planning processes and techniques. RCRP conceives planning as multidisciplinary, intergenerational, directly responsive to community needs, and developed through ongoing, long-term relationships.

Course Work in Other Departments

Students are encouraged to take course work in other schools and colleges of the University. The School of Architecture and Planning, through advisement, counsels students to participate in complementary programs in other schools or departments if such studies are appropriate to the overall interests and needs of the student.

Assistantships and Financial Aid

Graduate students in good standing in the School of Architecture and Planning are eligible to apply for assistantships. A number of merit based scholarships are also available. Contact the School or Financial Aid Office for additional information on financial aid, assistantships and scholarships.

Laptop and Software Requirements

Students in all degree programs of the School of Architecture and Planning are required to own or have unlimited access to a laptop computer. The School recommends that all laptop computers meet a minimum specification. The minimum specification is published on the School's website. Under "Resources," software requirements are specific to each academic program and/or to individual instructors. Software requirements should be communicated in program policies and faculty syllabi.

Graduate Certificate Programs

The School of Architecture and Planning offers graduate certificate programs in Town Design, and Historic Preservation and Regionalism. These certificates require 18 credit hours, some of which can also be applied to a graduate degree program, and are open to applicants not currently enrolled as UNM graduate students.

Graduate Certificate in Historic Preservation and Regionalism

Chris Wilson, Director
School of Architecture & Planning

The Graduate Certificate in Historic Preservation and Regionalism is designed for students wishing to contribute to the conservation of architectural and cultural heritage, and to the contemporary vitality of valued regional traditions. The program integrates proven historic preservation techniques with the spectrum of related planning and design approaches for cultivating local history, and cultural distinctiveness. The Graduate Certificate is open to students pursuing a graduate degree in a related field at the University of New Mexico, those who already hold such a graduate degree, and those with a bachelor's degree and appropriate related experience.

Qualifications

Students must either:

- Hold a graduate degree in architecture, planning, landscape architecture, history, American studies, anthropology, architectural history, communications and journalism, environmental studies or other related field, or
- Be admitted to or be currently enrolled in a graduate program at the University of New Mexico in one of these disciplines, or,
- Hold a bachelor's degree in one of these disciplines, and demonstrate in a resume and the letter of intent experience or accomplishment such as professional licensing, publications, professional practice, or professional, non-profit or government work with responsibilities in preservation, heritage tourism development, regional design or planning, or related fields that indicate ability to complete this program.

Students who are not currently enrolled as graduate students at the University must apply through the Office of Graduate Studies.

Application Submission requirements

- A letter of interest explaining your reasons for seeking admission to the program, and your expected time line for completion of the certificate, and noting the criteria above that you satisfy, and your social security number, mailing address and email address.
- Two letters of recommendation from people who know your educational or work accomplishments and abilities,
- A resume, and
- Academic transcripts for all higher education course work.

To insure consideration for a Fall semester admission, completed applications are due no later than March 1; for a Spring semester admission, no later than November 1. Depending on space availability, applications received after those dates may be considered.

To receive the Certificate, students must successfully complete a minimum of 18 credit hours, including:

1. *Introduction to Preservation and Regionalism* (ARCH/CRP/LA 579)
2. *Historic Research Methods* (ARCH/CRP/LA 590)
3. 9 hours of electives chosen in consultation with the Program Director from an approved electives list
4. an approved FINAL PROJECT (minimum 3 hours)

List of approved electives:

Preservation Technologies and Adaptive Reuse (ARCH 512)
Cultural Landscape Planning (LA 512)
Preservation, Eco-tourism, and Community Development (CRP 570)
Alternative Construction Methods and Materials (ARCH 512)
Preservation Law (CRP 570)
Gardens in the Sand: New Mexico's Historic Landscapes (LA 562)
Southwest Architecture and Cultural Landscapes (ARCH 562)
Urban Design Theory (CRP 525)

Planning on Native American Lands (CRP 573)
 Planning Issues in Chicano Communities (CRP 586)
 Theories and Methods of Folklore Study (AMST 513)
 Museum Practices (ANTH 582, ARTH 507)
 Intercultural Field Research (CJ 573)
 Public History (HIST 510)
 and other seminars with appropriate content as approved by the program director.

Graduate Certificate in Town Design

Mark C. Childs, Director
 School of Architecture & Planning

Cities and towns are among humanity's largest and most complex achievements. The buildings, public works, plazas and parks of even a small town embody substantial amounts of capital, energy, natural resources, history and aspirations. Cities are our greatest creations, yet typically no single individual creates them.

The Certificate in Town Design aims to give students the foundations to ask critical questions about, study examples of, and propose approaches to designing the emergence of districts, towns, and cities.

- What does it take to create a great town, a place that in and of itself gives life dignity, joy and beauty?
- What aspects of physical design support the creation of vital public squares, plazas and other civic spaces? Can public art be an integral part of the urban design of these places? How do these commons reflect the character of the town?
- How does the form of a town's infrastructure work to configure and condition the architecture and character of the place?
- How does the relationship between design professionals and other building participants (e.g., owners, citizens) shape, constrain and inform design? If cities emerge from design and dialog over time, how should this influence the role of the designer, or planner?

Admission Requirements

Qualifications

Students must be either

- currently enrolled in one of the graduate programs in the School of Architecture, Landscape, and Planning with a minimum GPA of 3.0;
- possess a professional degree in architecture, planning, or landscape architecture; or
- graduate students currently enrolled in other programs, and design professionals without one of the degrees listed in #2 may be admitted by the Certificate Director upon demonstration of adequate preparation, skills, and aptitude.

Students who are not currently enrolled as graduate students at the University must apply to Admissions and be accepted by the University graduate program.

Application deadlines for the Town Design Certificate program are: November 1 for the Spring semester and March 1 for the Fall semester.

Application submission requirements

- A resume.
- A statement of intent outlining your goals in pursuing the Certificate, proposed program of studies, and schedule for completion.
- A brief graphic portfolio of design and planning work. Include no more than ten 8.5x11" pages.
- Samples of original written work. Include no more than five 8.5"-x11" pages.
- A current academic transcript.
- Names and contact information for two people who can speak to your qualifications for the certificate program.

These materials should demonstrate (1) serious initial investigation of town design issues in prior work, (2) strong design and/or planning skills, (3) strong craftsmanship and care for the context and external consequences of design and planning work, (4) ability to write cogently, and (5) a clear and compelling set of goals.

The director for the graduate certificate in Town Design may waive any of the above requirements if the application as a whole demonstrates that the student has the skills, background, and ability to successfully complete the Certificate.

Curriculum

Core Requirements

9 credits taken in addition to Master's Degree Requirements

A. Town Design Studio (6 credits)

- The primary learning objectives of the studio are:
 - Urban design skills – Ability to work within a complex built environment, with multiple designers and a welter of stakeholders, and to “weigh the impact of their work on present users and future generations” (Boyer and Mitgang *Building Community* 1996).
 - Collaborative skills – Ability to identify and assume divergent roles that maximize individual talents, and to cooperate with other students when working as members of a design team and in other settings, and to work with a diverse range of community members and clients in an effective and respectful manner.
 - Site Conditions – Ability to respond to natural and built site characteristics in the development of a program and design of a project.
 - Project Definition – Ability to propose urban design approaches to address community goals, including an assessment of client and user needs, a critical review of precedents, an analysis of the site conditions, and a definition of the site selection and design assessment criteria.

Normally, this studio should be taken in the final term of course work for the Certificate. The requirement may be fulfilled by one of the following:

- ARCH 508, CRP 508, LA 508 Design and Planning Assistance Center
- Pre-approved studio
- Pre-approved independent study

B. Concentration (3 credits)

One course within the concentration should be chosen in consultation with the Certificate Director to provide fundamental town design skills and define an area of emphasis. The concentration courses may be fulfilled by the following:

- ARCH 592/LA 592/CRP 592 Public Works
- ARCH 593/LA 593/CRP 593 Civic Places
- CRP 565 Land Development Economics
- ARCH 571 Real Estate Development
- Pre-approved concentration

Co-requirements

9 credits that may be taken to fulfill both master's degree requirements and certificate requirements. The Certificate Coordinator may waive these co-requirements for post-degree students with appropriate experience and/or education.

A. Requirements (6 credits)

1. The urban theory requirement may be fulfilled by:
 - CRP 525 Urban Design Theory
 - Pre-approved theory course
2. The regulation requirement may be fulfilled by:
 - CRP 533 Foundations of Physical Planning
 - CRP 545 Land Use Controls
 - Pre-approved course on regulation

B. Elective (3 credits)

The elective should be chosen in consultation with the Certificate Director to broaden the student's background in areas of design relevant to town design. For example

architecture students may wish to take an elective in theories or techniques in Landscape Architecture or Community and Regional Planning if they have not previously done so. Courses which typically fulfill this requirement include:

- Any of the concentration courses above
- ARCH 511 Problems: Types and Typology
- ARCH 512 Seminar: Politics and City
- CRP 569 Rural Community Development
- ARCH/LA/CRP 579 Introduction to Preservation and Regionalism
- CRP 570 Seminar: Town Design and Public Health
- CRP 573 Planning on Native American Lands
- CRP 576 Human Settlements
- CRP 585 Practice of Negotiation and Public Dispute Resolution
- CRP 586 Planning Issues in Chicano Communities
- LA 512 Seminar: Cultural Landscape Analysis and Planning
- PADM 500 Public Management and Policy

ARCHITECTURE

Program Director

Geraldine Forbes Isais, Professor

Associate Director

Mark Childs, Associate Professor

Professors

Eleni Bastea, Ph.D., University of California (Berkeley)
 Stephen Dent, M.Arch., Arizona State University
 Geraldine Forbes Isais, M. Arch., California Polytechnic University (Pomona)
 Christopher Mead, Ph.D., University of Pennsylvania
 Roger Schluntz, M. Arch., University of California (Berkeley)
 Anne P. Taylor, Ph.D., Arizona State University

Associate Professors

Geoffrey Adams, M.Arch., University of New Mexico
 Tim Castillo, M. Arch., Columbia University
 Mark C. Childs, M.Arch., University of Oregon
 Gabriella Gutierrez, M.Arch., Columbia University
 Kuppaswamy Iyengar, M.Arch., University of California (Los Angeles)
 Kramer Woodard, M.S., Columbia University

Research Associate Professor

Phillip Gallegos, Arch.D., University of Hawaii

Assistant Professors

Dana Gulling, M.Arch., Yale University
 Kristina Yu, M.Arch., Harvard University

Lecturer III

Karen J. King, M.Arch., University of Virginia

Visiting Assistant Professor

Kimberly Wakefield, M.Arch., University of California, Los Angeles

Adjunct Professors

Antoine Predock, B.Arch., Columbia University
 V.B. Price, B.A., Anthropology, University of New Mexico
 Bart Prince, B.Arch., Arizona State University
 Don Tishman, J.D., Ohio State University
 Ed Mazria, B.Arch., Pratt Institute

Adjunct Associate Professors

Terry L. Leach, M.Arch., University of New Mexico
 Jean Pike, M.Arch., Yale University
 Garrett Smith, B.F.A., University of New Mexico
 Arnold Valdez, M.Arch., University of New Mexico

Professors Emeriti

Edith Cherry, M.Arch., Rice University
 Min Kantrowitz, M.Arch., University of New Mexico
 Paul E. Lusk, M.Arch., University of Pennsylvania
 Richard S. Nordhaus, M.Arch., University of Pennsylvania

Andy Pressman, M. Des., Harvard University
 Don P. Schlegel, M.Arch., Massachusetts Institute of Technology

Lecturer Emeritus

Edward B. Norris, B.Arch., Howard University

The Architecture Program

The mission of the Architecture Program is to critically investigate the architectural systems and social forces that define sustainable built environments both locally and globally, while honoring cultural identities through teaching, research and practice.

The pre-professional and professional program in architecture prepares students for a range of roles as architects engaged in shaping the physical environment who encourage the creation of beautiful, responsive and adaptive architecture.

The program requires courses in architectural and urban design; architectural history, theory and criticism; and technology, community and practice. Electives in architecture and related fields are available in a curriculum that is rigorous and challenging.

Policy on Outside Employment During the Semester

History has proven that students who dedicate themselves fully to academics during their short time at the University not only achieve academic excellence, but excel later in their professional careers. The Faculty of the architecture program, therefore, strongly recommends that each student refrain from outside employment during the semester to optimize their educational experience at this critical developmental stage. Full-time students engaged in external employment are expected to notify the Program Director in writing of these arrangements.

Students enrolled with a full-time academic load (15–17 hours undergraduate; 12–16 hours graduate) are expected to focus their attention on their academic course and related extracurricular activities during the academic term. Students who desire or need to work more than 10 hours per week are expected to take an appropriate and proportional reduction in course load.

Degree Programs

Undergraduate

Bachelor of Arts in Architecture (B.A.A.)

The B.A.A. is a pre-professional degree that prepares students for admittance to a two-year graduate program in architecture. The overall intent of the B.A.A. degree program is to provide a firm grounding in the essential ideas, principles, theories and technologies that underlie the built environment. The design studio sequence, the core of the program, is where all the elements of the design process come together in exercises that build increasing skill and sophistication in the student designer.

Graduate

The Master of Architecture (M.Arch.)

The University of New Mexico offers two paths of study that lead to the nationally accredited professional degree, Master of Architecture.

The 2-Year Path of Study is composed of two parts: a four-year undergraduate Bachelor of Arts in Architecture degree and a two-year path of study that leads to the professionally accredited Master of Architecture degree. The undergradu-

ate degree contains a balance of liberal arts courses and core courses in architecture, while the graduate degree is oriented to professional preparation through advanced and specialized course work. Students applying to the two-year graduate path must have successfully completed a four-year pre-professional degree program in architecture.

The 3½-Year Path of Study is designed for students with bachelor degrees from any field. These students may apply to the 3½-year path of study leading to the accredited Master of Architecture degree. Of necessity, this path does not allow for many electives but concentrates almost exclusively on professional preparation. It is assumed that students in the 3½-year program of study bring to it a breadth of knowledge based on previous education and experience.

In addition to the above professional degree, the faculty offers a post-professional degree:

Master of Science in Architecture (M.S. Arch.)

This is a post-professional degree and is for students who have already completed an accredited professional degree (B.Arch, M. Arch) and wish to obtain an advanced degree. There are few specific established requirements in this program in that students are encouraged to propose the most professionally and personally useful course of studies with their faculty advisor. Students in this 1½-year program are expected to take advantage of the special opportunities offered by this program and our unique physical/social setting to pursue individualized educational goals. This degree is not accredited by National Architectural Accreditation Board (NAAB).

Additional Information

Accreditation

In the United States, most state architecture registration boards require an accredited professional degree as a pre-requisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Master's degree programs may consist of a preprofessional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

Licensing for Architects in the State of New Mexico and in Most Other States

An applicant for examination for registration as an architect must have a professional degree from an architectural program accredited by NAAB and also a National Council of Architectural Registration Boards (NCARB) certificate showing compliance with Intern Development Program (IDP) training requirements.

Ownership of Student Work

Student work, submitted to the School in satisfaction of course or degree requirements, becomes the physical property of the School. The School also has the right to display such work in any medium or format. This work may include papers, drawings, models, electronic records, and other materials. However, students retain all other rights to the intellectual property of such work. The School assumes no responsibility for safeguarding such materials. At its discretion, the School may retain these materials for instructional, recruitment, exhibition and accreditation purposes, return or discard such materials. The School will not normally discard the materials of currently enrolled students.

Admission Requirements

Undergraduate

Admission to the undergraduate pre-professional portion of the program in architecture is competitive and limited.

There are two paths to undergraduate admission. The standard path requires that upon completion of a minimum set of required college-level credit acceptable to the School, students apply for transfer and acceptance into the School of Architecture and Planning. Applications to the B.A.A. degree program are accepted from University of New Mexico students, as well as students from any other accredited universities approved by the Office of Admissions.

The second path is the "Early Admissions" program available to New Mexico residents who are deemed high achieving entering freshman. Eligibility is limited to students who graduate in the top 10% of their high school classes, score in the top 10% of the ACT or SAT, or receive UNM's Nate Scholars scholarship. For further information contact the Undergraduate Advisor in the School of Architecture and Planning.

In addition to UNM core curriculum courses taken in the first year, UNM student applicants will have successfully completed Architectural Graphics, Design Fundamentals, and, Introduction to Architecture. In order to be considered for application, UNM students must earn a B or better in ARCH 111.

Application Requirements:

- Letter of intent.** Explain why you are interested in architecture and discuss related experience, background or course work as well as particular educational and professional goals. The letter should not exceed two pages.
- Portfolio of Drawing and Design Work.** Submit work from drawing and art studio courses and personal art work in an 8½" x 11" bound portfolio. Do not send slides, CDs, DVDs, VHS tapes, or other digital materials, as they will not be accepted. Portfolio guidelines are available from the Academic Advisor in the School of Architecture and Planning.
- Application Sheet.** This form is available from the Academic Advisor.
- Transcripts.** University of New Mexico students should provide unofficial transcripts obtained from Records and Registration Office in Mesa Vista Hall North One-Stop. Transfer students can provide an unofficial transcript from all colleges previously attended and must send official transcripts to the Office of Admissions, P.O. Box 4895, Albuquerque, NM 87196-4895.
- Required Entry Courses.** The following courses, or their equivalents, must be successfully completed prior to application and must be taken for a grade:

ARCH 101 Design Fundamentals	3
ARCH 111 Introduction to Architectural Graphics	3
ARCH 121 Introduction to Architecture	3
MATH 123 Trigonometry	3
—or— passing grade on Trigonometry Compass Exam and 3hr elective	
MATH 180, Elements of Calculus I	3/4
—or— MATH 162 L, Calculus I	
ENGL 101, Composition I: Exposition	3
ENGL 102, Composition II:	
Analysis and Argument	3
PHYC 102, 102L, Introduction to Physics/Lab	4
	(total)
—or— PHYC 151, 151L, General Physics/Lab	
Total	25/26

Other UNM core curriculum courses	6
Total credits required	32

- Application Deadline.** All of the above information and forms must be submitted by May 15th by 4 p.m. (should this date fall on a weekend, submit on the next Monday). Any material missing may disqualify your

application for consideration. Late applications may be accepted on a space available basis. Address all inquiries and submit all materials, by mail or by person, to: Undergraduate Admissions, c/o Academic Advisor, School of Architecture and Planning, MSC04 2530, 2401 Central Ave NE, Albuquerque, NM 87131-0001.

Graduate

Application materials must be sent to two different locations at the University of New Mexico: the Office of Admissions, and the School of Architecture and Planning.

The following materials must be sent directly to Office of Admissions:

Online:

1. The online application can be accessed from the OGS Web site at <http://www.unm.edu/grad>.
2. A \$50 application fee. Note that the application fee must be paid by credit card in order to submit the online application.

The following materials must be sent directly to the School of Architecture and Planning:

1. **Letter of intent.** Explain why you are interested in architecture. Related experience, background, course work may be mentioned, as well as professional and educational goals. The letter should not exceed two pages.
2. **An official transcript** from each academic institution previously attended.
3. **Portfolio of creative work.** The required portfolio format is an 8 1/2 x 11 inch bound document. The admissions committee will not review slides, CDs, DVDs, VHS tapes or websites. The committee will only review bound portfolios in the stated format received by the published deadline. The portfolio should present work in the visual arts and design, or other creative endeavors completed by the applicant. Academic, office related and personal projects are acceptable. The portfolio itself is an example of the applicant's creative potential. Careful thought should be given to its design. To have your portfolio returned, include a self-addressed, stamped envelope.
4. **Three letters of academic or professional recommendation.** At least two letters should be from faculty members. Forms are available on the OGS Web site.
5. **Resume.** The resume should include education, employment, professional experience, publications, service and other accomplishments.
6. **Course descriptions.** Applicants who do not have a Bachelor of Arts in Architecture from UNM must submit course descriptions of all architecture classes completed.
7. **Email.** Brief email to architecture@unm.edu informing program of application submission.

Graduate Record Examination (GRE) Scores are not required, but may be submitted with other materials.

Applicants must identify whether they are applying for the 2 year, 1 1/2 year, or 3 1/2 year program of study.

Send the listed materials to:

School of Architecture and Planning
2401 Central Avenue NE
MSC04 2530, ATTN: Graduate Advisor
1 University of New Mexico
Albuquerque, New Mexico 87131-0001

For express mailings include the Advisor's telephone number: 505-277-1303.

Graduate Program Application Deadlines

Fall semester: The deadline is February 1, however late applications may be accepted on a space available basis until June 15.

Spring semester: Contact the Program Director

A deposit of \$200.00 is required of applicants who accept the School's offer of admission to the Master of Architecture degree program. The deposit will be applied toward tuition. The deposit is non-refundable for those applicants who accept the School's offer of admission, but subsequently do not enroll in the program.

Faculty Advisors

Stephen Dent—Architecture, 2 year program of study
Geoffrey Adams—Architecture, 3 1/2 year program of study

Early Admission to 2 year Graduate Program from B.A.A.

Following successful completion of their third year, students enrolled in the UNM B.A.A. may apply by June 15 for early conditional admission to the graduate level of the professional degree program. If accepted under early admission, they must successfully complete the B.A.A. requirements in a timely manner. Accepted students will take ARCH 502 instead of ARCH 402, ARCH 534 instead of ARCH 432, and ARCH 544 instead of ARCH 442. These courses will count only toward completion of the B.A.A.

Undergraduate Degree: Graduation Requirements

Bachelor of Arts in Architecture (B.A.A.)

Students may be admitted to the undergraduate degree in their sophomore year after completing at least 26 credit hours of selected courses. In addition to UNM core course work in the first year, applicants will have taken two studio courses—one in graphics, one in design, and a lecture course, *Introduction to Architecture*.

Portfolio Reviews:

Students may be required to submit portfolios for review by a faculty committee at the end of the 200- or 300- level sequence and/or immediately prior to graduation.

Minimum Grade Point Average

A minimum cumulative grade point average of 2.50 is required for graduation.

Advising: Advising for undergraduate students is available from the Undergraduate Advisor. Individual faculty members are also available for counseling on matters relating to professional education, architectural internship, and the architectural registration examination process.

Design Studio Academic Standard: Students must earn a minimum grade of C+ in a studio in order to continue in the design studio sequence.

Required Courses and Electives—Typical Sequence

First Year		Credits
ARCH 111	Introduction to Architectural Graphics	Fa 3
ARCH 121*	Introduction to Architecture	Fa 3
ARCH 101	Design Fundamentals	Sp 3
MATH 123	Trigonometry	3
—or—		
	Passing Trigonometry Compass Exam and 3 cr. elective	
MATH 180*	Elements of Calculus I	3/4
—or—		
MATH 162	Calculus I	
ENGL 101*	Composition I: Exposition	3
ENGL 102*	Composition II: Analysis and Argument	3
PHYC 102*/102L*	Introduction to Physics/Physics Lab	4
—or—		
PHYC 151/151L	General Physics/Lab	
Required Entry Courses		25-26
Other UNM Core Curriculum Credits		6
Minimum Total Credits		31-32

* Must earn "C" or better to graduate.

Second Year		Credits
ARCH 201	Architectural Design I	Fa 4
ARCH 211	Architectural Communications I	Fa 2
ARCH 241	Sustainability I	Fa 3
ARCH 202	Architectural Design II	Sp 4
ARCH 211	Architectural Communications I	Sp 2
ARCH 221	Architecture and Context	Sp 3
Required Architecture credits:		18
UNM Core Curriculum courses:		12
Total Credits		30

Third Year		Credits
ARCH 301	Design Studio III	Fa 4
ARCH 311	Design Studio IV	Fa 2
ARCH 321	World Architecture I	Fa 3
ARCH 331	Construction I	Fa 3
ARCH 302	Architctural Design IV	Sp 4
ARCH 322	World Architecture II	Sp 3
ARCH 311	Architectural Communications II	Sp 2
ARCH 332	Structures I	Sp 3
ARCH 342	Human Factors and Programming	Sp 3
	Elective	3
Required Architecture credits:		30
UNM Core Curriculum courses:		3
Total Credits		33

Fourth Year		Credits
ARCH 401	Design Studio V	Fa 6
ARCH 431	Structures II	Fa 3
ARCH 441	Sustainability II	Fa 3
ARCH 451	Research and Design	Fa 3
ARCH 402	Design Studio VI	Sp 6
ARCH 432	Building Systems	Sp 3
ARCH 442	Politics, Culture, and Architecture	Sp 3
ARCH 452	Practice and Theory	Sp 3
	Elective	3
Total Credits		33

GRAND TOTAL 127-128*

*The University of New Mexico requires 128 credits for graduation.

University of New Mexico Core Curriculum Requirements

These are in addition to specific entry and other requirements. Several areas are more restrictive than University of New Mexico Core.

Must earn a "C" or better in University of New Mexico Core Curriculum requirements.

Writing and Speaking:

One course from either ENGL 219, 220, CJ 130, PHIL 156.
3 credits

Physical and Natural Science:

(More restrictive than University of New Mexico Core Curriculum.)

One course from ANTH 121L, 150, 160; ASTR 101; BIOL 110, 123; CHEM 111L, 121 and 123L, 122 and 124L, 131L, 132L; EPS 101, 201L; ENVS 101; GEOG 101 and GEOG 105L.
3-4 credits

Social and Behavioral Sciences:

(More restrictive than The University of New Mexico Core Curriculum.)

Either ECON 105 or 106
-and-
either PSY 105 or SOC 101.
6 credits

Humanities:

Two courses from AMST 186; CLST 107, 204, 205; COMP 222, 224; ENGL 150, 292, 293; HIST 101L, 102L, 161L, 162L; MLNG 101, PHIL 101, 201, 202; RELG 107, 263, 264.
6 credits

Foreign Languages:

One lower-division non-English course.
3 credits

Total 21 credits

NOTES:

Electives

At least 3 credits of electives must be School of Architecture and Planning courses OTHER than architecture.

Service Learning

Students must complete 3 credits in a service learning course, approved by the faculty, in which students work directly with a not-for-profit, community group, or public agency on architectural research, design, and/or application of design skills. This may be fulfilled by ARCH 402: Community studio section, or other course, including independent study, APPROVED BY THE DIRECTOR OR ASSOCIATE DIRECTOR PRIOR TO ENROLLING.

Credit Hour Summary for Bachelor of Arts in Architecture	
Entry courses (1st year)	31-32
Additional University of New Mexico Core Courses	15
<u>Additional required Architecture courses</u>	<u>81</u>
Total B.A. Architecture	127-128*

(A minimum cumulative grade point average of 2.50 is required for graduation.)

*The University of New Mexico requires 128 credits for graduation.

Graduation Requirements

2 year Path

Entry Requirements

Completion of a Bachelor of Architecture, Bachelor of Science in Architecture, or Bachelor of Arts in Architecture from a school with an NAAB accredited degree program, or equivalent collegiate program as approved by the faculty.

Required Courses:

First Year			
ARCH 601	Masters Arch. Design I	Fa	6
ARCH 631	Systems Integration I	Fa	3
	2 Electives	Fa	6
ARCH 602	Masters Arch. Design II	Sp	6
-or-			
ARCH 603	Masters Arch. Design III	Su	6
ARCH 522	Systems Integration I	Sp	3
	Modern and Contemporary Architecture	Sp	3
ARCH 632	Systems Integration II	Sp	3
ARCH 551	Research Methodology	Sp	3
Total Credits			30

Graduate Review

Second Year

ARCH 604*	Masters Arch. Design IV and	Fa	6
ARCH 605	Masters Arch Design V	Sp	6
-OR-			
ARCH 596*	Project/Thesis Preparation and	Fa	6
ARCH 597	Master's Project	Sp	6
-OR-			
ARCH 596*	Project/Thesis Prep and	Fa	6
ARCH 599	Master's Thesis	Sp	6
ARCH 651	Professional Practice II	Fa	3
	<u>Architectural Electives</u>		<u>9</u>
Total Credits			24
Grand Total			54

*Project and Thesis options require approval from the Director of the Program after consultation with the faculty.

Exit Requirements

In addition to the required courses above, students must have taken the following courses before graduation. These courses may have been taken as an undergraduate or deficits may be made up while a graduate student, though these courses will not count toward the graduate degree:

Studio: Six semesters of design studios, equivalent to ARCH 201/211, 202/211, 301/311, 302/311, 401, 402.

Architectural History: Equivalent of ARCH 321 World Architectural, ARCH 322 World Architecture II, and ARCH 221 Architecture and Context

Building Systems: Equivalent of ARCH 331 Construction I, ARCH 332 Structures I, ARCH 431 Structures II, ARCH 432 Building Systems

Context: Equivalent of ARCH 241 Sustainability I, ARCH 441 Sustainability II, ARCH 442 Politics, Culture and Architecture

Practice/Research: Equivalent of ARCH 342 Human Factors and Programming, ARCH 451 Research and Design, and ARCH 452 Practice and Theory.

Non-architecture courses and free electives: Equivalent of 37 credits.

Upon acceptance into the program, the program will determine which, if any, of the above requirements have been met in a student's undergraduate curriculum.

3½ Year Path

Entrance Requirements

One semester of calculus, one semester of physics, and one semester of foreign language are required. At least one semester of an architecture history survey course is highly recommended. Calculus and physics requirements must be completed before beginning the program. A deficit in foreign language coursework may be made up while a graduate student, though this course will not count toward the graduate degree.

Required Courses

First Year

ARCH 503	Graduate Architectural Design I	Fa	5
ARCH 515	Graduate Architectural Communications. I	Fa	2
ARCH 521	Architectural Analysis	Fa	3
ARCH 531	Construction	Fa	3
ARCH 542	Human Factors and Programming	Fa	3
ARCH 504	Graduate Architectural Design II	Sp	5
ARCH 516	Grad. Architectural Communications. II	Sp	2
ARCH 522	Modern and Contemporary Architecture	Sp	3
ARCH 532	Structures I	Sp	3
ARCH 541	Sustainability II	Sp	3
Total			32

Graduate Review 1

Second Year

ARCH 505	Graduate Studio III	Fa	5
ARCH 517	Graduate Architectural Communications. I	Fa	2
ARCH 523	World Architecture I	Fa	3
ARCH 524	World Architecture II	Fa	3
ARCH 533	Structures II	Fa	3
LA 556	Site/Environment	Fa	3
ARCH 602	Masters Architectural Design II	Sp	6
ARCH 534	Building Systems	Sp	3
ARCH 551	Research Methodology	Sp	3
Total			31

Summer

ARCH 603	Masters Architectural Design III	Su	6
	Architectural Seminar	Su	3
			9

Graduate Review 2

Third Year

ARCH 604*	Masters Architectural Design IV	Fa	6
—and—			
ARCH 605	Masters Architectural Design V	Sp	6
—or—			
ARCH 596*	Project/Thesis Preparation	Fa	3
—and—			
ARCH 597	Master's Project	Sp	6

—or—			
ARCH 596*	Project/Thesis Preparation	Fa	6
—and—			
ARCH 599	Master's Thesis	Sp	6
ARCH 631	Systems Integration I	Fa	3
ARCH 632	Systems Integration II	Sp	3
ARCH 651	Professional Practice II	Fa	3
	Architectural Electives		9
Total			30
Grand Total			102

Master of Science in Architecture (Post-Professional Program)

The following graduate courses are requirements for the post professional degree (1½ year program).

Two semesters of graduate studios/seminars (601, 602, or 603)	12
ARCH 596 Project/Thesis Prep Seminar	3
ARCH 597 Masters Project	6
—or—	
ARCH 599 Master's Thesis	
Approved graduate electives	16

A minimum of 38 graduate credit hours is required for graduation.

Curriculum Design and Advisement

The faculty advisor will assist the student in planning a program of studies, which will be recorded in the student's file. Each student is responsible for the adequacy of his or her own curriculum and is free to alter it in process with the consent of their faculty advisor. The Program of Study must be confirmed by the graduate advisor. Successful completion of a Program of Studies is the basis for attaining a degree.

Master's Examination

The Master's examination is divided into two parts. The first part is the Graduate Review. The second part of the Master's Examination occurs with approval by faculty of the Master's Project, or Master's Studio, or Master's Thesis. Graduate Review Guidelines available in the Architecture Office.

Architecture (ARCH)

101. Design Fundamentals. (3)

Studio/lecture introduces fundamental principles and processes of two-, three-, and four-dimensional design. Methods of perception, technique, composition, evaluation of materials and methods, critical evaluation and graphic representation are studied through both abstract and representational assignments.

111. [104.] Introduction to Architectural Graphics.

[Introduction to Architectural Drawing.] (3)
Laboratory, lectures, and exercises to learn graphic representation methods. Emphasis is on the use of drawing to record and communicate architectural topics.

121. [101.] Introduction to Architecture. (3)

Lectures and exercises introduce architecture, design, and the creative process through an analysis of their social, historical, and technical determinants. Emphasis on 20th and 21st century architecture with an introduction to the profession and sustainability.

201. Architectural Design I. [Design I. Studio.] (4)

Studio analyzing landscape and site through mapping, diagramming, narrative, photography, digital and physical modeling and sectional studies. The relationship between the building program and the context is studied through a series of small building projects.
Corequisite: 211. Restriction: enrolled in B.A.A.

202. Architectural Design II. [Design II. Studio.] (4)

Studio introduces principles of urban design and planning through an exploration of a series of multi-scaled architectural

projects that examine public goals and constraints, urban infrastructure and fabric, sustainability, historical and socio-cultural issues.

Corequisite: 211 and 221. Restriction: enrolled in B.A.A.

211. [204.] Architectural Communications I. [Architectural Graphics I.] (2 to a maximum of 4) [2] Δ

This two term lecture/lab introduces architectural representation emphasizing digital visualization, representation and modeling to represent building systems, capture spatial concepts, and analyze the contexts of buildings. This course introduces use of the fabrication lab.

Restriction: enrolled in B.A.A.

221. Architecture and Context. (3)

Combined lecture and lab course that introduces historical and contemporary concepts of architectural context, and develops verbal and graphic skills for analyzing architecture as a practice of place-making.

Restriction: enrolled in B.A.A.

241. Sustainability I. (3)

Lectures present the framework for creative analysis, including systems thinking and synergistic integration of the three pillars of sustainability, environments, equity, and economy, and their relationship to building systems.

301. Design Studio III. (4) [6]

Studio investigates issues of private space and ownership emphasizing spatial, programmatic, typological and tectonic architectural issues. Small to medium scale projects range from domestic spaces to commercial environments with a focus on hybrid architectural conditions.

Corequisite: 311. Prerequisite: 201 and 202 and 211 and 221 and 241 with minimum grades of C+.

Restriction: enrolled in B.A.A.

302. Design Studio IV. (4) [6]

Studio investigates public space. Projects range from public open space, to public housing, to public institutions. The studio emphasizes mid-size buildings in urban contexts and human factors, universal design, politicized programs, programming and space.

Corequisite: 311. Prerequisite: 201 and 202 and 211 and 221 and 241 with minimum grades of C+. Restriction: enrolled in B.A.A.

311. [205.] Architectural Communication II. [Architectural Graphics II.] (2 to a maximum of 4) [2] Δ

In this two-term lecture/lab course students use narrative, written, and oral communication in the expression of architectural theories, processes, and positions. Readings and precedent studies help shape discussions about architectural theses.

321./523. [261./541.] World Architecture I: History of the Built Environment From Prehistory to 1400 CE. (3)

(Also offered as ARTH 323.) Lecture survey of the architectural and urban traditions of ancient and indigenous cultures from prehistory to the late middle ages.

Restriction: enrolled in B.A.A. or B.F.A. ARTH.

322./524. [262./568.] World Architecture II: History of the Built Environment From 1400 CE to the Present. (3)

(Also offered as ARTH 324.) Survey of the architectural and urban traditions of the modern world from the renaissance to the present.

Prerequisite: 221. Restriction: enrolled in B.A.A. or B.F.A. ARTH.

***329. [*363.] Pre-Columbian Architecture. (3)**

(Also offered as ARTH 343.) North, South and Mesoamerican pre-Columbian architecture, with emphasis on cultural background of ancient civilizations.

331. [285.] Construction I. (3)

Lab and lectures, introduction of technological aspects of building design and construction.

Restriction: enrolled in B.A.A.

332./532. [381.] Structures I. (3)

Lectures present principles of mechanics, equilibrium conditions, properties of structural materials, structural properties of areas, shear and moment, flexural stresses, shearing stresses, deflection, trusses and funicular structures.

Prerequisite: 202 and 211 and (MATH 180 or 162).

Restriction: enrolled in B.A.A. or B.S. in Construction Management.

342./542. [470.] Human Factors and Programming.

[Human Factors in Design.] (3)

Lectures explore the complex needs and desires of users and clients, the theory and techniques used to investigate these needs, and methods of applying research findings to the design of programs, buildings, and sites.

Restriction: enrolled in B.A.A.

385. Environmental Controls I. (3)

Lectures on human comfort, climate analysis, heating and cooling loads, passive solar heating, building heat balance, day lighting and acoustics.

Prerequisite: (202 and 205 and 285) or 506L. Restriction: enrolled in B.A.A. or M.Arch. degree program.

401. [402.] Design Studio V. (6)

Studio investigates urban theories and strategies focusing on civic buildings, urban design, landscape and infrastructural responses, public policy and architectural form. Projects are multiple buildings and urban forms in complex urban settings. Prerequisite: (301 & 302 with minimum grades of C+) and 311 and 322 and 332 and 341 and 342. Corequisite: 451. Restriction: enrolled in B.A.A.

402./502. [404.] Design Studio VI. (6)

Studio explores and tests issues of collaborative design and other contemporary architectural topics. Topics will vary. At least one section may engage community clients and be offered in conjunction with Landscape and CRP studios. Prerequisite: (301 and 302 with minimum grades of C+) and 311 and 322 and 332 and 342. Restriction: enrolled in B.A.A.

408./508. Design and Planning Assistance Center. (3-6 to a maximum of 12) Δ

Architectural and planning services to organizations and groups throughout the state who cannot afford traditional professional services. Advance approval required.

Prerequisite: 402 with minimum grade of C+. Restriction: enrolled in B.A.A. degree program.

409./509. Vertical Architecture Studio. (6 to a maximum of 12) Δ

Studio topics will vary. Typically offered only during the summer. This studio may replace the grade or substitute for any other studio.

Restriction: permission of Director.

422./522. [463./563.] Modern and Contemporary Architecture. [Modern Architecture.] (3)

(Also offered as ARTH 422./522.) Survey of modern architecture since the late 19th century, primarily in Europe and the Americas.

Prerequisite: 321 and 322.

425./525. [422./522.] Contemporary Architecture. (3)

(Also offered as ARTH 422./522.) This seminar provides a forum in which to discuss the theoretical issues and critical diversity of contemporary architecture of the last 30 years.

Restriction: enrolled in B.A.A. degree program.

428./528. [424./524.] Memory and Architecture. (3)

Lecture/seminar on the role of architecture in aiding memory at the personal, social and national scales, and its ability to communicate a coherent and understandable message regarding culture and memory.

Restriction: enrolled in B.A.A..

429/529. [423./523.] **Frank Lloyd Wright and American Architecture.** (3)

(Also offered as ARTH 423.) This seminar examines the origins, principles, practitioners and consequences of an American tradition of architecture that Frank Lloyd Wright called organic.

Restriction: permission of instructor.

430/530. Foundations of Physical Planning. (3)

(Also offered as CRP 433.) This is an introductory course of physical planning practice for Planning, Architecture and Landscape students. Graphic methods of analysis, field trips, cross-disciplinary projects range from regional plans to design details of the built environment. (Spring)

Restriction: enrolled in B.A.A. degree program

431/533. [382.] **Structures II.** (3)

Lectures present structural form and behavior, deflected shapes, approximate and simplified methods of analysis, graphic analysis, trusses cables and arches, simple beams, columns, continuous structures, three-dimensional structures, structural design issues.

Prerequisite: 332. Restriction: enrolled in B.A.A. or B.S. in Construction Management.

432/534. [481./581.] **Building Systems.** [Structure and Form.] (3)

Lecture course focuses on human comfort and safety systems including vertical transportation, fire suppression, thermal conditioning, air movement and quality, plumbing and electrical systems, and acoustics.

Prerequisite: 431.

441/541. Sustainability II. (3)

Explores the application of theoretical foundations of sustainability to building and landscape design including concepts of passive solar design, daylighting, water conservation, and green building materials and construction methods. Introduces environmental rating systems such as LEED.

Prerequisite: 241.

442/544. Politics, Culture, and Architecture. (3)

Lecture/seminar course explores the historical and contemporary relationships between political, cultural and economic theories that affect and are affected by built environments.

Restriction: enrolled in B.A.A.

449. [434.] **Synthesis of Sustainability Perspectives and Innovations.** (3)

(Also offered as AMST, ANTH, SUST 434.) Presents frameworks for complex and creative analysis, including systems thinking and synergistic integration of the three pillars of sustainability: environment, equity, economy. Examines innovative local and international case studies in environment, business, policy, and community development.

Prerequisite: SUST 334 and (ECON 106 or ECON 203.)

451. Research and Design (3)

Lecture course introduces research methods that support the design process. The course will culminate in a research paper or research position paper for a design project.

Restriction: enrolled in B.A.A.

452/552. Practice and Theory. (3)

Lecture course examines, in depth, the history and theories that have shaped contemporary architectural practice. Additionally this course will examine discourse currently animating architectural practice including ethics, types of practices, and the role of professions.

Corequisite: 402.

461/561. [411./511.] **Problems.** (1-6 to a maximum of 12)

[1-3 to a maximum of 12] Δ Students wishing to undertake a special study project must have instructor approval.

Restriction: permission of instructor.

462/562. [412./512.] **Seminar.** (1-3, no limit) Δ

Individually listed topics vary each semester.

Restriction: permission of instructor.

463/563. [435./535.] **Architecture and Design for Children.** (3)

A service learning course designed for architecture students and others teaching design education and architecture to teachers, children and others in the community.

Restriction: enrolled in B.A.A.

464/564. [482./582.] **Lighting.** (3)

Seminar/lab explores principles of architectural lighting. Includes: daylighting, electric lighting and lighting design.

Prerequisite: 431. Restriction: enrolled in B.A.A.

465/565. [483./583.] **Acoustics.** (2)

Seminar/lab explores concepts, theory and methodology for analysis and design of acoustical environments.

Restriction: enrolled in B.A.A.

466/566. [484./584.] **Construction Documents.** [Written Construction Documents.] (3)

Lecture/lab course develops an understanding of the production of specifications and other written construction documents.

Prerequisite: 231.

471/571. [432./532.] **Real Estate Development.** (3)

Lecture course introduces students to the process of real estate through lectures, case studies and hands-on exercises.

475/575. [413./513.] **Reflective Travel.** (1-2 to a maximum of 3) Δ

This course is a combination of reading, seminar discussion and guided independent study. It is intended to help students prepare, engage in and reflect upon travel relevant to their design and planning studies. Offered on a CR/NC basis only.

Restriction: permission of instructor.

481/581. [462./562.] **Southwest Architecture and Cultural Landscapes.** (3)

Introduction to the Native, Hispanic, and Anglo American architectural and cultural landscape traditions, and to the social, technological and intellectual forces reshaping them since 1880, especially the railroad and automobile; modernism, regionalism, and globalization.

Prerequisite: 322.

493/593. [466./566.] **Civic Places.** (3)

(Also offered as CRP, LA 593.) Seminar investigating the design, planning, and management of public spaces.

502/402. [404.] **Design Studio VI.** (6)

Studio explores and tests issues of collaborative design and other contemporary architectural topics. Topics will vary. At least one section may engage community clients and be offered in conjunction with Landscape and CRP studios.

Restriction: permission of Director.

503. [505L.] **Graduate Architectural Design I.**

[Introductory Graduate Studio I.] (5)

Studio introducing architectural design. Investigation of landscape, site and social contexts, private space, programmatic and tectonic issues. Offered on a CR/NC basis only.

Corequisite: 515 and 521. Restriction: enrolled in M.Arch.

504. [506L.] **Graduate Architectural Design II.**

[Introductory Graduate Studio II.] (5)

Studio investigating urban design and public space. Projects emphasize mid-size buildings in urban context and conceptions of human factors, historical and socio-cultural issues, politicized programs and space, and ecologically sound design.

Corequisite: 516. Restriction: enrolled in M.Arch.

505. [500.] **Graduate Architectural Design III.** [Graduate Studio III.] (5)

Studio investigating urban theories and strategies focusing on civic buildings, urban design, landscape and infrastructural responses, public policy, tectonics and making. Complex urban projects and building systems form the basis of this studio.

Corequisite: 517. Prerequisite: 504. Restriction: enrolled in M.Arch.

508./408. Design and Planning Assistance Center. (3-6 to a maximum of 12) Δ

(Also offered as CRP 508 and LA 508.) Architectural and planning services to organizations and groups throughout the state who cannot afford traditional professional services. Advance approval required.

Prerequisite: 500 or 501 or 502. Restriction: enrolled in M.Arch. degree or Town Design certificate program.

509./409. Vertical Architecture Studio. (6 to a maximum of 12) Δ

Studio topics will vary. Typically offered only during the summer. This studio may replace the grade or substitute for any other studio.

Restriction: permission of Director.

515. [505.] Graduate Architectural Communications I.

[Graphics Seminar I.] (2)

Seminar/lab introduces issues of architectural representation with an emphasis on digital visualization, representation and modeling as it relates to design process and presentation. Restriction: enrolled in M. Arch.

516. [506.] Graduate Architectural Communications II.

[Graphics Seminar II.] (2)

Seminar/lab explores three-dimensional modeling employing various media. Emphasis is on furthering design concepts, representing building systems, capturing spatial concepts, and analyzing contexts. This course includes an introduction to the fabrication lab.

Restriction: enrolled in M.Arch.

517. Graduate Architectural Communications III. (2)

Seminar course develops students use narrative, written, and oral communication in the expression of architectural theories, processes, and positions. Readings and precedent studies help shape discussions about architectural theses. Restriction: enrolled in M.Arch.

521. [561.] Architectural Analysis. (3)

Seminar introduces the range of categories and contexts specific to the production and representation of architecture. Open only to students in the 3 1/2 year program.

Restriction: enrolled in M.Arch.

522./422. [563./463.] Modern and Contemporary Architecture. [Modern Architecture.] (3)

(Also offered as ARTH 563./463.) Survey of modern architecture since the late 19th century, primarily in Europe and the Americas.

Prerequisite: (321 or 523) and (322 or 524). Restriction: enrolled in M.Arch. {Offered upon demand}

523./321. [541./261.] World Architecture I: History of the Built Environment From Prehistory to 1400 CE. (3)

(Also offered as ARTH 567.) Lecture survey of the architectural and urban traditions of ancient and indigenous cultures from prehistory to the late middle ages.

Restriction: enrolled in M. Arch.

524./322. [568./262.] World Architecture II: History of the Built Environment From 1400 CE to the Present. (3)

(Also offered as ARTH 568.) Survey of the architectural and urban traditions of the modern world from the renaissance to the present.

Restriction: enrolled in M. Arch. or M.F.A.

525./425. [522./422.] Contemporary Architecture. (3)

(Also offered as ARTH 522./422.) This seminar provides a forum in which to discuss the theoretical issues and critical diversity of contemporary architecture of the last 30 years.

Restriction: enrolled in M.Arch.

526. Contemporary Architecture and Urban Design. (3)

Survey of recent critical work in architecture and urban design. Survey of recent critical work in architecture and urban design.

Restriction: enrolled in M. Arch.

528./428. [524./424.] Memory and Architecture. (3)

Lecture/seminar on the role of architecture in aiding memory at the personal, social and national scales, and its ability to communicate a coherent and understandable message regarding culture and memory.

Restriction: enrolled in M.Arch. degree program.

529./429. [523./423.] Frank Lloyd Wright and American Architecture. (3)

(Also offered as ARTH 523.) This seminar examines the origins, principles, practitioners and consequences of an American tradition of architecture that Frank Lloyd Wright called organic.

Restriction: permission of instructor.

530./430. Foundations of Physical Planning. (3)

(Also offered as CRP 533.) This is an introductory course of physical planning practice for Planning, Architecture and Landscape students. Graphic methods of analysis, field trips, cross-disciplinary projects range from regional plans to design details of the built environment. {Spring}

Restriction: enrolled in M.Arch. degree program.

531. Graduate Construction I. (3)

Lab and lectures, introduction of technological aspects of building design and construction.

Restriction: enrolled in M. Arch.

532./332. [381.] Structures I. (3)

Lectures present principles of mechanics, equilibrium conditions, properties of structural materials, structural properties of areas, shear and moment, flexural stresses, shearing stresses, deflection, trusses and funicular structures.

Restriction: enrolled in M. Arch.

533./431. [382.] Structures II. (3)

Lectures present structural form and behavior, deflected shapes, approximate and simplified methods of analysis, graphic analysis, trusses cables and arches, simple beams, columns, continuous structures, three-dimensional structures, structural design issues.

Prerequisite: 532.

534./432. [481./581.] Building Systems. [Structure and Form.] (3)

Lecture course focuses on human comfort and safety systems including vertical transportation, fire suppression, thermal conditioning, air movement and quality, plumbing and electrical systems, and acoustics.

Prerequisite: 431 or 533.

541./441. Sustainability II. (3)

Explores the application of theoretical foundations of sustainability to building and landscape design including concepts of passive solar design, daylighting, water conservation, and green building materials and construction methods. Introduces environmental rating systems such as LEED.

Restriction: enrolled in M.Arch.

542./342. [470.] Human Factors and Programming. [Human Factors in Design.] (3)

Lectures explore the complex needs and desires of users and clients, the theory and techniques used to investigate these needs, and methods of applying research findings to the design of programs, buildings, and sites.

Restriction: enrolled in M.Arch.

544./442. Politics, Culture, and Architecture. (3)

Lecture/seminar course explores the historical and contemporary relationships between political, cultural and economic theories that affect and are affected by built environments.

Restriction: enrolled in M.Arch.

551. [572.] Research Methodology. (3)

Lecture/seminar focuses on the development and conceptualization of research questions and techniques to translate those questions into a primary or secondary research strategy. Emphasis is given to the relationship between research questions and design strategies.

Prerequisite: 503 or 601. Restriction: enrolled in M. Arch.

552./452. Practice and Theory. (3)

Lecture course examines, in depth, the history and theories that have shaped contemporary architectural practice. Additionally this course will examine discourse currently animating architectural practice including ethics, types of practices, and the role of professions.
Corequisite: 502.

561./461. [511./411.] Problems. (1-6 to a maximum of 12) [1-3 to a maximum of 12] Δ

Students wishing to undertake a special study project must have instructor approval.
Restriction: permission of instructor.

562./462. [412./512.] Seminar. (1-3, no limit) Δ

Individually listed topics vary each semester.
Restriction: permission of instructor.

563./463. [535./435.] Architecture and Design for Children. (3)

A service learning course designed for architecture students and others teaching design education and architecture to teachers, children and others in the community.
Restriction: enrolled in M.Arch.

564./464. [582./482.] Lighting. (3)

Seminar/lab explores principles of architectural lighting. Includes: daylighting, electric lighting and lighting design.
Prerequisite: 534. Restriction: enrolled in M.Arch

565./465. [583./483.] Acoustics. (2)

Seminar/lab explores concepts, theory and methodology for analysis and design of acoustical environments.
Restriction: enrolled in M.Arch.

566./466. [584./484.] Construction Documents. [Written Construction Documents.] (3)

Lecture/lab course develops an understanding of the production of specifications and other written construction documents.
Prerequisite: 531.

567. [560.] Seminar in Spanish Colonial Art. (3, no limit) Δ

Prerequisite: ARTH 450.

571./471. [532./432.] Real Estate Development. (3)

Lecture course introduces students to the process of real estate through lectures, case studies and hands-on exercises.

573. Architectural Programming. (3)

Theory and techniques for analyzing complex social and organizational situations and translating that analysis into design criteria for physical facilities.
Restriction: enrolled in M.Arch. degree program.

575./475. [513./413.] Reflective Travel. (1-2 to a maximum of 3) Δ

This course is a combination of reading, seminar discussion and guided independent study. It is intended to help students prepare, engage in and reflect upon travel relevant to their design and planning studies. **Offered on a CR/NC basis only.**

Restriction: permission of instructor.

579. Introduction to Preservation and Regionalism. (3)

(Also offered as CRP, LA 579.) An introduction to the history, theory and professional practices of historic preservation and regional contemporary design and planning.

581./481. [462./562.] Southwest Architecture and Cultural Landscapes. (3)

Introduction to the Native, Hispanic, and Anglo American architectural and cultural landscape traditions, and to the social, technological and intellectual forces reshaping them since 1880, especially the railroad and automobile; modernism, regionalism, and globalization.
Prerequisite: 524.

590. Historic Research Methods. (3)

(Also offered as CRP, LA 590.) An introduction to the methods for the documentation, research and analysis of historic built environments as preparation for historic preservation and contemporary regional design.

592. [567.] Public Works. (3)

(Also offered as CRP 592, LA 592.) Seminar investigating the social, urban, environmental and aesthetic issues of infrastructure and public works.

Restriction: enrolled in M. Arch., M.L.A., M.C.R.P., M.S. in Civil Engineering, or M. of Construction Management.

593./493. [566./466.] Civic Places. (3)

(Also offered as CRP, LA 593.) Seminar investigating the design, planning, and management of public spaces.

596. Project/Thesis Preparation. (3-6, no limit) Δ [2-3]

Foundational independent study where thesis or final project dimensions are explored, program or project principles established and search for available and manageable information completed. Feasibility of proceeding with the project is decided with faculty advisor(s). **Offered on a CR/NC basis only.**

Restriction: permission of Director.

597. Master's Project. (6)

Development of an advanced architectural project based on research and program developed in ARCH 596. Once initiated, continuous enrollment is required (excluding summer) until project is approved by faculty committee.

Prerequisite: 572 and 596. **Offered on a CR/NC basis only.**

Restriction: permission of instructor.

599. Master's Thesis. (6, no limit) Δ

Development of a research project reflective of advanced inquiry into an architectural topic. Plan I only. **Offered on a CR/NC basis only.**

Prerequisite: 652 and (602 or 603). Restriction: permission of Director.

601. [501.] Masters Architectural Design I. [History/Theory Studio.] (6)

Studio investigating building tectonics, structure, technical documentation, sustainability and construction. Building projects will be of medium size and may include adaptive reuse of existing structures and sites.

Restriction: enrolled in M.Arch.

602. [502.] Masters Architectural Design II. [Technology Studio.] (6)

Studio topics will vary. Projects will investigate collaboration in design. At least one section will engage community clients and, depending on their availability, will be offered in conjunction with Landscape and CRP courses.

Restriction: enrolled in M.Arch.

603. [503.] Masters Architectural Design III. [Graduate Community Studio/Seminar.] (6)

Studio investigation of architectural process, practice and design in a contemporary global context. Projects range from large-scale, multi-national headquarters to small-scale projects engaging socio-political interventions.

Prerequisite: 601. Restriction: enrolled in M.Arch.

604. [598.] Masters Architectural Design IV. [Master's Studio.] (6)

Studio investigation of an evidence-based line of architectural inquiry. The project will include application of research.

Prerequisite: 602 or 603. Restriction: enrolled in M. Arch.

605. Masters Architectural Design V. (6 to a maximum of 12) Δ

Studio developing a comprehensive project. The project must be clearly resolved, highly articulated, integrate building systems and other prior coursework, demonstrate excellent critical thinking, skill, and craft; and well presented. **Offered on CR/NC basis only.**

Prerequisite: 604. Restriction: enrolled in M. Arch.

631. [585./485.] Systems Integration I. [Construction II.] (3)

Lecture course presents a comprehensive and integrative process to examine the interrelationship of the properties of materials, building structures, environmental systems, and construction technology, as they influence design decision making.
Prerequisite: 533.

632. [587./487.] Systems Integration II. [Environmental Controls II.] (3)

Lecture course examines aesthetic stances and approaches to the integration of building systems including surfaces and details.
Prerequisite: 631.

651. [531.] Professional Practice II. [Professional Practice I.] (3)

Seminar explores issues involved in the founding and operation of an architectural practice. Additionally, the course reviews building codes, professional ethics, licensing, contracts and liability, and insurance.
Prerequisite: 602

COMMUNITY AND REGIONAL PLANNING

Program Director

Teresa L. Córdova, Associate Professor
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Professors

David S. Henkel, Ph.D., Cornell University
Theodore Jojola, Ph.D., University of Hawaii
James R. Richardson, M.Arch./AS and MCP, Massachusetts Institute of Technology
José A. Rivera, Ph.D., Brandeis University
Roger Schluntz, M.Arch, University of California (Berkeley)

Associate Professors

Teresa Córdova, Ph.D., University of California (Berkeley)
William Fleming, Ph.D., University of British Columbia
Claudia B. Isaac, Ph.D., University of California (Los Angeles)

Assistant Professor

Timothy Imeokparia, Ph.D., Ohio State University

Research Assistant Professor

Moises Gonzales, M.C.R.P., The University of New Mexico

Adjunct Professor

V.B. Price, B.A., The University of New Mexico
Porus Olpadwala, Ph.D., Cornell University

Professors Emeritus

Paul E. Lusk, M.Arch., University of Pennsylvania
William J. Siembieda, Ph.D., University of California (Los Angeles)

Part-time Instructors

Adelamar Alcantara, Ph.D., University of Hawaii
Christopher Blewett, M.A., The University of New Mexico
Steve Borbas, M.Arch, Pratt Institute
Moises Gonzales, M.C.R.P., The University of New Mexico
Sharon Hausam, Ph.D., University of Wisconsin (Madison)
Anita Miller, J.D., New York University

Degree Programs

Undergraduate

Bachelor of Arts in Environment, Planning & Design

The Bachelor of Arts in Environmental Planning & Design (B.A.E.P.D.) at the University of New Mexico is an undergraduate course of study related to the graduate degree in Community & Regional Planning (CRP). Environmental planning encompasses systematic and creative methods used to influence and respond to dynamic changes occurring in neighborhoods, cities, and entire regions throughout the world. Planners assist communities in formulating policies and plans to meet their social, economic, environmental, cultural, and physical needs.

In the American Southwest, human strategies for adapting to arid conditions have been evolving for thousands of years. They represent many different cultural perspectives, complex social histories, and rich practical learning that are vital for current and future survival. The Bachelor of Arts in Environmental Planning & Design offers students the opportunity to engage in socially and environmentally relevant skill building and to address the issues of an evolving social and cultural landscape.

Opportunities for Environmental Planners exist in a variety of governmental, non-profit, and private for-profit settings. Graduates have been hired in tribal, local, state, regional, and national planning and design offices. At the national level, graduates work for the National Park Service, the U.S. Forest Service, the National Resources Conservation Service, the Peace Corps, Los Alamos National Laboratories, the U.S. Department of Transportation, environmental advocacy organizations, and university facility planning departments. Our B.A.E.P.D. graduates may use this degree to advance to a graduate program or to work for state agencies, community-based organizations, community development foundations, or private planning firms concentrating in environmental analysis, geographic information systems, and community health planning.

Students in the B.A.E.P.D. Program take a total of 128 credits. The course of study consists of 37 credits from the University of New Mexico core courses as a prerequisite to the program, 36 credits of B.A.E.P.D. core courses, 39 credits of Community & Regional Planning Concentration courses, and 16 credits of electives.

B.A.E.P.D. Faculty Advisor

Bill Fleming

School of Architecture and Planning Undergraduate

Advisor

Lois Kennedy

Admissions

Application packets are due in the School undergraduate advisor's office by April 15 (for Fall admission) or November 15 (for Spring admission) of each year. To apply, a student must have completed a minimum of 26 hours of the UNM Core and/or B.A.E.P.D. Core, including ENGL 102 (with a C or better). The packet consists of an application form, which can be obtained from the School's undergraduate advisor, Rm. 120 in George Pearl Hall, a two-page statement of intent indicating how this degree will benefit you, and an unofficial transcript. Students must have at least a 2.0 GPA. Students are strongly encouraged to either be taking or have taken either CRP 165, Introduction to Community & Regional Planning, or CRP 181, Introduction to Environmental Problems, at the time of their application.

The University of New Mexico Core Requirements

Students must complete the UNM Core requirements in accordance with the catalog selection options; however, selections must include the following:

Physical and Natural Sciences 2 courses, both including labs	8
Social and Behavioral Sciences	
CRP 181 Introduction to Environmental Problems	3
PSY 105 General Psychology	3
-or-	
SOC 101 Introduction to Sociology	3
ARCH 121 Introduction to Architecture	3
Total Credits for UNM Core	37

B.A.E.P.D. Core Requirements

CRP 165 Introduction to Community and Regional Planning	3
CRP 376 Human Settlements	3
CRP 482 Graphic Communication	3
ARCH 342 Human Factors and Programming	3
CJ 225 Small Group Communication	3
Introduction to Research Methods (from any department)	3
Intro to GIS (from any department)	3
	21

Physical World (Select One)

SUST 134 Introduction to Environmental, Social, and Economic Health	3
GEOG 195 Humans as Modifiers of Earth	3
GEOG 352 Global Climate Change	3
GEOG 365 Nature and Society	3
EPS 333 Environmental Geology (Prerequisites, check Catalog)	3

Philosophy and Ethics (Select One)

ANTH 340 Topics in Cultural Anthropology	3
CJ 268 Media Theories	3
PHIL 202 Descartes to Kant	3
PHIL 245 Professional Ethics	3
PHIL 363 Environmental Ethics	3
AMST 182 Introduction to Environment, Science, and Technology	3
AMST 311 Material Culture in America	3

Art and Design (Select One)

ARCH 101 Design Fundamentals	3
ARTH 250 Modern Art	3
ARTS 187 Introduction to Photography	3
ARTS 320 The Phenomena of Color	3
ARTS 141 Introduction to Art and Ecology	3

Social and Political Dimensions (Select One)

CRP 435 Community Economics for Planners	3
CRP 470 Sem: Ecotourism and Community Development	3
CRP 487 Political Economy of Urban Development	3
POLS 280 Introduction to Political Analysis	3
POLS 270 Public Policy and Administration	3

Ethnic and Gender Studies (Select One)

CRP 428 Gender and Economic Development	3
CRP 473 Planning on Native American Lands	3
CRP 486 Planning Issues in Chicano Communities	3
AMST 333 Gender and Tradition	3
AMST 353 Race Relations in America	3
AMST 354 Social Class and Inequalities	3

Total Credits for B.A.E.P.D. Core 36

Community & Regional Planning Concentration requirements:

CRP 265 Community Planning Methods	3
CRP 330 Introduction to Urban Design	3
CRP 420 Urban Planning Workshop	3
CRP 427 Watershed Management	3
CRP 433 Foundations of Physical Planning	3
CRP 437 Urban Systems	3
CRP 462 The Housing Process	3
CRP 467 Regional Planning Process and Theory	3
CRP 472 Indigenous Planning	3
CRP 474 Cultural Aspects of Community Development Planning	3
CRP 480 Community Growth and Land Use Planning	3
	33

One Statistics course in any discipline **3**

One of the following:

ECON 105 Introduction to Macroeconomics	3
ECON 106 Introduction to Microeconomics	3
	3

Total Credits for CRP Concentration 39

Electives **16**

Suggested electives for this degree:

CRP 425 Urban Design Theory	3
CRP 431 Foundations of Community Development	3
CRP 435 Community Economics for Planners	3
ECON 342 Environmental Economics (prerequisites, check catalog)	3
EPS 310L New Mexico Field Geology Lab (prerequisites, check catalog)	3
EPS 481L Geomorphology and Surficial Geology (prerequisites, check catalog)	4
BIOL 463L Flora of New Mexico (prerequisites, check catalog)	4
CJ 314 Intercultural Communications	3
Total Credits for B.A.E.P.D. Degree 128	

Undergraduate Minor in Community and Regional Planning (CRP)

Undergraduate students interested in a minor course of study in CRP must apply to the program. Forms are available online at the CRP Web site, <http://planning.unm.edu>, or in the CRP office, George Pearl Hall, Room 117.

The Community & Regional Planning minor consists of 21 CRP credit hours as follows: 165, 181, 265, 376 or 480, 473 or 486, 481 or 482 or 483, and 3 hours of a 300- or 400-level CRP course.

Graduate – Master’s Degree in Community & Regional Planning

The Master of Community and Regional Planning (M.C.R.P.) is a two-year degree program for professional education in the field of planning. The program emphasizes local and regional planning issues and reflects the culture and resources of the Southwest. The course of study provides training opportunities in rural as well as urban settings. Formally structured dual degree opportunities are available with the Latin American Studies Program, the School of Public Administration, and the Water Resources Program. (M.C.R.P. graduates also have developed individual dual degrees with Architecture, Economics, and Public Health). Students are encouraged to engage in fieldwork and professional internship experiences.

The Community and Regional Planning Program is nationally accredited by The Planning Accreditation Board (PAB). The program received renewal of its accreditation in 2007. The program provides grounding in planning skills, methods and theory and an appreciation of the nature of practice in the Southwest as a region.

The mission of the Community and Regional Planning (CRP) program is to plan with communities for their sustainable futures in the Southwest region through education, service and research. The Program's purpose is to provide future planners and professionals with the knowledge and skills necessary to support planning that is responsive to people and place. Students of the CRP program work with communities, including their own, to create community-based plans, programs and policies that sustain and enhance their culture, resource base, built environment and economic vitality.

The rich substantive content of community and regional planning draws from many disciplines. It focuses on the concepts and disciplines of planning as applied to a field of practice. Students in the M.C.R.P. Program may select a concentration in Community Development, Natural Resources & Environmental Planning, or Physical Planning and Design in their course of study.

The educational model for this degree is based on the concept of problem solving as a skill and as a context for broader understanding. Because much of planning practice involves solving complex social, physical, and resource allocation or conservation problems, the ability to analyze problems is central to the educational process. The assets and skills of a professional planner include: 1) a capacity for reasoned thought; 2) visionary (futuristic or alternative) thinking; 3) the communication of community-based planning concepts with clear graphic, written, and verbal information; 4) the ability to manage and resolve community and environmental conflicts; 5) a capacity to work with community-based planning strategies to address natural resource, community development, and physical planning problems to enhance sustainability.

CRP students are assigned a personal academic advisor from among the core faculty at the time of admission.

Application Process

Applications are accepted primarily for the fall semester. Spring admission will be considered for special circumstances only. Applications are not considered for the summer term.

The priority postmark deadline for the fall semester is January 30th; however, applications will be accepted through June 15 on a space available basis. Prospective applicants should consult the Graduate Program section of the Catalog to review current policies and guidelines.

The following must be submitted to the UNM Office of Admissions, either electronically or by mail:

- UNM Graduate Admissions Application
- \$50.00 Application Fee

The UNM Admissions Application is available online at the UNM Office of Admissions website, <http://www.unm.edu/admissions/>.

In addition, applicants must send the following materials to the Community and Regional Planning Program:

- Letter of Intent
- Three Letters of Recommendation (one must be from an academic source, i.e. a professor or advisor)
- Curriculum Vitae (Resume)
- Official transcripts from all higher educational institutions attended

CRP Program Mailing Address:
Community & Regional Planning Program
MSC04 2530
1 University of New Mexico
Albuquerque, NM 87131-0001

Applicants must be sure that the UNM Graduate Admissions Application is received in time to be forwarded to the CRP admissions committee by Jan. 30; incomplete files will not be sent to the program for review.

Admissions Criteria

The Admissions Committee is composed of CRP faculty members and representatives of the student body. All files are evaluated on the basis of:

- A. The persuasiveness of the letter of intent, which should be a statement of professional goals, personal accomplishments, and academic motivation. The Admissions Committee looks for a letter that expresses commitment to planning practice and assesses your goals and philosophy in the context of the CRP program. The applicant should identify any special attributes that may add to the multicultural and affirmative action goals of the program and why you think our program can help you to accomplish your goals.
- B. The strength of the three letters of recommendation. These should be letters from people who are aware of your academic and professional accomplishments. We are interested in your seriousness and capability as a student and as a future professional, so the committee carefully considers these letters in assessing your potential. The standard recommendation form is contained on the forms page of the UNM Office of Graduate Studies website, which can be accessed at the following link: <http://www.unm.edu/~grad/>. This form is what an applicant partially fills out and then provides to each writer of a letter of recommendation. Each writer then will need to mail the form with a letter attached directly to the CRP Program.
- C. The demonstrated capacity to perform high quality graduate study, based upon academic transcripts for all undergraduate and graduate courses taken by the applicant. A minimum Grade Point Average of 3.0 is required for the last two years of an applicant's undergraduate study. The transcript is reviewed for coursework that demonstrates preparation for a professional degree in planning, such as social and life sciences, statistics, economics, and ethnic, gender and area studies.
- D. The relevance of the applicant's experience and background, most commonly based upon a clear curriculum vitae. A personal vitae helps the Admissions Committee to understand your career path, especially your experience in some aspect of community-based or regional planning through employed or volunteer job experience, publications, community service, and other outstanding achievements.
- E. The fit with the CRP program in terms of our community-based planning philosophy and focus, the natural resources, community development, and physical planning concentrations, and our concern with issues of equity and social justice.
- F. Recent and potential personal growth, a more subjective criterion that is based on our desire to admit students who are committed and motivated, who have already begun their intellectual development, and who have real potential to continue that development in our program and as planning professionals.

Admissions Decisions

The Admissions Committee reviews, discusses, and ranks all applications, identifying the degree to which each meets the criteria and satisfies the academic prerequisites. Applicants then are notified whether they are 1) admitted; 2) conditionally admitted pending receipt of formal contents of the application; 3) placed on the waiting list for admission should a space open up; or 4) not admitted. Those who do not gain admission are encouraged to contact the CRP Director for an explanation and to assess the feasibility of a successful reapplication.

Course of Study & Degree Completion

The M.C.R.P. degree program is a two-year course of study for which a minimum of 50 credits is required. This program requires three parts for the completion of this degree: 50 hours of course work as indicated in the program of study; the Graduate Review; and a thesis or professional project to be presented in public.

Students enrolled in this program are allowed to take up to 12 hours at the graduate level in other UNM programs. Students also may request to have up to 9 hours of upper level undergraduate coursework applied towards their elective degree requirements.

Incoming graduate students are required to have taken statistics and economics as prerequisites for this program. If a student has not taken these courses, they may take them simultaneously with their graduate course work, but must have the prerequisites completed to graduate from the program.

Required Graduate Courses

Core course Requirements

CRP 500	Planning Theory and Process	(4)
CRP 510	Planning Communication Workshop	(2)
CRP 511	Analytical Methods for Planning	(4)
CRP 521	Advanced Planning Studio	(5)
CRP 545	Land Use Controls	(3)
—or— CRP 580	Community Growth and Land Use Planning	(3)

Total of 18 hours to meet Core Course Requirements

Concentrations Course Requirements

Students are required to select an area of concentration in Community Development, Natural Resources and Environmental Planning, or Physical Planning and Design.

Students are required to take a concentration Foundations course (3 credits) and a second methods course (3 credits) from a cluster of course options in their concentration area.

Total of 6 hours of Concentrations Requirements.

Elective Course Requirements

Students must take 18 hours of approved elective course work.

Total of 18 hours of Electives

Exit Course Requirements

CRP 588	Professional Project/ Thesis Preparation Seminar	(2)
Plan I—	CRP 599 Master's Thesis	(6)
—or—		
Plan II—	CRP 589 Professional Project	(6)

Total of 8 hours to meet Exit Requirements

Total of 50 hours required for completion of the M.C.R.P. Degree

The Graduate Review

The Graduate Review should take place at the student's request after the completion of 12 hours of graduate study but must take place before the student can enroll in the thesis/professional project preparation course. A faculty committee consisting of the student's advisor and one other CRP faculty member will review the student's prior academic records, proposed Program of Studies, evidence of courses focused in a concentration, a Student Self-Assessment filled out by the student, and the thesis or professional project proposal. Assessment of the student's performance in the program to date and proposals for future work will guide the committee's recommendations for the student's remaining efforts to complete the M.C.R.P. degree and the approval of the Program of Studies Form.

Thesis or Professional Project

The thesis/professional project is a formal document prepared in consultation with the student's faculty committee and presented in public. The thesis/professional project committee, which is nominated by the candidate, evaluates the scope of the work, the quality of analysis and the content of the findings and/or recommendations. The committee also evaluates the student's understanding of his or her chosen field of study and area of concentration, as well as strengths in accomplishing graduate studies.

Licensing for Planners

There are no licensing requirements for planners in New Mexico. Planners can be certified through the American Institute for Certified Planners (AICP).

Graduate Minor in Community and Regional Planning (CRP)

Graduate students interested in a minor course of study in CRP must apply to the program. Forms are available in the CRP office, George Pearl Hall Room 117, or online at the CRP website, <http://planning.unm.edu>.

Course requirements (12 hours):

Two of the following foundations courses:

CRP 531	Foundations of Community Development	(3)
—and— CRP 532	Foundation of Natural Resources	(3)
—or— CRP 533	Foundations of Physical Planning	(3)

A CRP methods course in community development, natural resources or physical planning chosen in consultation with faculty advisor (3).

An additional emphasis elective in community development, natural resources or physical planning selected in consultation with faculty advisor (3).

Joint Dual Degrees Between the M.C.R.P. and Other Programs

Formal dual-degree programs have been established with Latin American Studies, the School of Public Administration, and the Water Resources Program. The dual-degree programs allow a student to complete both degrees in approximately 75% of the time it would take for the individual degrees in sequence. The dual degree option is attractive for advanced students who have field experience and who wish to accelerate their graduate education.

Other Degree Opportunities

Individual dual degree opportunities are also available with other departments on campus. The program of study is developed by the student and supported by the participating departments. Students have recently developed dual degrees with Architecture, Public Health, and Economics. Students should initiate an individual dual degree by talking with their faculty advisor.

Community and Regional Planning (CRP)

165. Community and Regional Planning, Introduction. (3) Introduction to the social, economic, political and physical factors involved in the development of cities and towns. Emphasis on the nature of urban form as a reflection of the prevailing past and present political economy of society. {Fall}

181. Introduction to Environmental Problems. (3) Development of the major issues, concepts and methods emerging from the relationship of social systems and the natural environment. {Spring}

203. Society and the Environment. (3)

(Also offered as ECON 203.) Introduction to environmental and natural resource issues of both global and local scale. Investigates basic causes and consequences of environmental problems, including interrelated physical and social science dimensions.

265. Community Planning: Concepts and Methods. (3)

Teaches the basic concepts, processes and techniques of planning. Students learn to identify planning issues, problems and research questions; collect information to answer these questions; organize and analyze information; and develop policy recommendations. {Fall}

330. Introduction to Urban Design. (3)

This course introduces students to issues associated with the design of cities and aims to establish an understanding of the theories and methodologies of urban design. Prerequisite: 165.

592. [579.] Introduction to Preservation and Regionalism. (3)

(Also offered as CRP, LA 579.) An introduction to the history, theory and professional practices of historic preservation and regional contemporary design and planning.

376/576. Human Settlements. (3)

Development of the form and structure of human settlements based on historical, cultural, economic and physical factors. Course includes various theoretical explanations of why settlements are organized, the way they are and how various elements of settlement system interact. {Spring}

413/513. Qualitative Research Methods. (3)

Introduction to the methods and techniques of qualitative inquiry. It focuses primarily on preparing students to conduct rigorous qualitative research, community based planning and analysis. {Spring}

420. Urban Planning Workshop. (3)

This course addresses physical planning analytical methods and presentation skills, and prepares students for professional roles as active and effective participants in the ongoing process of managing the urban spatial environment.

424/524. Environmental Planning Methods. (3)

Focuses on methods used to gather data and make judgement about projects. Presents an overview of current practices in environmental planning, with an emphasis on the National Environmental Policy Act (NEPA). {Summer}

425/525. Urban Design Theory. (3)

Explores the nature of urban design, main traditions that have influenced it throughout history, and current topics such as pedestrian design, postmodernism, cultural landscape studies, the New Urbanism and community participation. {Fall}

427/527. Watershed Management. (3)

An introduction to the watershed as a rational planning unit, with case studies to illustrate principles of resource inventory, identification of land use problems and the formulation of plans for protection and rehabilitation. {Spring}

428/528. Gender and Economic Development. (3)

This course examines women's economic and social roles in economic development, especially in Third World societies; prepares students to assess gender implications of development plans and projects; and provides analytical skills in gendered development planning. {Spring, alternate years}

429/551. Problems. (1-3 to a maximum of 6) Δ

Problems are individualized topics conducted on a one to one student-faculty arrangement. Allows for exploration of various subjects of interest to students and faculty members.

431/531. Foundations of Community Development. (3)

Explores what it takes to practice community development. What are processes of community development and how can planners enhance and build community in ways that promote fair and just distribution of resources and impacts. {Spring}

433/533. Foundations of Physical Planning. (3)

(Also offered as ARCH 430.) An introductory of physical planning practice for Planning, Architecture and Landscape students. Graphic methods of analysis, field trips, cross-disciplinary projects range from regional plans to design details of the built environment. {Spring}

435/535. Community Economics for Planners. (3)

Explores the intersections of economics and contemporary economic development issues and policies. How do economic decisions and policies impact the shaping of space and development of communities? Covers strategies to strengthen local economies. {Spring}

437/537. Urban Systems. (3)

The study of city systems, form, and development with emphasis on social, economic, political, and physical aspects of cities as partial and total systems.

462/562. The Housing Process. (3)

A broad introduction to the housing system, housing policies, finance and funding mechanisms and development dynamics. {Fall, alternate years}

465/565. Land Development Economics. (3)

Case studies in concepts and processes involved in the changing of raw land to urban fabric. Public and private sector roles involving housing, shopping, and all community facilities. {Fall, alternate years}

***466. Public Sector Project Analysis. (3)**

(Also offered as ECON 466.) Project evaluation, cost-benefit analysis, capital budgeting, financing, federal-state relationships, environmental and public welfare impacts of projects and other related issues.

Prerequisite: ECON 300 and ECON 350.

467/567. Regional Planning Process and Theory. (3)

Basic theories and practices of regional planning and development. The physical, demographic and functional structure of regions. Problems of uneven development in the southwest; implications on the economic and cultural welfare of the region. {Fall, alternate years}

470. Seminar. (1-3, no limit) Δ

Various topics related to planning in the southwest.

472. Indigenous Planning. (3)

Examines the relationship of indigenous planning to other planning approaches such as advocacy, equity, and radical planning; considers aspects of "indigenity" such as sovereignty, land tenure, and culture, and their application to community planning.

473/573. Planning on Native American Lands. (3)

The social, political and economic interrelations between tribal lands and their activities with the outside dominant society. Case studies are used to present views in support of tribal autonomy and tribal integration. {Spring, alternate years}

474/574. Cultural Aspects of Community Development Planning. (3)

Development theory, community planning and human ecology in different cultural settings. The course examines cases in Latin America, Southeast Asia, Western Europe and the U.S., as contexts for applied exercises. Relevant to B.A.E.P.D. {Fall, alternate years}

480/580. Community Growth and Land Use Planning. (3)

Study of land use planning and growth management dynamics at the local level, in its physical, legal administrative and economic contexts. {Spring}

481/581. Computer Applications for Planning and Administration. (3)

Use of computers to assemble, analyze and use data related to: demographics, public expenditures, socioeconomic variables, physical growth, infrastructure requirements and mapping of geographic information. Problems based on urban planning and public administration cases. {Fall}

482/582. Graphic Communications. (3)

An introduction to hand drawing and graphic techniques. Students will become comfortable in expressing and communicating design thinking and ideas in graphic form.

483/583. Introduction to Geographic Information Systems (GIS). (3)

Overview of GIS capabilities in the context of community issues and local government. Includes direct manipulation of ArcView software, lectures, demonstrations and analysis of urban GIS applications. {Spring}

484/584. Neighborhood Planning. (3)

Addresses the different issues that affect community residents, including land use and zoning, traffic and streets, parks, social services, education, crime prevention and job training. {Fall, alternate years}

485/585. Practice of Negotiation and Public Dispute Resolution. (3)

Introduces students to new ways to negotiate and resolve disputes in the context of professional practice through collaborative decision making and problem solving. {Spring}

486/586. Planning Issues in Chicano Communities. (3)

Applies planning concepts and techniques to development issues facing Chicanos in New Mexico generally and Albuquerque specifically. Other Chicano communities are studied for the insights gained from a comparative approach. {Fall}

487/587. Political Economy of Urban Development. (3)

Analyzes the political and economic factors shaping urban development with particular emphasis on the impacts of economic restructuring. As planners, we study how these changes affect the process of planning and policy formation. {Fall}

500. Planning Theory and Process. (4)

A broad overview of planning theory and history, with a focus on current planning paradigms as they apply in practice. Introduces students to the roles professional planners play in practice and the strategies they employ and dilemmas they encounter. {Fall}

Restriction: enrolled in CRP program.

508. Design and Planning Assistance Center. (3-6 to a maximum of 12) Δ

(Also offered as ARCH 508 and LA 508.) Architectural and planning services to organizations and groups throughout the state who cannot afford traditional professional services. Advance approval required.

Restriction: permission of program director.

510. Planning Communication Workshop. [Techniques of Planning Communication.] (2) [4]

An introduction to basic planning communications techniques with emphasis on applied skills using various modes of information. Included are: teamwork, visual, graphic, oral, written and electronic media communication techniques. Course requires student presentation and applied problem solving skills. {Fall} **Offered on a CR/NC basis only.**

Restriction: enrolled in C.R.P. program.

511. Analytical Methods for Planning. (4)

Introduction to comparative analysis of social, economic and spatial data as integrated into a typical comprehensive plan. Building data sets, organization of information, use of survey research, preliminary forecasting methods. Descriptive statistics a prerequisite. {Spring}

512. Planning Analysis and Forecasting. (3)

Methods of modeling, assessment, evaluation and forecasting. Includes techniques of needs assessment, population forecasting, economic impact studies and estimation. Prerequisite: 511.

513/413. Qualitative Research Methods. (3)

Introduces students to the methods and techniques of qualitative inquiry. It focuses primarily on preparing students to conduct rigorous qualitative research, community based planning and analysis. {Spring}

515. Natural Resources Field Methods. (3)

Lays a foundation for applying planning concepts and analytical techniques to identify the characteristics and limitations of natural resources in regions. Students will learn field techniques for rapid assessment of natural systems. {Fall}

520. Planning Studio. [Urban Planning Studio.] (4)

Research and application of planning theory and methods appropriate to real urban settings from very large to neighborhood scale. Emphasis on sustainable development, equity and regional appropriateness. May be co-taught/combined with Architecture and Landscape. Prerequisite: 510.

521. Advanced Planning Studio. (5) [4]

Research and application of planning theory and methods appropriate to real client need. Students will engage in a community-based problem/issue. May be co-taught. Restriction: enrolled in CRP program. {Fall}

524/424. Environmental Planning Methods. (3)

Focuses on methods used to gather data and make judgment about projects. Presents an overview of current practices in environmental planning, with an emphasis on the National Environmental Policy Act (NEPA). {Summer}

525/425. Urban Design Theory. (3)

Explores the nature of urban design, main traditions that have influenced it throughout history, and current topics such as pedestrian design, postmodernism, cultural landscape studies, the New Urbanism and community participation. {Fall}

527/427. Watershed Management. (3)

An introduction to the watershed as a rational planning unit, with case studies to illustrate principles of resource inventory, identification of land use problems and the formulation of plans for protection and rehabilitation. {Spring}

528/428. Gender and Economic Development. (3)

Examines women's economic and social roles in economic development, especially in Third World societies; prepares students to assess gender implications of development plans and projects; and provides analytical skills in gendered development planning. {Spring, alternate years}

530. Internship. (2)

Professionally based experience in professional planning practice in public, private or non-profit settings. Supervision is given in the field setting as well as at an academic setting. **Offered on a CR/NC basis only.**

531/431. Foundations of Community Development. (3)

Explores what it takes to practice community development. What are processes of community development and how can planners enhance and build community in ways that promote fair and just distribution of resources and impacts. {Spring}

532. Foundations of Natural Resources. (3)

A foundation for applying planning concepts and analytical techniques to natural systems in regions. Ecology and environmental policy, land suitability analysis, natural resources accounting and impact assessment. {Spring}

533/433. Foundations of Physical Planning. (3)

(Also offered as ARCH 530.) An introductory course of physical planning practice for Planning, Architecture and Landscape students. Graphic methods of analysis, field trips, cross-disciplinary projects range from regional plans to design details of the built environment. {Spring}

535/435. Community Economics for Planners. (3)

Explores the intersections of economics and contemporary economic development issues and policies. How do economic decisions and policies impact the shaping of space and development of communities? Covers strategies to strengthen local economies. {Spring}

536. Social Policy and Planning. (3)

(Also offered as PADM 536.) Explores the process of policy formation by examining current policy and planning issues. Prerequisite: senior standing. {Fall, alternate years}

537/437. Urban Systems. (3)

The study of city systems, form, and development with emphasis on social, economic, political, and physical aspects of cities as partial and total systems.

543. Transportation Planning. (3)

Introduction to urban transportation subject area in a seminar format. Characteristics of urban transportation systems in U.S. and foreign cities are explored as are effects of urban transportation on local economies, urban form, the environment and the neighborhood. (Fall, alternate years)

544. Reflective Travel. (1-2 to a maximum of 3) Δ

(Also offered as ARCH 513, LA 513.) This course is a combination of reading, seminar discussion and guided independent study. It is intended to help students prepare, engage in and reflect upon travel relevant to their design and planning studies. Offered on a CR/NC basis only.

545. Land Use Controls. (3)

This course examines the legal context for the evolution of land use regulation in the United States, with particular emphasis on the Southwest.

Restriction: enrolled in CRP program. (Spring)

551/429. Problems. (1-3, no limit) Δ

Individual study of problems in planning undertaken with faculty advisement and supervision.

Restriction: permission of instructor.

562/462. The Housing Process. (3)

A broad introduction to the housing system, housing policies, finance, funding mechanisms and development dynamics. (Fall, alternate years)

563. Housing Seminar. (3)

Seminar on selected issues in housing at both regional and local levels; independent research topics include trends in federal policy and legislation, technology and the housing industry, the changing roles of participants and design implications of energy constraints.

565/465. Land Development Economics. (3)

Case studies in concepts and processes involved in the changing of raw land to urban fabric. Public and private sector roles involving housing, shopping and all community facilities. (Fall, alternate years)

567/467. Regional Planning Process and Theory. (3)

Basic theories and practices of regional planning and development. The physical, demographic and functional structure of regions. Problems of uneven development in the southwest; implications on the economic and cultural welfare of the region.

Prerequisite: 511. (Fall, alternate years)

568. Advanced Urban Design. (4)

Analysis of complex urban design problems using various regional settings. Designed for advanced students and professionals in the field. This is a studio format course.

Prerequisite: 425 or 525 or 533.

569. Rural Community Development. (3)

Principles and practice of rural area development. Emphasis on rural issues of the Southwest. Includes field studies and analysis of theory. (Fall, alternate years)

570. Seminar. (1-3, no limit) Δ

Various topics related to planning in the southwest.

573/473. Planning on Native American Lands. (3)

The social, political and economic interrelations between tribal lands and their activities with the outside dominant society. Case studies are used to present views in support of tribal autonomy and tribal integration. (Spring, alternate years)

574/474. Cultural Aspects of Community Development Planning. (3)

Development theory, community planning and human ecology in different cultural settings. The course examines cases

in Latin America, Southeast Asia, Western Europe and the U.S. as contexts for applied exercises. Relevant to B.A.E.P.D. (Fall, alternate years)

576/376. Human Settlements. (3)

Development of the form and structure of human settlements based on historical, cultural, economic and physical factors. Course includes various theoretical explanations of why settlements are organized, the way they are and how various elements of settlement system interact. (Spring)

577. Practice of Policy Development. (3)

(Also offered as PADM 577.) Introduction to practice of public policy development in technical and professional applications. Emphasis on writing, interpretation and implementation of policy documents. Required for the dual MPA-M.C.R.P. degree.

578. Latin American Development Planning. (3)

(Also offered as LTAM 578 and SOC 508.) This course covers the historical roots of development planning in Latin America and develops a theoretical background to evaluate current policy options of Latin American countries at the local and regional scale. (Spring, alternate years)

579. Introduction to Preservation and Regionalism. (3)

(Also offered as ARCH, LA 591.) An introduction to the history, theory and professional practices of historic preservation and regional contemporary design and planning.

580/480. Community Growth and Land Use Planning. (3)

Study of land use planning and growth management dynamics at the local level, in its physical, legal administrative and economic contexts. (Spring)

581/481. Computer Applications for Planning and Administration. (3)

Use of computers to assemble, analyze and use data related to: demographics, public expenditures, socioeconomic variables, physical growth, infrastructure requirements and mapping of geographic information. Problems based on urban planning and public administration cases. (Fall)

582/482. Graphic Communications. (3)

(Also offered as LA 582.) An introduction to hand drawing and graphic techniques. Students will become comfortable in expressing and communicating design thinking and ideas in graphic form.

583/483. Introduction to Geographic Information Systems (GIS). (3)

Overview of GIS capabilities in the context of community issues and local government. Includes direct manipulation of ArcView software, lectures, demonstrations and analysis of urban GIS applications. (Spring)

584/484. Neighborhood Planning. (3)

Addresses the different issues which affect community residents, including land use and zoning, traffic and streets, parks, social services, education, crime prevention and job training. (Fall)

585/485. Practice of Negotiation and Public Dispute Resolution. (3)

(Also offered as PADM 588.) Introduces students to new ways to negotiate and resolve disputes in the context of professional practice through collaborative decision making and problem solving. (Spring)

586/486. Planning Issues in Chicano Communities. (3)

This course applies planning concepts and techniques to development issues facing Chicanos in New Mexico generally and Albuquerque specifically. We study other Chicano communities for the insights gained from a comparative approach. (Fall)

587/487. Political Economy of Urban Development. (3)

Analyzes the political and economic factors shaping urban development with particular emphasis on the impacts of economic restructuring. As planners, we study how these changes affect the process of planning and policy formation. (Fall)

588. Professional Project/Thesis Preparation Seminar. (2 to a maximum of 6) Δ

Development of project or thesis concept, investigation of data needs, initial data collection and assembly of written and field materials necessary to conduct a professional project or thesis.

Restriction: enrolled in CRP program. **Offered on a PR/CR/NC basis only.**

589. Professional Project II. (1 to a maximum of 6) Δ

Development of a professional project reflective of advanced work in the field. Project should have an identified client, a time frame and a final product which demonstrates competence to engage in professional level planning. **Offered on a PR/CR/NC basis only.**

590. Historic Research Methods. (3)

(Also offered as ARCH, LA 590.) An introduction to the methods for the documentation, research and analysis of historic built environments as preparation for historic preservation and contemporary regional design.

592. [534.] Public Works. (3)

(Also offered as ARCH, LA 592.) Seminar investigating the social, urban, environmental and aesthetic issues of infrastructure and public works.

Restriction: enrolled in M. Arch., M.L.A., M.C.R.P., M.S. in Civil Engineering or M. Construction Management.

593. [566.] Civic Places. (3)

(Also offered as ARCH 593, LA 593.) Seminar investigating the design, planning, and management of public spaces.

599. Master's Thesis. (1-6, no limit) Δ

Development of a research project reflective of advanced inquiry into a planning topic. Thesis should make concrete contributions to guide planning practice. **Offered on a PR/CR/NC basis only.**

The **Master of Landscape Architecture** prepares students for the thoughtful design and planning of outdoor space for human use. The degree is integrative, interdisciplinary and strongly concerned with the contribution of landscape architecture to human history and society and with the wise use and re-use of natural resources.

The master's program in landscape architecture provides a thorough background education in landscape architecture as well as specialized study. Students completing their degree requirements should have developed:

1. A broad view of and expertise in landscape architecture and site planning and the role of these disciplines in the health and functioning of human society.
2. An understanding of landscape architecture as a synthesis of environmental and cultural systems.
3. The special, necessary skills and knowledge of the landscape architect, which include but are not limited to: the history and theory of landscape architecture; plant selection and design; site analysis; creative site planning and design; landscape construction and materials; design and sustainability; the function of landscape architecture as a social art; professional practice, methods, and ethics; computer applications; research as a tool for environmental designers; and the relationship of landscape architecture to its closely allied disciplines of engineering, planning, and architecture.
4. The ability to exercise critical thinking and original design in the practice of landscape architecture.

New Mexico's remarkable Southwestern setting, with its ancient human made and natural landscapes and its growing modern population, provides an excellent environment for the study of landscape architecture. In addition to basic studies, each student is expected to complete either a Master's Thesis/Project, based on a topic selected according to their interests and a vision of their own future in the discipline.

LANDSCAPE ARCHITECTURE

Program Director

Alfred Simon, Ph.D., FCSLA

Professors

Christopher Wilson, J.B. Jackson Professor, M.A., University of New Mexico

Associate Professors

Alfred Simon, Ph.D., Arizona State University , M.L.A., University of Manitoba

Assistant Professors

Hyejung Chang, Ph.D., North Carolina State University-
Raleigh, M.L.A., University of Minnesota
Katya Crawford, M.L.A., The University of New Mexico

Professor of Practice

Baker Morrow, M.A., The University of New Mexico

Adjunct Associate Professors

Steve Borbas, MCRP, Pratt Institute

Research Associate Professor

Kim Sorvig, M.L.A., University of Pennsylvania

Adjunct Assistant Professors

John Barney, M.L.A., Cornell
William Perkins, M.L.A., Harvard
Dennis Wilkinson, B.S., Texas Tech University

Part-time Faculty

Scott Cassel, M.L.A., The University of New Mexico
Amy Duckert, M.L.A., The University of New Mexico
Susan Frye, M.L.A., The University of New Mexico
Gregory Miller, B.L.A., Texas A&M University
Judith Phillips, B.A., State University of New York
Brian Verardo, B.S., Colorado State University

Licensing for Landscape Architects in the State of New Mexico

An applicant for examination for registration as a landscape architect in New Mexico must hold a degree in landscape architecture or a related field from a program recognized by the State Board of Landscape Architects. Additional requirements for licensing, which includes the title "landscape architect" and the practice of landscape architecture, extend to practice and experience gained while working for a registered landscape architect.

Degree Programs

Master of Landscape Architecture (M.L.A.)

The University of New Mexico offers a professional degree in landscape architecture: the Master of Landscape Architecture. The degree program is organized to accomplish the outcomes expected of state registration boards throughout the United States. The M.L.A. is highly structured, concentrating on comprehensive preparation for the professional practice of landscape architecture. The program is interdisciplinary, incorporating course work from a number of departments at the University as well as studies within the School of Architecture and Planning. A student completing the Master of Landscape Architecture program will be well prepared, after additional required work experience, to sit for licensure examinations to practice landscape architecture. The University of New Mexico's master's program in landscape architecture is fully accredited by the Landscape Architectural Accreditation Board.

Students may enter the M.L.A. Program at different levels depending on their previous academic experience.

Three-Year Program of Study

This track is designed for students whose previous degree, in most cases, is not design related. The program is normally 87 credit hours in length, and takes approximately three years to complete. For students entering with undergraduate or graduate degrees in areas of study that have some content overlap with the Landscape Architecture curriculum, the Director may allow a program of study shorter than 87 credit hours, but not less than 75 credit hours.

Two-Year Program of Study

This track is designed for students who have already earned a Bachelor of Landscape Architecture degree but have not had extensive professional experience and are not licensed (minimum of 48 credit hours required) or a degree in Architecture or Environment, Planning & Design (minimum of 57 credit hours required). Exact program requirements to be determined on a case-by-case basis by the LA Program Director.

Post-Professional Program of Study

Applicants for the Post-Professional program must be licensed, practicing landscape architects, with a minimum of five years experience in the field. The student's program of study is developed in consultation with the LA Program Director and is thirty hours for Plan I (thesis option) and thirty-two hours for Plan II (non-thesis option). Contact the Program Director for information and requirements.

Applications

All students applying for the Landscape Architecture Program must possess, at the time of registration, a degree from an accredited university recognized by The University of New Mexico Office of Graduate Studies. In addition to Office of Admissions application requirements, each student must submit to the LA Program office:

1. A letter of intent outlining the applicant's interest in the discipline of landscape architecture and the reasons for seeking admission to the program;
2. Letters of reference from three individuals under whom the applicant has worked and/or studied. Two of the letters shall normally be from teachers or academic advisors who can comment on the applicant's past academic performance;
3. A resume; and
4. A portfolio of creative work. All applicants with design backgrounds must submit a portfolio. While this requirement is not mandatory in the initial application for students with non-design backgrounds, any evidence of creative work will be very helpful to the admissions committee. Portfolios should contain reproductions of original work. Reproductions should be presented in 8.5 X 11 or similar format that can be easily handled and stored. Applicants are encouraged to think about the design and presentation of the portfolio document. Those who wish to have their portfolio returned by mail must include return postage.
5. Copy of transcripts.

Application Deadlines

Fall semester:

Priority deadline is February 15; however, applications will be accepted until June 15 if space is available.

Spring semester:

On a case-by-case basis only until November 1

Summer session:

None accepted

Graduation Requirements

Professional Degree Program

Required Courses

Design

LA 501	Graduate Studio 1	6 credits
LA 502	Graduate Studio 2	6 credits
LA 503	Graduate Studio 3	6 credits
LA 508	DPAC Interdisciplinary Community Studio	6 credits
LA 505	Graduate Studio 5	6 credits
LA 582	Graphic Communications	3 credits

History/Theory

LA 563	Theory in Landscape Architecture & Environmental Design	3 credits
LA 561	History and Theory of Landscape Architecture	3 credits
LA 560	Landscape Architecture in the 20th Century	3 credits

Plants and their Ecosystems

LA 558	Plants 1	3 credits
LA 559	Plants 2	3 credits

Environmental Systems

LA 556	Site and Environment	3 credits
	One additional 3 credit elective	3 credits

Construction Technology

LA 580	Landscape Architecture Technology	3 credits
LA 581	Landscape Construction Materials & Techniques	3 credits

Computing

LA 521	AutoCAD® for Landscape Architects	3 credits
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Professional Practice

LA 531	Professional Practice in Landscape Architecture	3 credits
LA 586	Professional Skills in Landscape Architecture	3 credits

Thesis / Project

LA 596	LA Thesis/Project Preparation Seminar	3 credits
	<i>one of the following:</i>	
LA 597	Project	6 credits
	–or–	
LA 599	Master's Thesis	6 credits

Electives

9 credit hours of elective courses

Typical Sequence for Three-year Program of Study

Year 1

Fall

LA 501	Graduate Studio 1	6 credits
LA 582	Graphic Communications	3 credits
LA 561	History and Theory of Landscape Architecture	3 credits
LA 556	Site and Environment	3 credits

Spring

LA 502	Graduate Studio 2 (prerequisite: LA 501)	6 credits
LA 563	Theory in Landscape Architecture & Environmental Design	3 credits
LA 558	Plants 1	3 credits
LA 580	Landscape Architecture Technology	3 credits

Year 2

Fall

LA 503	Graduate Studio 3 (prerequisite: LA 502)	6 credits
LA 521	AutoCAD® for Landscape Architects	3 credits

130 ARCHITECTURE AND PLANNING

LA 581 Landscape Construction Materials & Techniques 3 credits
Elective 3 credits

Spring

LA 508 DPAC Interdisciplinary Community Studio (prerequisite: LA 503) 6 credits
LA 560 Landscape Architecture in the 20th Century 3 credits
LA 586 Professional Skills in Landscape Architecture 3 credits
Elective 3 credits

Year 3

Fall

LA 505 Graduate Studio 5 (prerequisite: LA 508) 6 credits
LA 531 Professional Practice in Landscape Architecture 3 credits
LA 596 Landscape Architecture Thesis/Project Preparation Seminar 3 credits
Elective 3 credits

Spring

LA 559 Plants 2 3 credits
Elective 3 credits
LA 597 Master's Project 6 credits
—or—
LA 599 Master's Thesis 6 credits

Master's Examination

The Master's Examination will occur at the time of the Master's thesis/project public presentation and defense, when the student's committee evaluates the scope and quality of the work, mastery of the field and the emphasis, and the student's research accomplishment.

The student's program of study is developed in consultation with the major advisor. It may be altered if needed with the consent of the advisor. The M.L.A. degree is granted upon successful completion of an approved program of study.

Students are expected to demonstrate a mastery of readings in the field. A comprehensive reading list will be prepared for all students entering the program.

Landscape Architecture (LA)

335. Site/Environment. (3)

Introduction to site analysis and site factors that inform design. Site scales from urban to regional are examined.

401./501. Landscape Architecture Design Studio I. (6)

An introductory design studio for students entering the three-year graduate program and for students in the B.A.E.P.D. program. Emphasis is on basic design principles, three dimensional space and the development of graphic communication skills.

402./502. Landscape Architecture Design Studio II. (6)

An introduction to landscape architectural design in the studio setting, focusing on a series of typological investigations. Students are encouraged to experiment with methods to develop their own design process.

411./511. Topics in Landscape Architecture. (1-3 to a maximum of 12) Δ

Individual, independent study of topics and research issues in landscape architecture undertaken by a student with faculty approval, advisement and supervision.

421./521. AutoCAD® for Landscape Architects. (3)

LandCadd operates on AutoCAD® and is the most widely used of computer programs in landscape architecture. An essential basic course in LandCadd applications in the profession.

458./558. Plant Materials. (3)

An introduction to plants and plant ecology, with an emphasis on the use of plants in landscape architectural design.

461./561. History and Theory of Landscape Architecture. (3)

A course covering the general history of landscape architecture from its origins in early agriculture at the end of the last Ice Age through its development in ancient civilizations to the 20th century.

462./562. Gardens in the Sand: New Mexico's Historic Landscapes. (3)

The six historic eras of New Mexico's landscape architectural history and their characteristic landscape architecture and site planning will be studied in detail. Students will research a topic under the guidance of the professor.

463./563. Theory in Landscape Architecture and Environmental Design. (3)

An investigation and discussion of the major theoretical discourses in the environmental design disciplines and how these positions have informed the design of 20th and 21st Century environments.

480./580. Landscape Architecture Technology 1: Grading and Drainage. (3)

This course will provide knowledge and understanding of topography, grading and drainage design, and will help students develop site design skills related to topographic definition, circulation surfaces, retaining walls and grade changes.

501./401. Landscape Architecture Design Studio I. (6)

An introductory design studio for students entering the three-year graduate program and for students in the B.A.E.P.D. program. Emphasis is on basic design principles, three dimensional space and the development of graphic communication skills.

Restriction: permission of LA program director.

502./402. Landscape Architecture Design Studio II. (6)

An introduction to landscape architectural design in the studio setting, focusing on a series of typological investigations. Students are encouraged to experiment with methods to develop their own design process.

Prerequisite: 501. Restriction: permission of LA program director.

503. Landscape Architecture Design Studio III. (6)

This studio course investigates landscapes at city/regional and neighborhood/urban precinct scales. Students will integrate social/cultural imperatives with environmental and infrastructure systems in land use planning and urban/neighborhood design.

Prerequisite: 502. Restriction: permission of LA program director.

505. Landscape Architecture Design Studio V. (6)

Studio 5 is the 'capstone' design studio in the Master of Landscape Architecture design sequence. Students will integrate a broad range of landscape architectural knowledge in a process that will reflect a professional office/studio approach to a design project.

Prerequisite: 503, 508. Restriction: permission of LA program director.

508. LA Design Studio IV/DPAC Interdisciplinary Community Studio. (6)

(Also offered as ARCH, CRP 508.) This is an interdisciplinary studio with architecture and planning students coordinated by the Design and Planning Assistance Center. Real projects focus on landscape and urban development within a strong neighborhood and community context.

Prerequisite: 502. Restriction: permission of LA program director.

511./411. Topics in Landscape Architecture. (1-3 to a maximum of 12) Δ

Individual, independent study of topics and research issues in landscape architecture undertaken by a student with faculty approval, advisement and supervision.

Restriction: permission of LA program director.

512. Seminar: Landscape Architecture. (2-3 to a maximum of 15) Δ

A number of seminars on various aspects of landscape architecture.

513. Reflective Travel. (1-2 to a maximum of 3) Δ

(Also offered as ARCH 513, CRP 544.) This course is a combination of reading, seminar discussion and guided independent study. It is intended to help students prepare, engage in and reflect upon travel relevant to their design and planning studies. **Offered on a CR/NC basis only.**

521/421. AutoCAD® for Landscape Architects. (3)

LandCadd operates on AutoCAD® and is the most widely used of computer programs in landscape architecture. An essential basic course in LandCadd applications in the profession.

531. Professional Practice in Landscape Architecture. (3)

This course emphasizes the common role of the landscape architect as a member of a design team that also includes architects, engineers, planners and others. It focuses on the private and public practice of landscape architecture.

556. Site/Environment. (3)

Introduction to site analysis and site factors that inform design. Site scales from urban to regional are examined.

558/458. Plant Materials. (3)

An introduction to plants and plant ecology, with an emphasis on the use of plants in landscape architectural design.

559. Plant Materials in Landscape Design II. (3)

An advanced course in the use of plants in landscape design, focusing on principles of xeriscape and their application. Prerequisite: 558.

560. Landscape Architecture in the 20th Century. (3)

This course will examine currents of thought and social and economic determinants over the last 100 years, and the way these systems have influenced how we build our environments, our cities, our landscapes and buildings.

561/461. History and Theory of Landscape Architecture. (3)

A course covering the general history of landscape architecture from its origins in early agriculture at the end of the last Ice Age through its development in ancient civilizations to the 20th century.

562/462. Gardens in the Sand: New Mexico's Historic Landscapes. (3)

The six historic eras of New Mexico's landscape architectural history and their characteristic landscape architecture and site planning will be studied in detail. Students will research a topic under the guidance of the professor.

563/463. Theory in Landscape Architecture and Environmental Design. (3)

An investigation and discussion of the major theoretical discourses in the environmental design disciplines and how these positions have informed the design of 20th and 21st Century environments.

579. Introduction to Preservation and Regionalism. (3)

(Also offered as ARCH, CRP 579.) An introduction to the history, theory and professional practices of historic preservation and regional contemporary design and planning.

580/480. Landscape Architecture Technology 1: Grading and Drainage. (3)

This course will provide knowledge and understanding of topography, grading and drainage design, and will help students develop site design skills related to topographic definition, circulation surfaces, retaining walls and grade changes.

581. Landscape Construction Materials and Techniques. (3)

An intensive study of the technical aspects of landscape design and construction. Emphasis on landscape construc-

tion materials and methods, with quality, longevity and ease of maintenance as consistent objectives.

582. Graphic Communications. (3)

(Also offered as CRP 582.) An introduction to hand drawing and graphic techniques. Students will become comfortable in expressing and communicating design thinking and ideas in graphic form.

585. Construction Documents: Working Drawings/ Specifications. (3)

This course develops an understanding of the production of construction documents, including plans and specifications and contracts, as an integral and critical part of the design process.

586. Professional Skills in Landscape Architecture. (3)

This is a two-part course. One section investigates the professional standards and conventions in the preparation of LA construction documents. The other section focuses on the technical aspects of irrigation design.

590. Historic Research Methods. (3)

(Also offered as ARCH, CRP 590.) An introduction to the methods for the documentation, research and analysis of historic built environments as preparation for historic preservation and contemporary regional design.

592. [567.] Public Works. (3)

(Also offered as ARCH, CRP 592.) Seminar investigating the social, urban, environmental and aesthetic issues of infrastructure and public works.

Restriction: enrolled in M.Arch., M.L.A., M.C.R.P., M.S. in Civil Engineering or M. Construction Management.

593. [566.] Civic Places. (3)

(Also offered as ARCH, CRP 593.) Seminar investigating the design, planning, and management of public spaces.

596. Master's Project/Thesis Preparation Seminar. (3)

A seminar which studies different forms of research in the discipline of landscape architecture and a variety of research methods and techniques. Each student identifies a topic for, and methodological approach to, their thesis or project research and develops their research proposal.

597. Master's Project. (1 to a maximum 6) Δ

An applied research project developed and carried out by students as the final exit requirement for the M.L.A.. Project proposals are reviewed based on their degree of complexity and the fit with the student's declared area of specialization. The project is a research based document which explores larger theoretical issues and their conceptual and practical application in an environmental design context. **Offered on a CR/NC basis only.**

Restriction: permission of LA program director.

599. Master's Thesis. (1 to 6, no limit) Δ

A research study which is developed on a topic and an investigation of a set of hypotheses or questions. Students will design and carry out a study which articulates a clear method and process for addressing their questions. The outcome is expected to contribute to the body of knowledge in the discipline of landscape architecture. **Offered on a CR/NC basis only.**

Restriction: permission of LA program director.



COLLEGE OF ARTS AND SCIENCES

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Introduction

The College of Arts and Sciences offers bachelor of arts and bachelor of science degrees in a variety of subjects that relate to humanity's cultural, social and scientific achievements. Although the fields of study offered by the departments in the College underlie the more specialized work of graduate and professional schools, most of the degree programs are not designed as vocational ends, but rather as the means for understanding society's condition, achievements and problems. Students obtaining a degree from Arts and Sciences should have a broad understanding of the world in which they live and should be able to think logically and express themselves clearly. Consequently, the College requires preparation based on the offerings of several departments.

Admission Requirements

New students who are admitted to the College of Arts and Sciences must visit the College Advisement Center before registering for classes. The Center is located in University Advisement and Enrichment Center Rm. 135. Appointments are available Monday through Thursday from 8:00 a.m. - 4:30 p.m. Walk-ins are accommodated on Friday from 8:00 a.m. - 3:00 p.m. Late hours may be available. Call 277-4621 or visit www.unm.edu/~artsci for more information.

Transfer from Other Units Within the University

Students wishing to transfer from University College or any other degree granting college at the University of New Mexico must meet the following minimum requirements.

1. A minimum of 26 hours; 23 must be in courses acceptable toward graduation.
2. A cumulative grade point average of at least 2.00 on all work attempted.
3. Demonstrated competence in the writing of English as evidenced by one of the following:
 - a. Completion of ENGL 102 with a grade of C (2.00) or higher.
 - b. A score of 29 or better on the English portion of the Enhanced ACT.
 - c. A score of 650 or better on the verbal portion of the SAT.
 - d. Credit for ENGL 102 through CEEB advanced placement program.
 - e. Acceptance of a writing proficiency portfolio (procedures available through the Department of English).
4. Students must declare a major and be accepted by that department prior to admission into the college.
5. Non-degree students must apply through the Office of Admissions.

To transfer into A&S obtain a transfer form at University College or A&S Advisement Center. Forms may also be downloaded at <http://www.unm.edu/~artsci/advise/forms.html>. The form includes a process checklist.

Transfer from Accredited Universities

1. A cumulative grade point average of at least 2.00 on all work attempted.
2. A minimum of 26 hours; 23 must be in courses acceptable to Arts and Sciences.
3. Demonstrated competence in the writing of English (see above).

Transfer students with a transfer grade point average of lower than a 2.0 may petition to be admitted to the College. Those who are admitted by the petition process will automatically be placed on probation their first semester at UNM. These students must earn at least a 2.0 semester grade point average at UNM to avoid being eligible for suspension.

CLEP

Unless the University of New Mexico course equivalent is specified, the College of Arts and Sciences accepts credit earned through the general *CLEP* and the *ACT* only as elective credit, not as credit toward fulfillment of major, minor or group requirements. *Subject CLEP* may be used to fulfill group requirements and toward elective credit but not for major or minor requirements.

Graduation Requirements

A degree from the College of Arts and Sciences is designed to give students a relatively broad background while allowing concentrated study in two disciplines. This is accomplished through group requirements, the selection of a major and minor, and the opportunity to select electives. Students formally declare a major and minor when they enter the College. They must attend a Graduation Planning Working upon completion of 80 earned hours. Once the workshop is complete, students will submit a projected graduation date to the college. *The student is solely responsible for being familiar with and completing all graduation requirements.*

A degree from the College of Arts and Sciences is awarded upon completion or accomplishment of the following:

1. A minimum of 96 hours of courses taught by Arts and Sciences departments. Exceptions are allowed for majors in family studies (88 hours) and art (92 hours). Effective Fall 1997, 18 hours of honors courses count for Arts and Sciences credit.
2. A total of 128 acceptable hours.
3. A grade point average of at least 2.00 as defined in the General Academic Regulations section of the catalog.
4. Forty-two hours of upper-division course work (courses numbered 300 or 400) with a minimum grade point average of 2.00 on all upper-division hours accepted by the College. The College of Arts and Sciences does not accept in fulfillment of the upper-division requirement any lower-division course work transferred to the University of New Mexico as the equivalent of an upper-division course. While a particular topic may be adequately covered in such a lower-division course so as to be considered acceptable for fulfillment of major or minor course requirement from a disciplinary content viewpoint, it does not meet the upper-division requirement, as upper-division courses are taught assuming a degree of maturity and sophistication on the Junior/Senior level. In other words, lower-division courses accepted by substitution approval at a departmental level DO NOT constitute substitution for the 42-hour upper-division requirement.
5. A major and minor or a double major, or one of the special curricula of the College (see approved programs listed below). At least one of which must be housed within the College of Arts and Sciences.
6. The University of New Mexico Core Curriculum, as described below.
7. Arts and Sciences (A&S) College Group Requirements as described below.
8. Demonstration of competence in the writing of English as described above.
9. One semester/session of resident enrollment subsequent to admission to the College of Arts & Sciences with a minimum of 6 semester hours taught by Arts & Sciences departments.
10. Students must comply with University requirements for a Bachelor's Degree as outlined in the Student Services

section of this catalog. Students who have not been in continuous attendance must follow the current catalog requirements upon re-enrollment. Existing degree summaries may have to be modified in accordance with new University Core Curriculum requirements and A&S Group alignments (see sections below: Core Curriculum and A&S Groups).

- All paperwork and requirements documenting transfer equivalencies, grade changes, removals of incomplete, substitutions and/or waivers awarded at the department or college level must be filed in the College Advisement Center by the last day of classes in the semester of graduation. Procedures for petition are available in the A&S Advisement Center.
- Students in the College of Arts & Sciences receive a LoboTrax report detailing their status with respect to University and college requirements, as well as those in the major and minor areas of study. This automated degree-audit is intended to aid students in planning their academic program.

University Core Curriculum

New University requirements are applicable to students starting at the University of New Mexico beginning Fall 1999, including readmitted students and transfers to the University of New Mexico. The University of New Mexico Core Curriculum reflects the values of the University and its faculty toward the value of a liberal arts education: students graduating from the University of New Mexico should have developed common skills and abilities based on shared experiences regardless of their particular degree programs. These skills and abilities include 1) a high level of ability in written expression and communication; 2) mathematical literacy—that is, the capacity to understand and utilize mathematics in the modern world; 3) the essential concepts in the physical and natural sciences and appreciation for the natural environment and methods of evaluating it; 4) an understanding of the social and behavioral sciences and an elemental understanding of the human environment; and 5) an appreciation of cultural values, creative expression and the history and experience of human society through courses in the humanities, fine arts and languages. Specific courses (listed below) will fulfill the University of New Mexico Core in seven subject areas delineated below. For updated information regarding courses acceptable in fulfillment of the University of New Mexico Core Curriculum, see A&S Advisement Center. Note that these requirements in many cases automatically fulfill the A&S Group requirements in the same designated subject areas (described further below). Students should be familiar with BOTH the University of New Mexico Core and A&S Group Requirements in order to minimize the number of credit hours taken to satisfy both sets of requirements. A grade of C (not C-) is required in all courses used to fulfill the requirements of the Core Curriculum. A grade of Credit (CR) is acceptable for core courses except for Engl 102 as this is also a University Graduation requirement.

The University of New Mexico Core Curriculum, revised as of Fall 2003, is as follows:

Writing and Speaking (3-9 hours): English 101 and 102 (or equivalents) plus an additional course chosen from English 219, 220; Communication and Journalism 130; Philosophy 156.

Mathematics: One course chosen from MATH 121, 129, 150, 162, 163, 180, 181, 215, STAT 145.

Physical and Natural Sciences: Two courses, one of which must include a laboratory, chosen from Anthropology 150 and 151L, 121L (lab required), 160 and 161L; Astronomy 101 and 101L; Biology 110 and 112L, 123 and 124L; Chemistry 111L (lab required), (121 and 123L) or 131L (lab required), (122 and 124L) or 132L (lab required); Earth and Planetary Sciences 101 and 105L (lab required), 201L (lab required); Environmental Science 101 and 102L; Geography 101 and 105L; Natural Sciences 261L (lab required), 262L (lab required), 263L (lab required); Physics 102 and 102L, 105, 151 and 151L, 152 and 152L, 160 and 160L, 161 and 161L.

Social and Behavioral Sciences (minimum 6 hours): Two courses chosen from American Studies 182, 185; Anthropology 101, 130; Community and Regional Planning 181; Economics 105, 106; Engineering-F 200; Geography 102; Linguistics 101 (AOA Anthropology 110); Political Science 110, 200, 220, 240; Psychology 105; Sociology 101.

Humanities (6 hours): Two courses chosen from American Studies 186; Classics 107, 204, 205; Comparative Literature and Cultural Studies 223, 224; English 150, 292, 293; Foreign Languages (MLNG) 101; History 101L, 102L, 161, 162; Honors Legacy Seminars at the 100- and 200-level; Philosophy 101, 201, 202; Religious Studies 107, 263, 264.

Foreign Language (non-English language; minimum 3 hours): One course chosen from any of the lower-division non-English language offerings of the Departments of Linguistics (including Sign Language), Spanish and Portuguese, Foreign Languages and Literatures, and foreign languages in other departments and programs.

Fine Arts (minimum of 3 hours): One course chosen from Architecture 101; Art History 101, 201, 120; Dance 105; Fine Arts 284; Media Arts 210; Music 139, 140; Theatre 122. Students may elect to take one 3-hour studio course offered by the Departments of Art and Art History, Music, Theatre and Dance, and Media Arts to fulfill this requirement.

Group Requirements

The A&S Group Requirements reflect the College's commitment to a broad liberal arts education. A&S students must exceed the University of New Mexico Core requirements in several of the subject areas. Course selections are from a broader list than applicable to the University of New Mexico Core Curriculum (see below). Beginning in the Fall 1999, students must complete A&S Group requirements in SIX of the following seven categories. All Core Curriculum (UNM CC) requirements in all areas must be completed as detailed above, and these count toward completion of A&S groups of the same subject area. No single course may be applied to more than one group. Because of their inter- and multi-disciplinary nature, students planning to use courses from African Studies, American Studies, Anthropology, Chicano Studies, University Honors, Geography, Native American Studies or Women Studies to fulfill group requirements must consult with the A&S Advisement Center regarding applicability of the courses toward these requirements. Problems courses (e.g., 490/499) cannot be used to fulfill group requirements.

- Writing and Speaking: (9 hours total—may include same 9 hours as UNM CC): Not more than 6 hours from one area from offerings in English writing, Communication and Journalism, or Philosophy 156.
- Mathematics (6 hours total—may include 3 hours from UNM CC): See Math restrictions (page 230). MATH 111, 112, 120 or 215 may **not** be used to satisfy any portion of the 6 hour total.
- Physical and Natural Sciences (10 hours total, including laboratory—may include 7 hours and laboratory from UNM CC): From Astronomy, Biology, Chemistry, Earth & Planetary Sciences, Natural Sciences, or Physics. Selected Anthropology or Geography courses may apply (A detailed list of acceptable courses is located in this section of the LoboTrax audit). Not more than 7 hours from any one area.
- Social & Behavioral Sciences (12 hours total—may include 6 hours from UNM CC): From Economics, Linguistics, Political Science (except 250, 291, 478 or 499), Psychology or Sociology (except 338, 381, 481L, 478, 490 or 499). Selected African Studies, American Studies, Anthropology, Chicano Studies, Geography, Native American Studies or Women Studies courses may apply (A detailed list of acceptable courses is located in this section of the LoboTrax audit). Not more than 6 hours from any one area.
- Humanities (9 hours total—may include 6 hours from UNM CC): Not more than 6 hours from any one area in literature, (including English, American, foreign and comparative literature), History, Philosophy (except

156), Religious Studies (except 333, 422 and 430). Selected Africana Studies, American Studies, Chicano Studies, Native American Studies or Women Studies courses may apply (A detailed list of acceptable courses is located in this section of the LoboTrax audit).

- VI. Second Language (4th semester or equivalent; 3 hours minimum—UNM CC hours may not satisfy this requirement if courses selected are from lower than 4th semester equivalent); As many hours as needed to complete the fourth semester of a non-English language. Fulfillment may be met through testing. Students with proficiency in a foreign language, (for example, any student who uses English as a second language) should consult with the department offering that language or the A&S Advisement Center for advisement, placement and/or testing.
- VII. Fine Arts (6 hours total—may include 3 hours from UNM CC): Acceptable are selected courses in the history, appreciation and criticism of art, architecture, music, theatre and dance. Selected Africana Studies, American Studies, Anthropology, Chicano Studies, Native American Studies or Women Studies courses may apply (A detailed list of acceptable courses is located in this section of the LoboTrax audit). Three hours of studio OR performance art may apply.

Transfer work without a direct equivalent to UNM course work may be applied to the University of New Mexico Core or A&S Group, by approval of an A&S Senior Academic Advisor. Courses in University Honors or Undergraduate Seminar programs may be counted toward selected group requirements. These courses have typically been pre-assigned to a specific group at the time of initial course offering. Please check with the College Advisement Center for specific course designation. No courses with the Introductory Studies designation may be applied to any of the Core or A&S Group requirement.

Additional Information

Major and Minor Studies. Upon entering the College, students shall formally declare 1) a major and a minor; or 2) two majors; or 3) one of the special curricula of the College. After declaring these, the program of studies must meet the approval of the chairpersons of the major and minor departments or the supervisor of the special curriculum. **Students may not elect both a major and a minor outside the College of Arts and Sciences.** Half of the major must be completed at the University of New Mexico. A quarter of the minor must be completed at the University of New Mexico.

Only work of C (2.00) quality or better is accepted for the major and minor. Pass/Fail (CR/NC) grades are not accepted in the major or minor unless they are courses specifically carrying only pass/fail (CR/NC) grades. No more than 24 pass/fail (CR/NC) credit hours are acceptable toward a degree over and above the specifically designated CR courses.

Grades of C- and D are not acceptable in the major or minor (unless otherwise stated by the department) but may be used for group requirements or as elective hours counting toward the 128 required for graduation. Only grades of C or better are accepted for core curriculum requirements.

NOTE: Some departments may have major requirements for grades which vary from the College's established policies. For information contact the Arts and Sciences Advisement Center or the major department.

The same courses may not be used to fulfill both major and minor requirements. If the same course(s) are required for both major and minor or for both majors in the case of double majors, an equivalent number of approved hours shall be added to the total combined hours required. This does not apply to courses considered "Supportive Coursework." An example: Biology majors are required to have 12 hours of Chemistry included in their supportive coursework. If students have also selected a Chemistry minor, then they will be able to apply those same courses toward the minor. Contact the College Advisement Center for further information.

Distributed Minor. The major department may specify, in lieu of a specific minor, a **distributed** minor in courses in related departments. A distributed minor shall consist of not less than 30 semester hours or more than 36 hours. Information about the department-specified distributed minor is available in the individual departments offering such a minor or in the A&S Advisement Center. Students should consult with their major departmental advisor or chairperson if they wish to propose a distributed minor.

The **student-proposed distributed minor** allows a student to put together an individualized program of multidisciplinary study in support of the major or in another area of interest. In order to apply for a student-proposed distributed minor, the student must present a petition to the undergraduate advisor in the major department as early as possible and not later than two semesters prior to planned graduation. The petition must also contain a list of the specific courses proposed totaling at least 30 hours. At least 15 hours of those included in the student-proposed distributed minor shall be at the 300 or 400 (upper-division) level.

Course work must come from outside the major area of study and represent multiple departments. The list should indicate courses already completed (including semester taken and grade received), courses in progress and semester for planned completion. Documentation for distributed minor programs of study must be included with the A&S Application for Degree.

Double Major in the College of Arts and Sciences. The college of Arts & Sciences allows students to have two majors in lieu of or in conjunction with a minor. Only one degree is awarded but the transcript will indicate both majors. Because there is one degree being earned, degree requirements must be completed only once. Students must choose which major will determine degree designation (B.A. vs B.S.).

Adding Majors or Raising Minors. Students who already have a B.A. or B.S. degree from Arts & Sciences and who are not enrolled in a graduate or professional program may complete the requirements for another major or raise a previously earned minor to a second major. Requirements must be complete within five years of the original degree awarded. These students must apply for admissions to the college of Arts & Sciences, declare the appropriate major on the application, and register as a senior. This provision is limited to the applicability of previous course work to the most current catalog major requirements.

Dual Degree in the College of Arts and Sciences. Students wishing to pursue a second baccalaureate degree must complete a minimum of 30 hours in addition to those required for the first degree and must choose majors and minors different from the first degree. The minor used for the first degree may be raised to a major, but the first major may not be used as the minor for the second degree.

Combined Curricula. Dual degrees from both Arts and Sciences and the School of Engineering may be obtained upon completion of a five-year program as approved by the Dean of each college. Interested students should consult with each Dean before the end of their sophomore year.

A combined program in the College of Arts and Sciences and the Anderson School of Management allows for a bachelor's and master's degree upon completion of a five-year program. This "Three-Two" M.B.A. program allows students to complete Arts and Sciences group and major requirements in the first three years and an M.B.A. in the fourth and fifth years. M.B.A. course work in the fourth year will constitute the student's minor requirements. Requirements for admission to the "Three-Two" M.B.A. Program are outlined in the Anderson Schools of Management section of this catalog.

Certification to Teach in High School. Students in Arts and Sciences who wish to acquire certification as secondary school teachers should confer with appropriate personnel in the College of Education regarding suitable majors and minors and necessary education courses.

Cooperative Education Program. The College of Arts and Sciences offers a cooperative education program (Co-op) for students majoring in some departments in the College. The Co-op curriculum is a work-study program which alternates a semester or a year of full-time academic study with a semester or year of full-time employment. Co-op students gain employment experience in major subject-related areas, which provides career guidance and makes their academic study more meaningful. Also, Co-op students earn a substantial part of their educational expenses.

Students who are interested in the Co-op Program should contact the Co-op Director soon after being admitted to the University. Co-op students normally must finish the first semester of the freshman year with at least a 2.50 grade average before beginning interviews for a Co-op job. Thus, Co-op students normally begin their first work phase after the end of the freshman year at the earliest. To be eligible for Co-op a student must be enrolled in a degree-granting college.

While on each work phase, Co-op students must register in a special Arts and Sciences course, Cooperative Education Work Phase, and pay a registration fee. This registration maintains the student's academic status, including eligibility for dormitories, activity cards, library privileges and insurance. After completing each work phase, Co-op students who wish to earn credit may enroll in a course, Evaluation of Co-op Work Phase, for 1–3 credit hours. A maximum of 6 hours of academic credit earned from Co-op evaluation courses may be counted as elective credit toward the degree but **not** toward the major, minor or group requirements.

Courses for Which Degree Credit is Not Given. The College of Arts and Sciences does not accept any courses which are by nature remedial, tutorial, skills or preparatory. Examples include: any course numbered 100 and such courses as Women Studies 181.

Except as noted below, the College does not accept: practicum or activity courses such as typing, PE, dance or shop work; courses that are primarily technical or vocational, such as courses in Radiography, Business Technology Programs, Medical and Biomedical Technology, etc.; courses oriented toward professional practice, such as those taught by Nursing, Pharmacy, Elementary Education, Health Promotion, Health Education, Physical Ed, Professional PE, Art Ed, Music Ed and Leisure Programs, etc.; or any course with a "T" suffix; courses taken in a law or medical school. Students may enroll in these courses in pursuit of their own interests but should not expect degree credits for them.

Exceptions

Credit will be given toward a degree:

1. for ensemble music or dance, up to 4 hours, separately or in combination. Declared dance minors may exceed the 4-hour limit in dance only to the extent required by the Theatre and Dance Department.
2. for courses in methods of high school teaching, provided these courses are required for certification in a single or composite field, up to 12 hours. Secondary Education minors may exceed the 12-hour limit to the extent required for this minor.
3. for Undergraduate Seminar Program courses that are approved for credit by the College of Arts and Sciences, up to 4 hours.
4. for nonprofessional PE activity courses, up to 4 hours.
5. for 24 hours of Family Studies courses for Psychology, Criminology and Sociology majors with a minor in Human Services.
6. Undergraduates may qualify to register for Graduate courses for Undergraduate Credit. Please see your A&S advisor for more information.

Honors

Dean's List

At the end of each Fall and Spring semester, the College of Arts & Sciences compiles the College Honor Roll (Dean's List) of students who have achieved outstanding academic success in that semester. To qualify, students must be enrolled in the College, have earned a semester grade point average of at least 3.75 for at least 12 graded credit hours in that semester. Qualifying courses must be graded (not CR/NC). The Dean's List is compiled after all grades for the semester are reported, and students are notified via email. Students may request a hard copy through the Arts and Sciences Advisement Center.

Departmental Honors

Students are urged to consult with their major departments about the availability and requirements of departmental honors programs.

Probation, Suspension, Dismissal

Students enrolled in the College of Arts and Sciences are placed on probation at the end of any semester in which the cumulative grade point average on the University of New Mexico work falls below 2.00.

Students on probation are liable for suspension at the end of any semester in which the cumulative grade point average does not rise to 2.00 or better.

Students placed on probation may be continued on probation if they substantially raise the cumulative grade point average and are making reasonable progress in meeting Arts and Sciences course requirements. "Substantially raise the cumulative grade point average..." is defined as earning a semester grade point average of at least 2.5. "Reasonable progress..." is defined as at least one-half of the student's course load being in courses offered by Arts and Sciences departments (exclusive of Introductory Studies courses) and courses taught by departments outside Arts and Sciences which apply towards the student's major, minor or group requirements. If these conditions are not met, the student is suspended from the University of New Mexico.

The first suspension is one semester. The second suspension is one year. The third suspension is five years. UNM students may attend other institution that allow matriculation while on suspension from UNM (Ex: CNM). Repeating specific failed UNM courses at other institutions is highly discouraged as students will not be able to replace the failing grade on the UNM transcript.

At the end of the suspension period, a student must apply for readmission to Arts and Sciences with a written petition addressed to the Associate Dean for Student Academic Affairs. All petitions for readmission or revocation of suspension must be received by the Arts and Sciences Advisement Center no later than one week prior to the start of the semester in which the student wishes to return.

Departments or Programs of Instruction

A student may not elect both a major and minor outside the college.

Major in A&S

Africana Studies (B.A.)
American Studies (B.A.)
Anthropology (B.A. or B.S.)
Asian Studies (B.A.)
Astrophysics (B.S.)
Biochemistry (B.A. or B.S.)
Biology (B.A. or B.S.)

Minor in A&S

Africana Studies
American Studies
Anthropology
Asian Studies
Astrophysics
Biology

Chemistry (B.A. or B.S.)	Chemistry
Classical Studies (B.A.)	Classical Studies
Communication (B.A.)	Communication
Comparative Literature (B.A.)	Comparative Literature
Criminology (B.A.)	Criminology
Earth and Planetary Sciences (B.A. or B.S.)	Earth and Planetary Sciences
Economics (B.A.)	Economics
Economics-Philosophy (B.A.)	
English (B.A.)	English
English-Philosophy (B.A.)	
Environmental Science (B.S.)	Environmental Science
European Studies (B.A.)	European Studies
Geography (B.A. or B.S.)	Geography
History (B.A.)	History Italian
Health, Medicine and Human Values (B.A.)	
International Studies (B.A.)	
Journalism & Mass Communication (B.A.)	Journalism & Mass Communication
Latin American Studies (B.A.)	Latin American Studies
Languages (B.A.):	
French	French
German	German
	Greek
Languages (B.A.) (interdisciplinary):	
Portuguese	Portuguese
Russian	Russian
Spanish	Spanish
Linguistics (B.A.)	Linguistics
Mathematics (B.S.)	Mathematics Medieval Studies Navajo Language and Linguistics Peace Studies Period Studies Philosophy Physics
Philosophy (B.A.)	
Physics (B.S.)	
Physics & Astrophysics (B.A.)	
Political Science (B.A.)	Political Science Professional Writing Psychology Religious Studies Russian Studies
Psychology (B.A. or B.S.)	
Religious Studies (B.A.)	
Russian Studies (B.A.)	
Signed Language Interpreting (B.S.)	Science, Technology and Society Sociology Social Welfare Speech and Hearing Sciences
Sociology (B.A.)	
Speech and Hearing Sciences (B.A.)	
Statistics (B.S.)	Statistics Sustainability Studies
Women Studies (B.A.)	Women Studies

NOTE: Concentrations within major fields are available or required in some departments. Students should consult the individual departments listed.

Other Programs

The majors and minors listed below are not programs in the College of Arts and Sciences. **A student may elect to complete either a major or minor, but not both, from the following programs outside the College of Arts and Sciences.** (Students should remember that they must have 96 hours in Arts and Sciences.)

Major

Art (B.A.)

Minor

Art (Studio or History)
Chicano Hispano
 Mexicano Studies
Community and Regional Planning
Computer Science

Family Studies (B.A.)

Dance
Electrical and Computer Engineering (for mathematics and physics majors only)
Family Studies
Fine Arts
Library Science
Management
Media Arts
Music
Military Science
Native American Studies
Secondary Education
Special Education
TESOL
Theatre

Major and minor requirements and course descriptions will be found listed by departments.

Pre-professional and Other Curricula

Students are cautioned against assuming that four-year college courses prepare them for professional work. At least one year of specialized graduate work is advisable in many fields, even if not actually required.

Pre-professional advisement is the responsibility of the Arts and Sciences Advisement Center where students will be advised and/or referred to an appropriate faculty advisor.

Law School Admissions

Information on Law School Admissions and on Law Schools may be obtained in the *The Official Guide To U.S. Law Schools: Pre-Law Handbook*, which may be obtained from: Publications, LSAC/LSAS, Dept. 0, P.O. Box 63, Newtown, PA 18940-0063. See an Arts and Sciences Advisor or visit the Pre-Law Web site at <http://www.unm.edu/~pre/law>.

Curriculum Preparatory to Medicine

Specific requirements for admission to medical schools in the United States and Canada are included in a volume published by the Association of American Medical Colleges and is titled *Medical School Admission Requirements, U.S.A. and Canada*. Interested students should consult this volume and see an Arts and Sciences Advisor or visit the Pre-Med Web sites at <http://www.unm.edu/~premed> and <http://www.unm.edu/~artsci/advise/premed.html>.

Curriculum Preparatory to Dentistry

Specific requirements for admission to dental schools in the United States and Canada may be obtained by writing to the individual schools. Lists of the schools and their addresses can be obtained by contacting Dental Programs or by writing to the American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611. Students interested in dental school should see an Arts and Sciences Advisor or visit the Pre-Dental Web site at <http://www.unm.edu/~artsci/advise/predental.html>

Graduate Program

Programs of graduate study in the various departments and programs of the College of Arts and Sciences lead to the M.A. or M.S. and Ph.D. degrees as follows:

American Studies
Anthropology
Biology
Chemistry
Communication and Journalism
Comparative Literature (M.A. only)
Earth & Planetary Sciences
Economics
English

French (M.A. only)
 French Studies (Ph.D.)
 Geography (M.A. only)
 German Studies (M.A. only)
 History
 Latin American Studies (M.A., Ph.D.)
 Linguistics
 Mathematics
 Optical Science and Engineering (Ph.D. only—see Physics)
 Philosophy
 Physics
 Political Science
 Portuguese (M.A. only)
 Psychology
 Sociology
 Spanish (M.A. only)
 Spanish and Portuguese (Ph.D.)
 Speech-Language Pathology
 Statistics

For details on degree requirements, appointment as graduate assistant or research assistant or other details, see listing by department and general information about graduate study. Prospective graduate students are urged to address all inquiries to department chairpersons or directors of programs.

M.S. and Ph.D. in Nanoscience and Microsystems (NSMS)

The M.S. and Ph.D. degree programs in NSMS prepares individuals for careers in the emerging fields in nanotechnology and microsystems. The program includes three Concentrations: Nano-Bio Interfaces, Complex Functional Materials, and Information Nanotechnology. It is a collaborative effort among several departments in the College of Arts and Sciences and the School of Engineering, with numerous cross-listed and team-taught courses. In the College of Arts and Sciences the departments of Biochemistry, Biology, Chemistry and Chemical Biology, Earth and Planetary Sciences, Mathematics and Statistics, and Physics and Astronomy participate with some of their faculty in the NSMS teaching and research team. Therefore, students who choose the NSMS degree program can continue to be advised by and to conduct research with faculty in those departments. For more details, see the full description in the Graduate Interdisciplinary Studies section of the catalog.

AFRICANA STUDIES

Alfred Dennis Mathewson, Ph.D., Acting Director
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Faculty

Mohamed Ali, Ph.D., The University of New Mexico
 Finnie Coleman, Ph.D., Director (on leave)
 Kadeshia Mathews, Ph.D., Johns Hopkins
 Admasu Shunkuri, Ph.D., University of Kansas

Introduction

Africana Studies is an interdisciplinary major degree-granting program which provides to the University community the African-American perspective to issues relevant to the education of all people, especially African Americans, for the 21st century. Some of the program courses are cross-listed with Political Science, Language, Literacy and Sociocultural Studies, American Studies, English, Communication and Journalism and other departments. All of these courses may be taken toward a degree, substitutes for required courses may be made with prior approval of the student's major department, or as electives.

Bachelor of Arts in Africana Studies

The interdisciplinary major in Africana Studies approaches the historical, cultural, and intellectual development of people of African descent from a multidisciplinary perspective.

Students are expected to follow a cross-disciplinary program with a strong research skill development emphasis. The B.A. requires 128 hours including completion of the Arts & Sciences distribution, the University of New Mexico Core Curriculum and other requirements of the University of New Mexico. Thirty-nine of the 128 hours must be taken from Africana Studies (15 of the 39 must be 300 level and above) distributed as follows:

I. (3 hrs.) Foundational
 AFST 103 Foundations of Africana Studies (required)

II. (3 hrs.) Language
 AFST 101 Swahili I
 AFST 106 Elementary Arabic I
 AFST 107 Elementary Arabic II
 AFST 206 Intermediate Arabic I
 AFST 207 Intermediate Arabic II

(12 hrs.) History

AFST 284 African-American History I (required)
 AFST 285 African-American History II (required)
 AFST 388 Blacks in Latin American I (required)
 AFST 396 Emancipation and Equality
 HIST 474 Slavery and Race Relations

(9 hrs.) Political Science

AFST 299 Black Leaders in the U.S.
 AFST 309 Blacks in Politics
 AFST 329 Introduction to African Politics (required)
 AFST 333 Black Political Theory (required)

(6 hrs.) Feminist Studies

AFST 250 Black Woman (required)
 WMST 234 Her Own Voice: Black Women Writers
 WMST 331 Third World Women

(6 hrs.) Literature and Culture

AFST 251 African American Literature I
 AFST 380 African Literature
 AFST 385 The African World
 AFST 381 African American Literature II
 AFST 399 Culture and Education

III. Eighteen hours of relevant courses which must be taken from other departments. Relevant courses are courses that address issues of concern to African Americans in particular and minorities in general. (See the Director for a list of acceptable courses.)

IV. Eighteen hours of research and analytical skill development courses. (See the Director for a list of acceptable courses.)

Students in Africana Studies take a distributed minor through requirements III and IV. Students interested in minoring in a specific related field should contact the program director.

B.A. in Africana Studies as a second major will require 27 credit hours. Plan of study will be designed by students and a faculty advisor to respond to student's academic and professional needs. AFST 284 and 285 are required.

The program includes in its academic mission strong community based projects such as the Team of Excellence Mentorship program.

Minor Degree—General

The General Minor requires 24 hours of Africana Studies courses which include AFST 101, 103, 284, 299 or 309 and 12 hours of 300 level or above courses of which not more than 3 hours may be earned through independent study or problem courses. Substitution of courses from other disciplines is possible with prior departmental approval.

Plan A

101	Swahili I	3
103	Foundation of African-American Studies	3
284	African-American History I	3
299	Black Leaders in the U.S.	
-or- 309	Blacks in Politics	3
300 & above	electives (AFST)	9
391	Problems	3
Total		24

Minor Degree–Specialized

The Specialized option requires 24 hours and must focus their studies in economics, anthropology, history or other disciplines offering adequate relevant courses. Students are required to take 12 hours of AFST courses and the remaining 12 hours to be taken from the department in which the student focuses. A minimum of 6 of the 12 hours from each of the two departments must be 300 level or above. AFST 284 and 285 are required for this option.

Plan B

284	African-American History I	3
285	African-American History II	3
300 & above	electives (AFST)	6
300 & above	electives (concentration)	6
	Areas of focus: history, economics, anthropology, psychology, political science, sociology, etc. (300 and above)	6
Total		24

Plan C (Arts and Sciences majors only)

The Africana Studies minor requires 24 hours, 15 hours of core courses and 9 hours of electives in the College of Arts & Sciences.

Required Core Courses (15 hours):

1. a. AFST 284 African-American History I
b. AFST 285 African-American History II
2. The following courses must be cross-listed with Arts and Sciences department or be taken as courses in such department
 - a. AFST 329 African Politics (Political Science)
 - b. AFST 333 Black Political Theory (Political Science)
 - c. AFST 397 African-American Literature (English)
 - or-
 - AFST 392 Black Liberation and Religion (English)
 - or-
 - ENGL 411 (when topic is appropriate)

Electives (9 hours):

Nine hours of electives must be taken in one of the following departments: Political Science, Economics, Anthropology, History, English. A list of approved courses is on file with the Africana Studies department.

The Charlie Morrissey Research Hall

Alfred Dennis Mathewson, Acting Director
Finnie Coleman, Director (on leave)

The Charlie Morrissey Research Hall is a repository of documents including photographs, rare books and artifacts documenting the presence of Africans and African-Americans in New Mexico in particular and the Southwest in general. Presently, the Hall has more than 4,000 photographs, books and other documents.

The CMR Hall also organizes public lectures and panel discussions. These lectures and panels address the presence and contributions of Africans and African-Americans to the Southwest. Periodically, the CMR Hall organizes major exhibitions of its rare photographs and other artifacts. Interested organizations may request rental of the Hall's traveling exhibition of The Charlie Morrissey collections of rare photographs and artifacts.

The “African Field History Experience” Project

Faculty:
Mohamed Ali, Ph.D.
Admasu Shunkuri, Ph.D.
Steve Bishop, Ph.D.
Finnie Coleman, Ph.D., Director (on leave)

The “African Field History Experience” Project was established in 2000. The Project subscribes to the holistic approach to education. Its main goal is to bridge the gap between the intellectual encounter with Africana Studies courses and the experiential. Therefore, students will participate in a 2-3 week educational excursion and research experience in an African Community. Students earn 3-6 undergraduate or graduate credits.

Africana Studies (AFST)

101. Swahili I. (3)
Foundation course for all beginning students interested in reading or speaking the language. {Offered upon demand}

102. Swahili II. (3)
This course builds directly upon AFST 101, and is designed to bring the students beyond a novice-intermediate or intermediate level of competence.
Prerequisite: 101.

103. Foundation of Africana Studies. (3)
An exploration of the philosophical basis for the creation and the existence of African-American Studies program. {Fall, Spring}

106. Elementary Arabic I. (3)
(Also offered as ARAB 101.) A course in elementary modern standard Arabic.

107. Elementary Arabic II. (3)
(Also offered as ARAB 102.) A course for those with very minimal exposure to modern Arabic Language.

115. Communication Across Cultures. (3)
(Also offered as CJ 115.) An introduction to communication among people from different cultural backgrounds, emphasizing intercultural relations. The class seeks to identify, honor and enhance the strengths of different cultural perspectives.

206. Intermediate Arabic I. (1)
(Also offered as ARAB 201.) The course covers the writing system, phonology, vocabulary, morphology and syntax structures of the Arabic language. Students will attend language laboratory to enhance their listening, comprehension and pronunciation skills.
Prerequisite: 106 and 107. Restriction: permission of instructor.

207. Intermediate Arabic II. (3)
(Also offered as ARAB 202.) The course increases student's reading, writing and speaking skills in Arabic including student's knowledge of the writing system, the phonology, the vocabulary, the morphology and the syntax structures of the language. Language laboratory requirement is optional.
Prerequisite: 206. Restriction: permission of instructor.

250. Black Woman. (3)
(Also offered as WMST 250.) A comprehensive survey of the role the Black woman has played in the society of the United States. Emphasis will be placed on achievements and contributions. {Fall}

251. African-American Literature I. (3)
(Also offered as ENGL 281.) The course introduces students to the African American classics of the slavery era. Daily experiences of the characters in these books become the basis for discussing race, class, gender, revolt, freedom, peace and humanity.

ARTS AND SCIENCES

140 ARTS AND SCIENCES

280. African-American Culture. (3)

(Also offered as AMST 250.) An analysis of the political, economic, religious and familial organization of African-American communities in the United States.

284. African-American History I. (3)

(Also offered as HIST 284.) A comprehensive survey of the story of African-Americans from pre-European days in Africa to the Civil War, U.S.

285. African-American History II. (3)

(Also offered as HIST 285.) This course will explore each of the major historical events, Black leaders of those times and their influence on the social and political advancement of African-American from the Civil War to the present. Restriction: permission of instructor.

297. Interdisciplinary Topics. (1-3)

Special topic courses in specialized areas of African-American Studies. Community Economic Development; Race and American Law; Culture and Personality.

299. Black Leaders in the U.S. (3)

A comparative study of major African-American leaders and their impact on race relations in the United States.

301. Advanced Arabic I. (3)

(Also offered as ARAB 301.) Improves functional use of Arabic language and culture. Class is for students with four years of Arabic study or for heritage speakers. Students will attend language laboratory to enhance their listening, comprehension, and pronunciation skills.

303. Introduction to Black Liberation and Religion. (3)

(Also offered as RELG 303.) Students will be introduced to the Black experience, which necessitates the redefinition of God and Jesus Christ in the lives of Black people as the struggle for transcendental and political freedom.

307. Blacks in the U.S. West. (3)

(Also offered as AMST 351.) A survey of the lives of Blacks in the American West (1528–1918).

309. Black Politics. (3)

(Also offered as POLS 309.) A study of the history and diverse educational and political maturation processes of elected African officials and functions of the political process. {Fall}

318. Civil Rights Politics and Legislation. (3)

(Also offered as POLS 318.) An analysis of the dynamics of the major events, issues and actors in the civil rights movement (and legislations) in view of the theories of U.S. politics.

Prerequisite: 103.

320. Arabic Study Abroad. (1-6) to a maximum of 6 Δ

(Also offered as ARAB 320.) An introduction to Arabic cultures and language through study abroad. Course locations vary according to course content.

329. Introduction to African Politics. (3)

(Also offered as POLS 329.) An introductory course in the volatile politics in Africa. The various ideologies that underlie political movements and influence African governments will be explored.

333. Black Political Theory. (3)

Survey course of the literature and philosophy of the Black Diaspora.

380. African Literature. (3)

An analytical look at the works of major African writers and their usage of African symbols to portray Africa of the past, present and the future.

381. African-American Literature II. (3)

(Also offered as ENGL 381.) This is the second phase of a three-part journey through the African-American experience in search of humanity and peace. The vehicle is post-slavery books written by and about African-American people. Issues raised and the characters in the books provide the occasion

for in-depth discussion of inhumanity, protests, self definition, race relationships, liberalism, etc.

385. The African World. (3)

An interdisciplinary introduction to the study of Africa; its political and economic geographies; its traditional and new societies; and its politics in global perspectives.

386. Peoples and Cultures of the Circum-Caribbean. (3)

(Also offered as ANTH 387.) Outlines the sociocultural transformation of the region since 1492. Emphasis upon cultural legacies of, and resistance, to colonialism, the Afro-Caribbean and Hispanic heritages, and the contemporary trans-nationalization of island identities.

388. Blacks in Latin America I. (3)

A comprehensive analysis of the plight of Black people in Latin America as compared with their experiences in North America, from the 15th to 19th century.

391. Problems. (1-3 to a maximum of 12) Δ

392. Black Liberation and Religion. (3)

(Also offered as RELG 392.) Introduction to some traditional western religious schools of thought as a basis for intensive examination of the works of prominent Black liberation theologians.

395. Education and Colonial West Africa. (3)

A study of European education and its psychological, sociological and cultural impact on traditional African society. {Fall, Spring}

396. Emancipation and Equality. (3)

The course examines the ending of and aftermath of slavery focusing on Silversmith's *The First Emancipation* and also the general emancipation of the Civil War era.

***397. Interdisciplinary Topics. (1-3, no limit)** Δ

Special topic courses in specialized areas of African-American Studies. African-American Literature; Sociopolitics: Africa; Politics of Southern Africa; Black Books III, Education and African-American Education and Free Society. {Fall, Spring}

399. Culture and Education. (3)

(Also offered as LLSS 424.) Analysis of the different child-rearing practices and their effects on the academic performances of children. Analyzes the role of culture in education.

453. African American Art. (3)

(Also offered as ARTH 453.) This class provides an overview of African American artists and contextualizes their creativity within the wider framework of U.S. art. What, for example, are the benefits and pitfalls of assigning race to any creative practice?

***490. Black Liberation and Religion. (3)**

(Also offered as RELG 490.) Introduction to some traditional western religious schools of thought as a basis for intensive examination of the works of prominent Black liberation theologians.

***491. African-American Religious Traditions. (3)**

(Also offered as RELG 491.) This course will examine the bipolarity of religion in African-American history, showing how Black religion in the U.S. has served as an institution both for acculturation and also for self and cultural assertion.

Related Courses

LLSS 493. Topics. (1-3, no limit) Δ

Education and Free Society. Education and the African-American.

LLSS 516. Educational Classics. (3)

This course focuses on influential educational perspectives that have provided a foundation for contemporary or emerging critical educational thought.

LLSS 518. Comparative Education. (3)

Explores the connection between modes of education and the construction of inequality within and between nation-

states. The impact of race, ethnicity, gender, religion, class, and politics on educational systems around the world will be considered.

LLSS 615. Contemporary Philosophies of Education. (3)

Focuses on the most recent trends in educational thought from the U.S. and other societies. Special attention is paid to texts that speak directly to issues of race, class, and gender.

AMERICAN STUDIES

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Professors

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 A. Gabriel Meléndez, Ph.D., The University of New Mexico
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 Gerald Vizenor, Emeritus, University of California at Berkeley

Associate Professor

Alex Lubin, Ph.D., University of Minnesota
 Rebecca Schreiber, Ph.D., Yale University

Assistant Professors

Amy Brandzel, Ph.D., University of Minnesota
 Alysha Goldstein, Ph.D., New York University
 Michael Trujillo, Ph.D., University of Texas, Austin

Lecturers

Laura J. Hall, Ph.D., University of California at Berkeley

Professor Emeriti

M. Jane Young, Ph.D., University of Pennsylvania

Introduction

American Studies is designed for the student interested in the interdisciplinary study of American culture. It encourages flexibility and innovation within a general structure of areas of interest, including but not limited to: Cultural Studies; Southwest Studies; Environment, Science and Technology; Popular Culture; Gender and Sexuality Studies; Race, Class and Ethnicity. The student will work closely with an undergraduate advisor in putting together the major and must receive the advisor's approval for all course work. Nine hours of courses in American Studies may overlap with Arts and Sciences group requirements.

Undergraduate advisor varies, contact department office.

Major Study Requirements

1. Introductory course (AMST 180, 182, 183, 184, 185, or 186) 3
2. American Life and Thought (AMST 285) 3
3. Theories & Methods in American Studies (AMST 385) 3
4. Interdepartmental Studies of American culture: after consultation with American Studies undergraduate advisor choose 15 hours of courses from at least two of the six areas listed below. Six hours of this course work must be from courses numbered 300 and above. Of the 15 hours required in this section and the 9 hours required in section 5.a below, 18 must be in American Studies.
 - History
 - Literature (English, Foreign Languages and Literatures)
 - Political, economic and geographical studies
 - Social and Cultural Systems (Sociology, Anthropology, Psychology)

- Arts, Humanities and Communications (Philosophy, Linguistics, Fine Arts, Communication & Journalism, Comparative Literature)
 - Natural History (Biology, Earth and Planetary Sciences, Chemistry) 15
 - 5. Senior Program: after consultation with faculty advisor, choose 12 hours in courses numbered 300 and above.
 - a. 9 interdepartmental hours in courses centering around a particular topic or problem in American culture. Of the 9 hours required in this section and the 15 hours required in 4 above (a total of 24), 18 must be in American Studies. 9
 - b. American Studies Seminar and Thesis (485) 3
- Total Hours 36

A minor (18–26 hours in another department) is required.

Minor Study Requirements

Undergraduate students majoring in the departments of Anthropology, Art History and Criticism, Economics, English, History, Philosophy, Political Science or Sociology may elect a minor in American Studies. Students in other majors need special approval of both their major advisor and the American Studies office.

The minor in American Studies is designed to introduce students to the interdisciplinary study of the culture of the United States. The requirement is 24 hours, including 18 hours in American Studies: 3 hours from 180, 182, 183, 184, 185, or 186; 285, 385 and 9 hours at the 300 level. Students take the remaining 6 hours in an integrated program chosen from other departments (Anthropology, Art History, Economics, English, Geography, History, Political Science, Philosophy, Psychology or Sociology) or American Studies courses. All of these 6 hours must be from courses at the 300 level or above. With proper selection of courses a student may elect a minor in American Studies with an emphasis in African American, Chicano, Native American or Women Studies. A student may choose to focus his or her minor program on other important themes in American culture, such as the popular arts or ecology in America, or may emphasize the interdisciplinary study of a region or the nation as a whole. All students should consult with their major advisor and the American Studies undergraduate advisor as early as possible to obtain approval of their minor program.

Major or Minor: Southwest Concentration

The wealth of courses in various departments and colleges at the University of New Mexico dealing with the American Southwest and the Mexican Borderlands supports this concentration. Recognizing the unique contributions of Southwest regional cultural development to the larger United States, the American Studies concentration in Southwest Cultural Studies provides undergraduates and graduates with an interdisciplinary program that is both structured and flexible.

Major Concentration in

Southwest Culture Studies includes:

1. American Studies 186: *Introduction to Southwest Studies* (3); American Studies 285: *American Life and Thought* (3) Courses designed to provide an introduction to interdisciplinary methods and a context for Southwest Studies.
2. Fifteen Hours of Interdisciplinary Studies of Southwest Culture: In consultation with the American Studies undergraduate advisor, the student structures a coherent program of four related courses selected from five general areas: History and Literature, Social and Cultural Systems, Political and Economic Studies, Arts and Humanities and Natural History. The major portion of this course work should center on a particular historical focus (Spanish Colonial, U.S. Territorial, Contemporary Southwest, etc.), ethnic or cultural experience (Chicano Experience, Southwest Native Americans) or specific geographical or environmental

ARTS AND SCIENCES

cases. Students are encouraged to develop a broad comparative analysis (for example, a U.S. national cultural context or a Latin American context) or an extended chronological emphasis, not simply a concentration on a single narrow topic.

3. American Studies 385: *Theories & Methods in American Studies* (3)
4. Senior Program: After consultation with the American Studies undergraduate advisor, choose from courses numbered 300 and above:
 - a. 9 interdepartmental hours in courses centered around a specific topic or problem in Southwest Cultural Studies. The theme of this final course work generally emerges from the previous broad sampling (section 2 above). Six hours should be in American Studies.
 - b. American Studies 486: *Senior Seminar in Southwest Studies* (3): a course in which the interdisciplinary implications of each student's major topic are explored.

Minor in Southwest Culture Studies

This minor is designed to introduce students to the interdisciplinary study of the culture of the Southwest. The requirement is 24 hours, including 18 hours in American Studies: 186, 285, 385, and 9 additional hours at the 300 level. Students take the remaining 6 hours in an integrated program chosen from other departments (Anthropology, Art History, Economics, English, Geography, History, Political Science, Philosophy, Psychology or Sociology) or American Studies courses. All of these 6 hours must be from courses at the 300 level or above. Within the concentration, students may study the broad issue of Southwest Culture or focus on a specific area such as Native American Studies, Chicano Studies, or cultural ecology. Hours requirements are identical with the minor specified above with the exception that the student must take American Studies 186, *Introduction to Southwest Studies*, as part of the 18 hours of required American Studies courses.

Departmental Honors

Students seeking departmental honors should apply to the American Studies undergraduate advisor in their junior year. In addition to maintaining a 3.20 overall grade point average, Honors candidates must also successfully complete 3 credit hours of *Senior Honors Thesis* (489) and the American Studies *Senior Seminar in U.S. Culture* (495) in their senior year.

Graduate Programs

Graduate Advisor

Varies, contact department office.

Application Deadlines

Annual: January 15.

NOTE: Early application is recommended. No new applications will be accepted after January 15.

Degrees Offered

M.A. in American Studies

Ph.D. in American Studies

The Department of American Studies is committed to the interdisciplinary study of American culture and society as a whole. Besides general courses in American life and thought, six areas of study are offered: Cultural Studies (including folklore and material culture); Southwest Studies; Environment, Science and Technology; Popular Culture; Gender Studies; Race, Class and Ethnicity. Students consult with department faculty to develop individual, inter-departmental programs of study in the humanities and social sciences that focus on these or other significant aspects of American society and thought.

Requirements for Graduate Minor in American Studies

The "declared minor" in American Studies is only available for Master's level students at present. To complete the minor, students must complete 9 hours of 500-level courses (seminars) under Plan I. Under Plan II students need 12 hours of 500-level courses. Under either plan, 1–3 hours of Independent Study with a faculty member in American Studies can count toward the minor. AMST 500 is a restricted course and does not count toward the minor.

American Studies graduate students who wish to do a minor in another department should do so in consultation with their academic advisor and should contact the other department for specific guidelines for the minor. Faculty members in American Studies may opt to waive their right to serve on a committee of studies outside American Studies. Plan I students may take no more than 9 hours of graduate course work in any other single department, and Plan II students may do no more than 15 hours of graduate course work in any other single department.

Admission

The program is offered at the master's and doctoral levels. The doctorate usually requires a Master of Arts degree in such majors as American Studies, Art History, History, English, Philosophy, Economics, Education, Political Science, Sociology or Anthropology. In making application, candidates are expected to submit a substantive letter of intent with a clear statement of their American Studies research interests and their goals in pursuing such investigations on a graduate level. Only candidates who show purpose and promise and whose research needs can be appropriately met will be admitted by a committee of the department faculty.

Course Requirements

At least 30 hours in residence beyond the M.A. are required for the doctorate; this requirement sometimes extends to 36 hours or even more, depending upon the breadth of the candidate's background.

Taking into consideration the experience and purposes of each student, individualized programs will be planned to emphasize two major areas of interest with supplementary work in other areas.

The master's is offered under Plan I (thesis) and Plan II (non-thesis) as described in this catalog. The master's program in either case requires an interdisciplinary and interdepartmental grouping of courses for the study of American culture. Under Plan II, the student must successfully complete a minimum of 33 hours of graduate work. Plan I (thesis) calls for 27 hours of course work in addition to thesis hours.

All graduate students must take the pro-seminar, American Studies 500 *American Culture Study* in the first fall semester of their graduate career and at least four other American Studies seminars.

Foreign Language

In addition to the course requirements for the doctorate, the American Studies Department language requirement may be fulfilled either through the various options approved by the Office of Graduate Studies or through satisfactory completion of an alternative methodology option to be determined by the student in consultation with the student's committee on studies and the chairperson of the department.

Examinations

Students are expected to form a committee on studies after completing 12 hours of graduate credit. Decisions about course work and its distribution, the foreign language to

be presented and any special problems related to the proposed area of concentration will be reached in consultation between the candidate and the committee on studies. All graduate students are required to take two exams. The first is the American Culture Study (ACS) exam, taken one year after entry into the program and based on the required pro-seminar and the ACS reading list. The second is taken after completion of course work. It is a written comprehensive examination, the primary purpose of which will be to ascertain the candidate's ability at synthesizing the subject matter and various methodologies covered during his or her time in the program. Detailed guidelines for the comprehensive examination are available through the department.

Dissertation

The dissertation will concern itself with at least two disciplines in a specific area of American life and usually with more than two.

American Studies (AMST)

General Courses

180. Introduction to American Studies. (3)
 Introduces 19th and 20th century American culture. Demonstrates interdisciplinary approaches to American culture studies. Content varies by semester and topics include popular culture, comparative studies of race and ethnicity, nationalism and citizenship, critical regionalism.

200. Topics in American Studies. (3 to a maximum of 6) Δ
 The content of this course varies by semester. Topics include: America in the 50s; America in the 60s-70s; the American family; power and culture; schooling in America.

285. American Life and Thought. (3)
 Examination of the development of American cultural values and attitudes from the 17th to the early 20th centuries. Demonstrates the use of interdisciplinary modes of inquiry.

385. Theories and Methods of American Studies. (3)
 Introduces students to interdisciplinary approaches in the study of American culture, focusing on "Race, Ethnicity, Gender and National Identity," "Media, Popular Culture, and Cultural Studies," "Critical Regionalism," and "Environment, Science and Technology."

485. Senior Seminar in the Culture of the United States. (3)
 An analysis of the value of synthesis in liberal scholarship. Focus will be on cooperative interdisciplinary research. (Spring only)

497. Individual Study. (1-3 to a maximum of 9) Δ

***498. Internship. (1-6)**
 Involves internships in off-campus learning experiences related to the study of American and regional culture and character, such as work in local communities and with relevant institutions.

499. Honors Thesis. (3)
 Development and writing of senior honors thesis under supervision of faculty advisor.
 Prerequisite: 285. Restriction: permission of undergraduate director. (Spring)

500. American Culture Study Seminar. (3)
 Examines the basic texts and methods in the field of American studies through discussion and critical/analytical writing assignments. Required for all American Studies graduate students; restricted to graduate students in the department. (Fall)

597. Individual Study-Master's Degree. (1-3 to a maximum of 3) Δ

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

600. Research Methods. (3 to a maximum of 6) Δ
 This seminar reviews: 1) archival and library research; 2) data collection and fieldwork (plus subsequent analysis and presentation of data); 3) processes of hypotheses and theory building; and 4) development of a research proposal.
 Prerequisite: 500. (Spring)

697. Individual Study. (1-3 to a maximum of 6) Δ
 For Ph.D. candidates only.

699. Dissertation. (3-12, no limit) Δ
Offered on a CR/NC basis only.

Cultural Studies

303. Law in the Political Community. (3)
 (Also offered as POLS 303.) Introduction to the role of law and legal institutions in politics and society.

309/509. Topics in Social Movements. (3 to a maximum of 6) Δ
 An interdisciplinary approach to the analysis of social movements, focusing on cultural and social formations of these movements. Topics include: folklore of social movements; labor struggles; peace movements; land conflicts.

310/510. Topics in Cultural Studies. (3 to a maximum of 6) Δ
 Varying topics undergraduate course. An in-depth study of one subject in the field of interdisciplinary culture studies. Topics may include material culture, folklore, consumerism, public culture, critical theory, cultural identity and language and representation.

311/511. Material Culture in America. (3)
 (Also offered as MSST 311/511.) This course covers the theory and practice of material culture study as it has been used to define American culture. Course content includes architecture, technology, religious art and artifacts, literary, folk and "fine" arts.

313. American Folklore and Folklife. (3)
 An introduction to the informal, vernacular facets of American culture with a focus on the artistic and symbolic dimensions of daily life as expressed in oral traditions, folkloric events and material culture. (Fall)

315/515. Race, Class & Gender in the Culture Industry. (3)
 This course will focus on 20th century U.S. cultural history and cultural studies. Proceeding chronologically, the course integrates a range of cultural mediums to investigate the construction of social identity.

317/517. Visual Culture. (3)
 This course will investigate the role of visual experience in everyday life. The assigned works represent a variety of interdisciplinary approaches to American visual culture, including photography, film, television, material culture, and public art.

508/308. Cultural Autobiography. (3)
 This course is concerned with meaning, identity and subject formation in the autobiographical text. Readings will focus on contemporary critical theory about autobiography and post-colonial studies. Students will draw on a broad range of personal accounts that result from the construction of race, gender, class and ethnicity in the United States past and present.

509/309. Topics in Social Movements. (3 to a maximum of 6) Δ
 An interdisciplinary approach to the analysis of social movements, focusing on cultural and social formations of these movements. Topics include: folklore of social movements; labor struggles; peace movements; land conflicts.

510/310. Topics in Cultural Studies. (3 to a maximum of 6) Δ
 An in-depth study of one subject in the field of interdisciplinary culture studies. Topics may include material culture, folklore, consumerism, public culture, critical theory, cultural identity and postcolonial studies.



511/311. Material Culture in America. (3)

(Also offered as MSST 311/511.) This course covers the theory and practice of material culture study as it has been used to define American culture. Course content includes architecture, technology, religious art and artifacts, literary, folk and "fine" arts.

513. Theories and Methods of Folklore Study. (3)

This course examines key methods and theoretical approaches to the study of folklore, focusing on the artistic and symbolic dimensions of daily life as expressed in oral traditions, folkloric events and material culture.

515/315. Race, Class & Gender in the Culture Industry. (3)

This course will focus on 20th century U.S. cultural history and cultural studies. Proceeding chronologically, the course integrates a range of cultural mediums to investigate the construction of social identity.

516. Language and Cultural Representation. (3)

An intensive study of various contemporary theories about the intersection of language and culture. Readings focus on the interdisciplinary study of language, drawing especially on postmodern theory.

517/317. Visual Culture. (3)

This course will investigate the role of visual experience in everyday life. The assigned works represent a variety of interdisciplinary approaches to American visual culture, including photography, film, television, material culture, and public art.

518. Post-Colonial Theory. (3)

This is a graduate-level introduction to the interdisciplinary field of post-colonialism. The readings will cover areas in post-structuralism, post-modernism, semiotics, discourse analysis, textuality, Western Marxism, cultural nationalism, colonialism(s) and imperialism.

519. Topics in Cultural History. (3 to a maximum of 6) Δ

Graduate seminars; content varies. Topics include: democracy, culture and history; American landscapes; history and narrative.

Environment, Science, Technology**134. Creating a Sustainable Future: Introduction to Environmental, Social, and Economic Health. (3)**

(Also offered as ANTH, SUST 134.) An introduction to creating a sustainable future that supports environmental health and restoration, social equity, and economic vitality. Examines challenges and examples of integrated, creative strategies on local, regional, national, and global levels.

182. Introduction to Environment, Science and Technology. (3)

An introduction to the socially and politically constructed values directing Americans' attitudes toward nature, science and technology and to the impacts of those attitudes on built and natural environments regionally, nationally and globally.

320. Topics in Environment, Science and Technology. (3 to a maximum of 6) Δ

The content of this course varies by semester. Topics include: environmental justice, ecology in America, gender and nature, ethics and genetics, automobiles in American culture.

323/523. Environmental Justice. (3)

This course is designed as a multicultural/interdisciplinary approach to the study of environmental justice. Topics include: environmental racism, internal/nuclear colonialism, harmful technologies, industrial pollution and other toxins in communities of color.

324. Environmental Conflicts in the U.S. West. (3)

This course covers environmental conflicts in the U.S. West from World War II to the present. Topics include: natural resource debates, impacts of such technologies as dams and nuclear reactors, agricultural conflicts and environmental justice.

422/522. The Atomic Bomb: Los Alamos to Hiroshima. (3)

Considers three interrelated sections: the political and scientific history of the Manhattan Project; strategic alternatives to the use of the atomic bomb; and the literature of the hibakusha survivors of the destruction of Hiroshima.

434. Synthesis of Sustainability Perspectives and Innovations. (3)

(Also offered as ANTH 434, ARCH 449, SUST 434.) Presents frameworks for complex and creative analysis, including systems thinking and synergistic integration of the three pillars of sustainability: environment, equity, economy. Examines innovative local and international case studies in environment, business, policy, and community development. Prerequisite: SUST 134 and (ECON 106 or ECON 203.)

520. Topics in Environment, Science and Technology. (3 to a maximum of 6) Δ

Graduate study of subjects in Environment, Science and Technology. Content varies by semester and topics include: science/technology studies, environmental justice, the environment and political and social development, ecology in America, gender and nature.

522/422. The Atomic Bomb: Los Alamos to Hiroshima. (3)

Considers three interrelated sections: the political and scientific history of the Manhattan Project; strategic alternatives to the use of the atomic bomb; and the literature of the hibakusha survivors of the destruction of Hiroshima.

523/323. Environmental Justice. (3)

This course is designed as a multicultural/interdisciplinary approach to the study of environmental justice. Topics include: environmental racism, internal/nuclear colonialism, harmful technologies, industrial pollution, and other toxins in communities of color.

525. Environmental Theory and Practice. (3)

This course surveys key methods and model case studies in ecological history, in impacts of technology on the environment and in the role of cultural values and ethics in natural resource policy decisions.

Gender Studies**183. Introduction to Gender Studies. (3)**

This course focuses on the interdisciplinary study of the construction of gender as a category. Readings will span cross-cultural and historical materials, including literary, artistic and popular representations of masculinity and femininity in America.

330/530. Topics in Gender Studies. (3 to a maximum of 6) Δ

Varying subjects deriving from the contemporary cultural studies focus on matters of gender. Topics include: feminist theory; gender and nature; the factor of gender in disciplinary and interdisciplinary studies.

332. Sexuality and Culture. (3)

An introduction to a range of interdisciplinary readings in cultural studies of sexuality. The focus of the course is to inquire into the construction of sexualities and to assess their impact in shaping scholarship and cultural theory.

332L. Sexuality and Culture Recitation. (1)

A discussion section focused on readings in the theory and methods of sexuality and cultural studies. This recitation section is taken concurrently with 332.

Corequisite: 332.

333/533. Gender and Tradition. (3)

A study of the connections between gender, the traditions associated with women and men, and the intricate linkages of gender and tradition with systems of power and oppression in various cultures and time periods.

530/330. Topics in Gender Studies. (3 to a maximum of 6) Δ

Varying subjects deriving from the contemporary cultural studies focus on matters of gender. Topics include: feminist theory; gender and nature; the factor of gender in disciplinary and interdisciplinary studies.

533/333. Gender and Tradition. (3)

A study of the connections between gender, the traditions associated with women and men, and the intricate linkages of gender and tradition with systems of power and oppression in various cultures and time periods.

536. Masculinities. (3) (may be repeated for credit with permission from AMST graduate advisor)

Introduction to changing meanings of masculinity in America from WW II through the present. Focus on cultural construction of masculinity and men's experiences in spheres of work, family, leisure, war and sexuality.

Popular Culture**184. Introduction to American Popular Culture. (3)**

Survey of basic concepts of popular culture and methods for its study. Source materials are drawn from diverse areas—television, film, comics, music and sports.

340. Topics in Popular Culture. (3 to a maximum of 6) Δ

Content varies by semester. Topics include: popular music, popular culture of the 1960s; sex and gender in popular culture; chicano/a vernacular culture; black popular culture; popular environmentalism.

341/541. Topics in Film. (3 to a maximum of 6) Δ

Varying subjects, based in theoretical and/or historical approaches. Topics include: sex and gender in popular film; films of the nuclear age; African-American film; ethnicity in American cinema; film theory.

342. Television in American Culture. (3)

This course is an introduction to the history of television as a medium from its origins through the present moment. In the course we will focus on the structure of the television's role within American society, and television as a site of cultural representation.

540. Topics in Popular Culture. (3 to a maximum of 6) Δ

Content varies by semester. Topics include: popular music, popular culture of the 1960s; sex and gender in popular culture; chicano/a vernacular culture; black popular culture; popular environmentalism.

541/341. Topics in Film. (3 to a maximum of 6) Δ

Varying subjects, based in theoretical and/or historical approaches. Topics include: sex and gender in popular film; films of the nuclear age; African-American film; ethnicity in American cinema; film theory.

545. Theories & Methods of Popular Culture. (3)

Graduate seminar surveying approaches to the study of popular culture and major theoretical debates in the field. Students also work with popular culture texts, including film, television, toys, fashion, music and advertising.

Race, Class and Ethnicity**185. Introduction to Race, Class and Ethnicity. (3)**

An interdisciplinary introduction to the issues of race, class and ethnicity in American life and society. (Fall, Spring)

250. African-American Culture. (3)

(Also offered as AFST 280.) An analysis of the political, economic, religious and familial organization of African-American communities in the United States.

251. The Chicano Experience in the United States. (3)

Investigation of the historical and social conditions that have shaped the development of Chicano life.

252. The Native American Experience. (3)

(Also offered as NATV 252.) Introductory survey of Native American History, culture and contemporary issues. Students read literature by and about Native Americans covering a variety of topics including tribal sovereignty, federal policy, activism, economic development, education and community life.

350/550. Topics in Race, Class, Ethnicity. (3 to a maximum of 6) Δ

Offers specialized topics on an alternating basis dealing with race, class and ethnicity in the formation of American life and society. Subject areas include immigration, class formation, conquest, colonization, public policy and civil rights.

351. Blacks in the U.S. West. (3)

(Also offered as AFST 307.) A survey of the lives of Blacks in the American West (1528–1918).

352/552. Native American Cultural Production. (3)

This course examines contemporary Native American cultural production including literature, art and film with an emphasis on historical, political and cultural contexts. Topics may include: definitions of cultural production, sovereignty, colonialism, cultural survival and identity.

353/553. Race Relations in America. (3)

An interdisciplinary investigation of the development of race as a set of power relations, lived identities and ideas. Pays particular attention to the relationship of race to work, immigration, gender, culture and intellectual life.

354/554. Social Class and Inequality. (3)

This course is an interdisciplinary approach to the study of class formations in society. Topics include: culture, ideology, politics, history, Marxism, Weberian sociology, (post-) structuralism, colonialism, textuality, praxis and desconstructionism.

356/556. Topics in Native American Studies. (3 to a maximum of 6) Δ

Topical survey of theoretical approaches, research methodologies and subject areas within the interdisciplinary field of Native American Studies.

357/557. Topics in African-American Studies. (3 to a maximum of 6) Δ

Offers topics addressing African-American social, cultural, political and intellectual life. Topics include: black social movements, African-American intellectual history, black cultural studies, slavery in the Americas.

358/558. Topics in Latino/a Studies. (3)

This interdisciplinary topics course examines the fastest growing population in the U.S. and includes Latino intellectual history, political and economic relations, recovery projects, music, film and media representations and environment, community and post-colonial studies.

359/559. Interracialism in America. (3)

This course introduces students to historical and contemporary debates about the meaning of interracial romance, marriage and sexuality—and its relationship to definitions of American citizenship and democracy. Through engaged study of primary and secondary, social and cultural forms, students will develop an interdisciplinary understanding of race, gender and sexuality.

362/562. Native American Representation and Resistance. (3)

This course will examine popular representations of Native Americans from American literature, film, policy, science and popular culture. Topics include critical and cultural theories of representation and identity and Native resistance and cultural production.

550/350. Topics in Race, Class, Ethnicity. (3 to a maximum of 6) Δ

Offers specialized topics on an alternating basis dealing with race, class and ethnicity in the formation of American life and society. Subject areas include immigration, class formation, conquest, colonization, public policy, and civil rights.

552./352. Native American Cultural Production. (3)

This course examines contemporary Native American cultural production including literature, art and film with an emphasis on historical, political and cultural contexts. Topics may include: definitions of cultural production, sovereignty, colonialism, cultural survival and identity.

553./353. Race Relations in America. (3)

An interdisciplinary investigation of the development of race as a set of power relations, lived identities and ideas. Pays particular attention to the relationship of race to work, immigration, gender, culture and intellectual life.

554./354. Social Class and Inequality. (3)

This course is an interdisciplinary approach to the study of class formations in society. Topics include: culture, ideology, politics, history, Marxism, Weberian sociology, (post-) structuralism, colonialism, textuality, praxis and deconstructionism.

555. Theories and Methods of Race, Class, Ethnicity. (3)

This course will survey the theoretical and methodological convergence/divergence of race, class and ethnicity. This class is designed as a graduate-multidisciplinary approach to racial, class and ethnic formations, relations, structures, institutions and movements.

556./356. Topics in Native American Studies. (3 to a maximum of 6) Δ

Seminar offering topical survey of theoretical approaches, research methodologies and subject areas within the interdisciplinary field of Native American Studies.

557./357. Topics in African-American Studies. (3 to a maximum of 6) Δ

Offers topics addressing African-American social, cultural, political and intellectual life. Topics include: black social movements, African-American intellectual history, black cultural studies, slavery in the Americas.

558./358. Topics in Latino/a Studies. (3)

This interdisciplinary topics course examines the fastest growing population in the U.S. and includes Latino intellectual history, political and economic relations, recovery projects, music, film and media representations and environment, community and post-colonial studies.

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562./362. Native American Representation and Resistance. (3)

This course will examine popular representations of Native Americans from American literature, film, policy, science and popular culture. Topics include critical and cultural theories of representation and identity and Native resistance and cultural production.

Southwest Studies**186. Introduction to Southwest Studies. (3)**

Provides both an introduction to the complex history and culture of the Southwestern United States and a demonstration of the possibilities of the interdisciplinary study of regional American culture. It is multicultural in its content as it is multidisciplinary in its methodology.

360./560. Topics in Southwest Studies. (3 to a maximum of 6) Δ

Offers topics dealing with the social, cultural and technological developments among the people of the Southwest. Topics include folk art and material culture; rural, urban and border communities; traditional healing; travel and tourism; Hispano/Chicanos after 1848.

361. Native American Folklore of the Southwest. (3)

An in-depth study of the expressive behavior of Native American peoples of the Southwest with special emphasis on the traditional material culture, music, dance, oral tradition and festivals of Puebloans, Navajos and Apaches.

363./563. Chicano/Latino Film. (3)

Covers the Chicano/Latino experience through its depiction on film and from the perspective of Latino filmmaking. The course analyzes film as communication, film narration, symbolism and subjectivity.

486. Senior Seminar in Southwest Studies. (3)

Capstone course for majors/minors in the Southwest Studies that synthesizes current scholarship on critical regionalism: borderlands studies, trans-nationalism, indigeneity, immigration and other topics. Students develop research, analysis and writing to produce an original research paper.

560./360. Topics in Southwest Studies. (3 to a maximum of 6) Δ

Offers topics dealing with the social, cultural and technological developments among the people of the Southwest. Topics include folk art and material culture; rural, urban and border communities; traditional healing; travel and tourism; Hispano/Chicanos after 1848.

563./363. Chicano/Latino Film. (3)

Covers the Chicano/Latino experience through its depiction on film and from the perspective of Latino filmmaking. The course analyzes film as communication, film narration, symbolism and subjectivity.

565. Politics of Cultural Identity in the Southwest. (3)

This seminar examines cultural and ethnic representations in the tri-cultural Southwest. The course includes consideration of works by native and Hispano/Chicano authors who examine and contest the cultural ideation of the Southwest.

ANTHROPOLOGY

Michael W. Graves, Chair

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Distinguished Professors

Patricia L. Crown, Ph.D., University of Arizona
Steven Feld, Ph.D., Indiana University
Lawrence G. Straus, Ph.D., University of Chicago

Professors

James E. Dixon, Ph.D., Brown University
Les W. Field, Ph.D., Duke University
Michael W. Graves, Ph.D., University of Arizona
Hillard S. Kaplan, Ph.D., University of Utah
Jane B. Lancaster, Ph.D., University of California (Berkeley)
Jeffrey Long, Ph.D., University of Michigan (Ann Arbor)
Sylvia Rodríguez, Ph.D., Stanford University
David E. Stuart, Ph.D., University of New Mexico (Part-time)
Marta Weigler, Ph.D., University of Pennsylvania
Wirt H. Wills, Ph.D., University of Michigan

Associate Professors

James L. Boone, Ph.D., State University of New York (Binghamton)
Richard C. Chapman, Ph.D., University of New Mexico (Research)
David W. Dinwoodie, Ph.D., University of Chicago
Larry P. Gorbet, Ph.D., University of California (San Diego)
Frances M. Hayashida, Ph.D., University of Michigan
Bruce Huckell, Ph.D., University of Arizona (Research)
Suzanne R. Oakdale, Ph.D., University of Chicago
Osbjorn M. Pearson, Ph.D., SUNY (Stony Brook)

Joseph F. Powell, Ph.D., University of Texas A&M
 Ann F. Ramenofsky, Ph.D., University of Washington
 Beverly R. Singer, Ph.D., University of New Mexico

Assistant Professors

Ronda Brulotte, Ph.D., University of Texas (Austin)
 Heather Edgar, Ph.D., Ohio State University (Research)
 Patrick F. Hogan, Ph.D., Washington State (Research)
 Keith L. Hunley, Ph.D., University of Michigan
 Martin Muller, Ph.D., University of Southern California
 Sherry Nelson, Ph.D., Harvard University
 Keith Prufer, Ph.D., Southern Illinois University

Professors Emeriti

Anita L. Alvarado, Ph.D., University of Arizona
 Richard A. Barrett, Ph.D., University of Michigan
 Keith H. Basso, Ph.D., Stanford University
 Garth L. Bawden, Ph.D., Harvard University
 Lewis R. Binford, Ph.D., University of Michigan
 Philip K. Bock, Ph.D., Harvard University
 John Martin Campbell, Ph.D., Yale University
 Louise A. Lamphere, Ph.D., Harvard University
 Carole Nagengast, Ph.D., University of California (Irvine)
 J. Stanley Rhine, Ph.D., University of Colorado
 Mari Lyn Salvador, Ph.D., University of California (Los Angeles)
 Karl H. Schwerin, Ph.D., University of California (Los Angeles)
 James M. Sebring, Ph.D., University of California (Berkeley)

Introduction

Our educational program is based on the premise that Anthropology more than any other discipline provides insights into who we are, how we became this way, and what our future might be. The more students understand about both the past and current nature of biological and cultural diversity, the better able they are to cope with complex problems and make meaningful contributions to society locally, nationally and internationally. Whether undergraduates choose to pursue graduate training in anthropology or some other field, or move directly into the workforce, we seek to provide them with a broad education by offering large and small lecture classes and a variety of laboratories and field classes across the concentrations of anthropology. Our graduate degrees prepare students to follow either academic or applied careers in Anthropology.

Major Study Requirements (36 credits)

All majors are required to complete a general curriculum (18–20 hours) that provides an integrated preparation for study in any of the five anthropological concentrations. This curriculum includes ANTH 101, two of the following concentration core curriculum sequences and one additional 200-400 level elective course in a third concentration.

Courses in the anthropology core curriculum include:

- Archaeology:
 - ANTH 121L Archaeological Method or Theory
 - or— ANTH 220 World Archaeology
 - ANTH 320 Strategy of Archaeology
- Evolutionary Anthropology:
 - ANTH 150 Evolution and Human Emergence
 - or—
 - ANTH 160 Human Life Course
 - ANTH 350 Human Biology
 - or—
 - ANTH 360 Human Behavioral Ecology
- Ethnology:
 - ANTH 130 Cultures of the World
 - ANTH 330 Principles of Cultural Anthropology
- Linguistic Anthropology:
 - ANTH 110 Language, Culture and the Human Animal
 - ANTH 310 Language and Culture

Majors who select a concentration will take an additional 17 to 18 hours of concentration requirements and electives. The student who does not select a concentration must take the major requirements and can take courses in any of the concentrations so long as appropriate prerequisites have been completed. In either case, 12 of the additional 17–18 credits must be upper-division (300–400 level). In other words, there must be a minimum of 18 upper-division credits in the major. No more than 6 hours of individual study or field research courses may be applied toward the major.

In addition to fulfilling the general curriculum and unit distribution requirements for the B.A. degree, students desiring a B.S. degree must concentrate (see below) in archaeology, biological anthropology or human evolutionary ecology, including an advanced laboratory course or summer field school of at least 4 credits in the major or the minor. To complement the B.S. in anthropology, students must also take at least 6 hours of mathematics (as approved for A&S group requirements) and have a minor in or distributed among astrophysics, biochemistry, biology, chemistry, computer science, earth and planetary science, mathematics, geography, psychology or physics.

The Department of Anthropology encourages anthropology majors to take a creative and self-motivated approach to their education. In close consultation with an advisor, majors may utilize upper level (300-400 level) electives from multiple concentrations to complete the elective requirements of any of the five concentrations. In any case all students interested in majoring or minoring in anthropology are urged to consult with one of the department undergraduate advisors as early in their academic careers as possible.

Concentrations

Archaeology (36 Credits)

For a concentration in archaeology take:

- ANTH 101 (3 credits)
- ANTH 121L (4 credits)
- ANTH 220 (3 credits)
- ANTH 320 (3 credits)

Students must also take one additional course from each of three groups (A, B, C) for a total of at least 9 credits:

- Group A: Technical (ANTH 373, 375, 480, 482L)
- Group B: Europe, SW Asia, Africa (325, 326, 327, 328, 329*)
- Group C: North and South America and Pacific (ANTH 321, 323, 324, 329*, 371, 376)

*cannot use 329 to satisfy BOTH Group B and Group C

ANTH 420 may be applied to the above groups, depending on topic.

In addition, a student must complete one additional core sequence within anthropology, plus an elective from a third concentration, plus elective credits to complete the minimum of 36 credits in anthropology.

Evolutionary Anthropology (36 Credits)

For a concentration in evolutionary anthropology take:

- ANTH 101 (3 credits)
- ANTH 150 (3 credits)
- ANTH 151L (1 credit)
- ANTH 350 (3 credits)
- ANTH 351L (4 credits)
- or—
- ANTH 160 (3 credits)
- ANTH 161L (1 credit)
- ANTH 360 (3 credits)
- ANTH 462 (3 credits)

Plus two upper-division courses (300–400 level) in evolutionary anthropology (6-8 credits).

In addition, a student must complete one additional core sequence within anthropology, plus an elective from a third concentration, take at least one 200-400 level elective in a third concentration, and complete enough other elective hours within anthropology to meet the 36 credit hour minimum.

ARTS AND SCIENCES

Ethnology (36 Credits)

For a concentration in ethnology take:

ANTH 101	(3 credits)
ANTH 130	(3 credits)
ANTH 310	(3 credits)
ANTH 330	(3 credits)

Plus two area courses (from ANTH 312, 331, 333, 344, 346, 389). ANTH 340 may be included, depending on subject matter.

In addition, a student must complete one additional core sequence within anthropology, plus an elective from a third concentration, plus elective credits to complete the minimum of 36 credits in anthropology.

Students with a particular interest in **linguistic anthropology** should combine one of the concentrations (e.g., Ethnology or HEE) with a Minor in Linguistics. They should include in their programs both LING 301 (*Linguistic Analysis*) and ANTH 310 (*Language and Culture*). It is highly recommended that such students consult with an advisor in linguistic anthropology early in their program.

Courses with similar content to 110, 301, 310, 317, 318, 413 and 416 are cross-listed by the Department of Linguistics. Students may obtain credit for these courses in only one department; credits from either department may be applied toward the anthropology major degree requirements.

Minor Study Requirements (21 credits)

A total of 21 hours, including 101 and at least one of the following core curriculum sequences: 220 or 121L, and 320; 130 and 330; 150 and 350; or 160 and 360. No more than 3 hours of field or problem courses (399, 497, 499) or 12 hours of lower-division (100–200 level) courses may be applied toward the minor. Alternatively, a student may select a distributed minor focusing on anthropology.

Distributed Minors Outside Anthropology (30–36 credits)

Anthropology majors with interdisciplinary interests may plan a variety of possible distributed minors designed as preparation for diverse professional or educational goals. These include urban studies, folklife studies, earth sciences for archaeologists, population science, applied social research, premedicine, behavioral biology, pre-law and regional studies, (Chicano, Native American, Southwestern, etc.). All courses for these distributed minors are taken outside of anthropology. A distributed minor comprises a total of 30 to 36 hours, dependent upon meeting a 15 hour minimum of upper-division courses (300–400 level). With guidelines from the undergraduate advisor, students should design their own distributed minors and petition the Department Undergraduate Committee for approval of such programs.

Distributed Minors Within Anthropology (30 credits)

Students majoring in other fields may select a distributed minor focusing on anthropology. The distributed minor is similar to the intent and format of the Distributed Minor Outside Anthropology outlined above. This minor requires a minimum of one core curriculum sequence and 6 additional credits of anthropology.

Departmental Honors

Students seeking departmental honors should identify a research project during their junior year in consultation with an appropriate professor/mentor and enroll in the Fall of their senior year in ANTH 498; after which, they should enroll in an appropriate section of ANTH 497. These 6 hours of honors work are in addition to the 36 credits required for the major.

Graduate Programs

Graduate Advisors

Inquire in department office for names and telephone numbers of current graduate advisors.

Application Information

The Anthropology Graduate Application Committee will begin reviewing complete graduate applications on the first Friday of January and will not accept any files or additional information after that date. It is up to the student to allow adequate time (6 to 8 weeks prior to the department deadline) for processing and mail delivery of the application. The department will not accept faxed or Xeroxed copies of any information. There are no exceptions made.

The following materials must be included to complete the application file: three letters of recommendation, a letter of intent, official transcripts, GRE scores, the University of New Mexico graduate school application, Registration Information Form and application fee. Consult the department for further information.

Applicants to the graduate program in anthropology must identify their particular area of interest and their academic and professional goals in a letter of intent directed to the department's Graduate Studies Committee. GRE scores (verbal/analytical/quantitative) and three letters of recommendation also are required as part of the application which will be reviewed by the department's Graduate Studies Committee. Acceptance into the program will depend upon: the number of openings available for new graduate students; the applicant's potential as indicated by the materials submitted with the application; and agreement by an appropriate faculty person to act as advisor to the student. No student will be accepted into the program unless he or she can be placed under the direction of a faculty advisor who will help to plan the student's program. Students admitted to the program may change their advisor, subject to prior approval by the new advisor. Students are admitted to a specific area of concentration and must petition the appropriate concentration faculty for acceptance into another concentration. Continuation in the program will require progress at a rate deemed satisfactory by the appropriate concentration faculty, which will review progress each year.

Within the anthropology graduate program, there are both general departmental requirements and requirements specific to a student's concentration. The student must consult with the appropriate graduate advisor for information on concentration requirements before registering. General departmental requirements and concentration are described below.

Degrees Offered

M.A. or M.S. in Anthropology

Concentrations: archaeology, public archaeology, evolutionary anthropology, ethnology anthropology.

The Master of Arts/Master of Science in anthropology is offered under Plan I (thesis), subject to prior approval by a Committee of Studies in the appropriate concentration and Plan II according to the requirements specified earlier in the catalogue. No more than 8 hours of problems courses and no more than 6 hours of field courses may be applied toward the degree under Plan II.

Students desiring an interdisciplinary program may elect a minor or distributed minor, under Plan I or II, subject to the prior approval of an advisor in the appropriate area. A terminal master's program in Anthropology is also offered for students who want specific training in a particular concentration.

There are no general departmental technical skills or foreign language requirements for the M.A. or M.S. degrees. However, students intending to pursue doctoral research should attempt to obtain such skills, whenever possible, during their master's program.

All students are required to complete a master's examination. For students who do not intend to continue in anthropology beyond the master's degree, the examination will focus on the content of their course work and its relations to anthropology as a whole. For students wishing to enter the doctoral program in anthropology, this examination will also serve as a Ph.D. qualifying exam; its form and content will depend upon the anthropological concentration (archaeology, evolutionary anthropology, ethnology/linguistic anthropology) appropriate to the student's research interests. Further details about the master's examination can be obtained from the department office.

Anthropology Concentrations Required Coursework

Archaeology

- a) Core requirements:
 STAT 527 Advanced Data Analysis I
 ANTH 574 History & Theory in Archaeology
 ANTH 579 Current Debates in Archaeology
 ANTH 570 Adv T: Science in Archaeology
- b) Plus **one** of the following laboratory courses:
 ANTH 573L Lab Meth in Arch; Arch Meas – Lab Analysis
 ANTH 580 Ceramic Analysis
 ANTH 570 Adv T: Lithic Analysis
 ANTH 570 Adv T: Zooarchaeology

All other course work consists of electives. On the advice of their Thesis Advisor, students who are completing a Plan 1 (Thesis) Master's degree may petition the faculty to modify the number of course requirements for the Master's degree. The M.S. degree requires at least 6 additional graduate hours in sciences such as Chemistry, Biology, Geology, and Mathematics.

Evolutionary Anthropology

The Evolutionary Anthropology program does not offer a Master's Thesis option. In consultation with their faculty advisor, students should construct a program of courses within Evolutionary Anthropology, the Department of Anthropology, and other Departments to provide a breadth of training to best prepare them for their research. The core classes introduce students to the substance and theory of genetics, paleoanthropology, human biology/physiology, behavioral ecology, primates, and human life history.

Core Requirements:

- a) ANTH 555 Human Genetics
- b). One of the following: ANTH 557 Paleoanthropology or ANTH 550 Topics: Human Behavioral Evolution
- c) One of the following: ANTH 561 Seminar: Human Reproductive Ecology & Biology, ANTH 554 Human Paleopathology, ANTH 550 Topics: Human Growth and Development, or ANTH 550 Topics: Primate Endocrinology and Behavior
- d) One of the following: ANTH 667 The Evolution of Sociality, ANTH 560 Topics: Evolutionary Medicine, or ANTH 661 Behavioral Ecology and Biology of Sex Roles
- d) One of the following: ANTH 662 Great Apes: Mind and Behavior or ANTH 563 Primate Social Behavior
- e) ANTH 562 Human Life History

All Evolutionary Anthropology must complete STAT 527 & STAT 528 Advanced Data Analysis I & II prior to taking the Comprehensive Exam. The other course work consists of electives. Students interested in osteology should take ANTH 351L Anthropology of the Skeleton their first semester if they have not yet had a similar course. Students interested in behavioral ecology are encouraged to take a seminar in Evolutionary Psychology and ANTH 560 Topics: PIBBS Seminar. The M.S. degree requires at least 6 additional graduate hours in sciences such as Chemistry, Biology, Geology, and Mathematics.

Public Archaeology

The M.S. graduate concentration in Public Archaeology requires 36 credits and is only offered as Plan II (exam

option). The M.S. option in Public Archaeology requires at least 6 additional graduate credits in sciences, such as Chemistry, Biology, Geology, and Mathematics. A final report developed through the 9 hours of the internship experience will serve as part of the final examination that will also include an oral component to be administered by the committee. Students earning an M.A./ M.S. with a concentration in Public Archaeology who wish to earn a Ph.D. in Anthropology must apply for and gain admission to the doctoral concentration in Archaeology.

- a) Core requirements (18 hours):
 Group I (9 hours):
 ANTH 574 History and Theory of Archaeology
 ANTH 578 Science in Archaeology
 ANTH 579 Current Debates in Archaeology
 Group II (6 hours):
 ANTH 592 Managing Cultural Resources
 ANTH 593 Cultural Resource Management Archaeology
 Group III (3 hours):
 ANTH 581 Ethics in Archaeology
- b) Thematic electives (9 hours):
 Group I (3 hours required; up to 9 hours can be taken in Group I).
 ANTH 522 Lithic Analysis
 ANTH 573 Topics: Technical Studies, Zooarchaeology
 ANTH 580 Ceramic Analysis
 ANTH 582L Geoarchaeology
 (Or equivalent courses in Biology, Chemistry, Earth and Planetary Sciences, Geography, etc.)
 Group II (0-6 hours).
 Appropriate courses from other departments such as Community Planning or Architecture may be substituted with the approval of the advisor.
 ANTH *421 Historical Archaeology of the Spanish Borderlands
 ANTH 501 Native American Art I
 ANTH 503 Native American Art II
 ANTH 509 Seminar in Native American Art
 ANTH 521 Southwest Archaeology
 ANTH 523 Archaeology of Eastern North America
 ANTH 531 Indigenous Peoples of North America
 ANTH 576 Seminar: Southwestern Archaeology
 ANTH 582 Museum Practices
 ANTH 585 Seminar in Museum Methods
 ANTH 586 Practicum: Museum Methods
- c) Internship/Practicum (9 hours):
 ANTH 575 Archaeology Field Session
 ANTH 597 Problems
 ANTH 598 Advanced Research

Internship/Practicum is the capstone for the concentration with a defined project in public archaeology that would result in a written proposal and a final report on the project's results. M.A. graduate concentration in Public Archaeology consists of 36 credits. The M.S. degree requires at least 6 additional graduate credits in sciences such as Chemistry, Biology, Geology, and Mathematics. Students earning an M.A./M.S. with concentration in Public Archaeology who wish to earn an Anthropology Ph.D. must apply for and gain admission to the doctoral program concentration in Archaeology.

Ethnology

A two-semester sequence in socio-cultural anthropology and a seminar in linguistic anthropology are required in preparation for the Master's (Comprehensive) Examination:

- ANTH 546 Theory in Ethnology I (Fall)
- ANTH 547 Theory in Ethnology II (Spring)
- ANTH 510 Linguistic Pro-seminar

One methods course, such as:

- ANTH 530 T: Visual Anthropology, ANTH 540 T: Autobiography and Life History in Anthropology, ANTH 530 T: Discourse Analysis, ANTH 572 Analytic Methods in Anthropology, ANTH 541 Problems and Practice in Ethnography.

ARTS AND SCIENCES

150 ARTS AND SCIENCES

Four additional seminars in Ethnology with at least a 3.0 GPA. If more than four are taken, the four with the highest grades will fulfill this requirement.

In consultation with their faculty advisor, Master's students should choose elective courses and seminars according to their particular focus.

The successful completion of the M.A. requires passing the Master's (Comprehensive) Exam, completing the Second-Year Master's Paper, and the Second-Year Graduate Plan of Study. Further details can be obtained from the department office.

Ph.D. in Anthropology

Concentrations: archaeology, evolutionary anthropology, ethnology anthropology.

The Doctor of Philosophy in Anthropology is offered according to the general requirements as specified earlier in this catalog. No more than 12 hours of problems courses and no more than 9 hours of field courses may be applied toward the 48 credit hours required for the degree.

Admission to the Ph.D. program from the master's program will depend upon the student's performance in the master's comprehensive/Ph.D. qualifying examination and on the student's ability to form a committee on studies in fields appropriate to the student's research interests. The committee, which will assist in planning the student's program of study, must include one professor from outside the department and outside of Anthropology (not the committee chairperson). Since the Anthropology Department cannot supervise research in all areas of anthropology, students who cannot form such a committee will not be accepted into the doctoral program. Students entering the graduate program with an M.A., or its equivalent, in anthropology must pass the qualifying exam in the appropriate subfield. Students entering with an M.A. or M.S. in another discipline must pass the qualifying examination.

Prior to initiating major research for the dissertation, the student must: 1) demonstrate proficiency in at least two foreign languages and/or other skills as determined by the student's Committee on Studies; 2) pass a Ph.D. comprehensive examination; and 3) present the major topic of the proposed dissertation and explain the intended content.

Anthropology Concentrations—Required Coursework

Archaeology

The initial Ph.D. degree course work requirement consists of the following courses, which must be completed by the end of the student's second year in residence:

a) Core requirements:

STAT 527 Advanced Data Analysis I (Preferably STAT 528 as well)

ANTH 574 History & Theory of Archaeology

ANTH 579 Current Debates in Archaeology

ANTH 570 Adv. T: Science in Archaeology

b) And **one** of the following laboratory courses:

ANTH 573L Lab Meth in Arch; Arch Meas- Lab Analysis

ANTH 580 Ceramic Analysis

ANTH 570 Adv. T: Lithic Analysis

ANTH 570 Adv. T: Zooarchaeology

c) In addition, one course from each of the following three groups must be completed by the end of the second year, or fourth semester.

Foraging Societies:

ANTH 525 Stone Age Europe

ANTH 527 African Prehistory

ANTH 570 Adv. T: Paleoindians

ANTH 577 Seminar: European Prehistory

Middle Range Societies:

ANTH 521 Southwest Archaeology

ANTH 523 Archaeology of Eastern North America

ANTH 526 Late European Prehistory

ANTH 576 Seminar: Southwestern Archaeology

ANTH 570 Adv. T: Iron Age Europe

Complex Societies:

ANTH 522 Mesoamerican Prehistory

ANTH 524 American Archaeology: South America

ANTH 528 Near Eastern Archaeology

ANTH 529 Archaeology of Complex Societies

ANTH 420/570 Medieval Archaeology

Occasionally, graduate level topics courses such as ANTH *420 or 570 may satisfy the Foraging, Middle or Complex category requirements (examples: Pleistocene Transition, Chaco Canyon Archaeology). Consult with the graduate advisor to determine whether and how such courses will.

d) In the spring of the **third** year, students take:

ANTH 675: Archaeological Research Proposals

(must be completed after the student has passed the comprehensive examination with at least a Ph.D. pass).

Remaining course work consists of electives defined by the student after consultation with the Archaeology Faculty, Graduate Advisor, and their committee.

NOTE: All incoming students must meet with the Archaeology Graduate Advisor to discuss program requirements. Students entering the program with an M.A. or M.S. in Anthropology, with a concentration in Archaeology, may petition the faculty to modify the number and content of requirements and electives based on their previous graduate coursework. Students entering the program with a degree in another field may have deficiencies in their background. If the Graduate Advisor identifies deficiencies, the student must take additional course work in general Anthropology (i.e., ANTH 320, 330, 321 and/or 310). The student may request an exception from these courses by petitioning the Archaeology faculty.

Evolutionary Anthropology

Evolutionary Anthropology students admitted to the Ph.D. program are required to follow the Plan II (Non-Thesis) option for their coursework prior to the Comprehensive Exam. Some Master's level work can be accepted from transfer students when appropriate.

The additional coursework requirements for a Ph.D. include:

1. One of the following: ANTH 663 HEE Research Methods and Design or ANTH 675 Anthropological Research Proposals
2. A course in specialized, quantitative analyses suited for the student's research. Suitable courses include ANTH 552 Quantitative Methods, STAT 574 Survival Analysis, or an equivalent with the student's Advisor's permission
3. Completion of further training in skills should be determined by the student in consultation with the advisor and other faculty if needed. These skills can be completed within or outside the department but must be appropriate to the student's dissertation project and career trajectory.

All other coursework consists of electives.

Ethnology Anthropology

ANTH 546 Theory in Ethnology I

ANTH 547 Theory in Ethnology II

ANTH 510 Linguistic Pro-Seminar

One methods course such as: ANTH 530 T: Visual Anthropology, ANTH 540 T: Autobiography and Life History in Anthropology, ANTH 530 T: Discourse analysis, ANTH 572 Analytic Methods in Anthropology, ANTH 541 Problems and Practice in Ethnography.

Four additional seminars in Ethnology with at least a 3.67 GPA. If more than four are taken, the four with the highest grades will fulfill this requirement.

Coursework completed for a previous master's degree may be substituted for these required courses with the permission of the Ethnology Graduate Advisor. ANTH 530 T: "Proposal Writing" (can be taken only by post-M.A. students) is encouraged, but not required.

Anthropology (ANTH)

Introductory Courses for Undergraduates

101. Introduction to Anthropology. (3)
 Surveys the breadth of anthropology, introducing students to archaeology, biological anthropology, ethnology, human evolutionary ecology and linguistics. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 1113).

110. Language, Culture and the Human Animal. (3)
 Dinwoodie, Gorbet
 (Also offered as LING 101.) Fundamentals of anthropological linguistics. The biological, structural, psychological and social nature of language; implications for cross-cultural theory, research and applications.

121L. Archaeological Method and Theory. (4)
 Introduction to archaeological method and theory. Lectures cover basic concepts and strategy. Labs provide hands-on experience with methods of analyzing archaeological remains.

130. Cultures of the World. (3)
 Basic concepts and methods of cultural anthropology. Selected cultures, ranging from preliterate societies to aspects of urban civilization. Meets New Mexico Lower-Division General Education Common Core Curriculum Area.

134. Creating a Sustainable Future: Introduction to Environmental, Social, and Economic Health. (3)
 (Also offered as AMST, SUST 134.) An introduction to creating a sustainable future that supports environmental health and restoration, social equity, and economic vitality. Examines challenges and examples of integrated, creative strategies on local, regional, national, and global levels.

150. Evolution and Human Emergence. (3)
 Fundamentals of biological anthropology and principles of organic evolution, in relation to the biology, ecology and behavior of primates and fossil humans. Biological anthropology concentrators are required, and others are encouraged, to enroll concurrently in 151L. Meets New Mexico Lower-Division General Education Common Core Curriculum Area.

151L. Human Evolution Laboratory. (1)
 The factual basis of human evolution, from the comparative study of living and fossil primates to interpretation of recent human fossils. Recommended, but not required, that this be taken concurrently with 150. Two hours lab.

160. Human Life Course. (3)
 Biology and behavior of the human life course, including the evolution of the life history patterns specific to humans and the impact of population growth and of adaptation to local conditions in promoting human diversity. Students are encouraged, but not required, to enroll concurrently in 161L.

161L. Computer Laboratory in Human Evolutionary Ecology. (1)
 Introduces the computer as a tool in biological and social science research, provides first-hand experience in data collection, analysis and modeling behavior. No prior computer experience required.
 Pre- or corequisite: 160.

220. World Archaeology. (3)
 Illustrated lecture survey of the development of human culture from its Stone Age origins through the inception of complex societies world wide.

230. Topics in Current Anthropology. (3, no limit) Δ
 Experimental courses on topics of current interest.

238. Cultures of the Southwest (3)
 Basic concepts of cultural anthropology, illustrated with overviews of social and cultural patterns of Southwest Indians and Hispanics. Interethnic relations of these with other

American populations. Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences. (Offered periodically)

251. Forensic Anthropology. (3)
 This course is designed to introduce students to the forensic investigation of death. Emphasis will be on current methods and techniques and include the role of the anthropologist as an integral member of the investigation process.

Upper-Division Courses for Undergraduates

In general, prerequisites are listed with each course description. If none are listed, the class is designed for those without previous courses in anthropology. If course does not show a time of offering or is "offered periodically," consult the department. At the end of each course description, a letter designation signifies the concentration specialization for which this class can be used. ("A" for Archaeology; "EV" for Evolutionary Anthropology; "E" for Ethno-Linguistics.)

304./504. Current Research in Anthropology. (1-3)
 This course familiarizes students with current, active research in Anthropology by the University of New Mexico faculty and visiting scholars. It also teaches students to critically assess and discuss research questions. (A, EV, E)

310./511. Language and Culture. (3)
 (Also offered as CJ 319, LING 359.) Examination of the inter-relations of language and speech with other selected aspects of culture and cognition.
 Prerequisite: 110 or LING 101 or LING 301. (E)

***312. Oral Narrative Traditions. (3)**
 Western and non-Western myths, epics, folk tales, life-stories and personal experience narratives as cultural and aesthetic expressions. (E) (Offered periodically)

317./517. Phonological Analysis. (3)
 (Also offered as LING 304.) Introduction to patterns in sound structure, with an emphasis on problem-solving. Topics include distinctive features, common phonological processes, autosegmental theory and syllable structure.
 Prerequisite: LING 301 or LING 303 or SHS 303. (E) {Fall}

***318. Grammatical Analysis. (3)**
 (Also offered as LING 322 and 522.) Principles of morphological and syntactic analysis and introduction to functional and formal theories of grammar. Descriptive analysis of grammatical structures and problems from a variety of languages.
 Prerequisite: LING 301 or SIGN 305 or SPAN 351. (E) {Spring}

320./520. Strategy of Archaeology. (3)
 The purpose and theory of the study of archaeology; relates archaeology to anthropological principles and the practice of science.
 Prerequisite: 101 and either 121L or 220. (A) {Yearly}

321./521. Southwest Archaeology. (3)
 An intensive survey of Southwest prehistory including discussion of major interpretative problems. Covers the period from 11,000 years ago to historic times. (A)

322. Mesoamerican Prehistory. (3)
 An advanced survey of the prehistory of Mexico, Guatemala, and Belize from the origins of village farming to the Spanish conquest.

323./523. Archaeology of Eastern North America. (3)
 A survey of the archaeology of Eastern North America that begins with human entry into the East and terminates with European discovery and settlement. (A) (Alternate years)

324./524. South American Archaeology. (3)
 Archaeology of South America from the Paleo-Indian to the European colonial period. Emphasizes the origins and evolution of Andean civilization and associated interpretive problems. (A) (Alternate years)

ARTS AND SCIENCES

152 ARTS AND SCIENCES

325/525. Stone Age Europe. (3)

The prehistory of Europe with emphasis on hunter-gatherer adaptations of the Pleistocene and early Holocene, using primary data sources.
Prerequisite: 101 or 121L or 220. (A) {Alternate years}

326/526. Late European Prehistory. (3)

An intensive survey of the later prehistory of Europe, from the development of agricultural communities through the Roman Empire. (A) {Alternate years}

327/527. African Prehistory. (3)

The prehistory of Africa from the appearance of the first hominids to the development of complex societies.
Prerequisite: ANTH 101 or ANTH 121L or ANTH 220. (A) {Alternate years}

328/528. Near Eastern Archaeology. (3)

A survey of the Near Eastern culture area from the origins of agriculture to the development of Bronze Age civilization. (A) {Offered periodically}

329/529. Archaeology of Complex Societies. (3)

Comparative approach to origin and development of stratified societies and pristine states as known from the archaeological record. (A)

330. Principles of Cultural Anthropology. (3)

Development of ideas and theories in sociocultural anthropology; focus on topics such as integration of human societies, sources of change in economic and cultural systems. (E)

331/531. Indigenous Peoples of North America. (3)

Major culture types and selected ethnographic examples of North American Indian cultures. (E) {Offered periodically}

332/532. Indigenous Peoples of South America. (3)

Culture and history of indigenous peoples of South America. Selected examples from lowland and highland regions. (E) {Offered periodically}

333/533. Ritual Symbols and Behavior. (3)

(Also offered as RELG 333.) Ethnographic studies and a variety of anthropological approaches to ritual are read to examine the defining characteristics of ritual activity and its contemporary significance in peoples' lives. (E) {Offered periodically}

***337. Anthropology of New Mexico. (3 to a maximum of 9) Δ**

Topics will vary from instructor to instructor but will deal with specific social and cultural matters of anthropological interest in New Mexico such as folklore and expressive culture; social relations; tourism; environmental issues. (E) {Offered periodically}

339/539. Human Rights in Anthropology. (3)

A description and analysis of competing theories about the content of human rights; the history, politics and economics of human rights situations. Emphasis on the interplay among power, difference, "culture" and human rights abuses. (E)

340/540. Topics in Cultural Anthropology. (3, no limit) Δ

Current topics in sociocultural anthropology to be explored in experimental courses. (E)

341. Culture Study of Indigenous Video. (3)

(Also offered as NATV 441.) Videos produced by indigenous peoples in the western hemisphere will be used to examine cultures within modern and historical contexts that address political, personal and social concerns which invite new questions about indigenous history and cultural understanding. (E)

343/543. Latin American Culture and Societies. (3)

Cultural and social institutions common throughout Latin America and their historical antecedents. Contemporary social movements and their prognosis for the immediate future. Analysis of the variations among selected Latin American societies. (E) {Offered annually}

344. Comparative Ethnic Relations. (3)

Ethnic and race relations are examined through focus on case studies from the Americas. Basic questions are pursued about the nature of and relationships among ethnicity, race, gender and class. (E) {Alternate years}

345/535. Spanish-Speaking Peoples of the Southwest. (3)

Analysis of the ethnohistory and modern culture patterns of Spanish-speaking peoples of the Southwest. (E) {Alternate years}

346. Expressive Culture. (3)

The comparative study of selected verbal, visual, musical, dramatic and cultural arts as cultural and aesthetic expressions. (E) {Alternate years}

***350. Human Biology. (3)**

Human heredity, variation and adaptation within and between different ecological and cultural settings; genetics; quantitative variation; elements of human population biology and human ecology.
Prerequisite: 150 or BIOL 110, or BIOL 123, or BIOL 201, or BIOL 202. (EV) {Spring}

***351L. Anthropology of the Skeleton. (4)**

A laboratory course in the identification of human skeletal materials with attention to problems in the evolution of primates. Three lectures, 2 hours lab. (EV) {Fall}

357. Human Origins. (3)

The events and processes involved in the emergence and evolution of the human lineage—from the origins of *Australopithecus*, through the emergence of the genus *Homo*, to the evolution of early modern humans—based on the human fossil record.
Prerequisite: 220 or 150. (EV) {Alternate years}

360/567. Human Behavioral Ecology. (3)

Introduces students to the fundamental principles of evolutionary theory and their application to human behavior. It surveys current research on human sexuality, mate choice, reproduction and parenting from the perspective of human evolutionary ecology.
Prerequisite: 150 or 160 or BIOL 110. (EV)

361/661. Behavioral Ecology and Biology of Sex Roles. (3)

Uses the perspective of evolutionary biology to examine the diversity of sex roles played by men and women in the historical and cross-cultural record.
Restriction: upper-division standing. (EV) {Alternate years}

362/662. Great Apes: Mind and Behavior. (3)

Explores recent research in both captivity and the wild on cognition and behavior of great apes (chimpanzees, gorillas, bonobos, orangutans), the closest living relatives of humans. (EV) {Alternate years}
Restriction: upper-division standing.

363/563. Primate Social Behavior. (3)

Special emphasis will be on strategies of survival, reproduction, mating and rearing, in the complex social systems of apes and monkeys. The costs and benefits of alternative strategies are used to understand individual life histories.
Restriction: upper-division standing. (EV) {Alternate years}

364. Topics: Human Evolutionary Ecology. (3, no limit) Δ

This course offers specific, in-depth discussions of topics of current faculty interests and student demand including collective action, single parenthood and child health, hunter-gatherers, psychological anthropology and conservation of resources. (EV)

365/568. Anthropology of Health. (3)

Analysis of systems of health, curing and disease in aboriginal, western and pluralistic societies. (EV) {Offered periodically}

369. Observing Primate Behavior. (4)

Various methods of observational data collection on human and nonhuman primates will be examined. Student designed

research on campus or at the zoo will focus on the importance of determining appropriate data collection methods. Recommended: Upper-division standing and 360 or 362 or 363. Can be taken concurrently with 363. (EV) {Alternate years}

***371. Pre-Columbian Cultures of Ancient Mexico. (3)**
Archaeological survey of the cultures of ancient Mexico from earliest inhabitants to the period of the Spanish Conquest. This course explores environmental, social, and political aspects of the rise and fall of societies across Mexico. (E)

372./572. Analytic Methods in Anthropology. (4)
Introduction to basic qualitative and quantitative analytic methods in anthropology. (A)

***373. Technical Studies in Archaeology. (3 to a maximum of 6) Δ**
Technical course with variable content dealing with such issues as dating, paleoenvironmental and subsistence studies in archaeology. (A) {Offered periodically}

375./575. Archaeology Field Session. (2-6 to a maximum of 12) Δ
Intensive instruction in archaeological field and laboratory techniques and the opportunity for independent student research.
Restriction: permission of instructor. (A)

***376. Maya Prehistory and Archaeology. (3)**
Surveys the development of the Maya civilizations in Mesoamerica from the origins of agriculture through the Spanish Conquest. The course will explore archaeological, ethno-historical, linguistic, and environmental data and accounts.
Prerequisite: ANTH 101 or 121L or 220 or 320. (A)

***380. Women, Culture & Society. (3)**
(Also offered as WMST 380.) An overview of women's and men's experience in our own and other cultures. We will read case studies about gender relations in Native North America, Mexico, Africa, the Middle East and differing ethnic and class segments of the U.S. Issues to be covered include reproduction, the family, work and colonialism. (E)

381./581. Ethics in Anthropology: A Four Field Approach. (3)
The class examines topical issues such as human rights, indigenous rights, researcher rights, and professional and scientific responsibility that face the various subfields of anthropology in its everyday practice. (A, E, EV) {Spring}

384./584. Peoples of Mexico. (3)
Emergence of the modern Indian and Mestizo cultures of Mexico and Guatemala. Persistence and change in social institutions and cultural patterns. (E) {Alternate years}

385./588. Images of the Indian in American Culture. (3)
Analysis of literary, historical, ethnographic and contemporary texts, written by both Indians and non-Indians, to understand Native American peoples' reaction and adjustment to conquest and domination. (E) {Offered periodically}
Prerequisite: 331.

387./587. Peoples and Cultures of the Circum-Caribbean. (3)
(Also offered as AFST 386.) Outlines the sociocultural transformation of the region since 1492. Emphasis upon cultural legacies of and resistance to colonialism, the Afro-Caribbean and Hispanic heritages, and the contemporary trans-nationalization of island identities. (E)

392./594. Arctic Archaeology. (3)
Outlines archeology of northern North America and adjacent regions (including eastern Siberia and NW Coast) from the late Pleistocene to contact with Euro-American cultures.
Restriction: permission of instructor.

393. Ancient New Mexico I. (3)
Ancient New Mexico is Part I of a two-semester general series on the archaeology of New Mexico. The period of New

Mexico's earliest settlement at 10,000 B.C. to the advent of early pithouse villages at about A.D. 500 is covered each fall semester. (A) {Alternate years}

394. Ancient New Mexico II. (3)
Ancient New Mexico is Part II of a two-semester general series on the archaeology of New Mexico. The period from the advent of early pithouse villages (A.D. 500) through the rise and fall of Chacoan Society, to the arrival of Spanish settlers in 1595. (A) {Alternate years}

395./595. The First Americans. (3)
Presents and interprets the earliest archeology of North America from the terminal Pleistocene through the early Holocene including relevant archeological evidence from eastern Eurasia and South America.
Restriction: permission of instructor.

399. Introduction to Field & Laboratory Research. (1-6 to a maximum of 9) Δ
Directed study under the supervision of a faculty member.
Restriction: permission of instructor. (A, E, EV) {Offered upon demand}

401./501. Native American Art I. (3)
(Also offered as ARTH 402.) Archaeological and historic art forms of the Arctic Northwest coast and the eastern woodlands of North America. (E) {Fall}

402./582. Museum Practices. (3 to a maximum of 9) Δ
(Also offered as MSST, ARTH 407.) History, philosophy and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation and public relations. (E)

403./503. Native American Art II. (3)
(Also offered as ARTH 406.) Archaeological and historic art forms of the Plains, Southwest coast and western regions of North America. (E) {Spring}

410./510. Topics in Linguistic Anthropology. (3 to a maximum of 15) Δ
Topics from various areas of anthropological linguistics including, but not limited to, ethnosemantics, the ethnography of communication and the biology of language. (E)

413./512. Linguistic Field Methods. (3)
(Also offered as LING 413.) Practice in transcribing from oral dictation, phonemic analysis, introduction to problems of morphology.
Prerequisite: (317 or LING 304) and (318 or LING 322).
Restriction: permission of instructor. (E) {Offered upon demand}

415./515. Native American Languages. (3)
(Also offered as LING 415.) Survey of Indian languages of North America, with special emphasis on languages of New Mexico. Topics: linguistic structure in particular languages and language families; relationship of languages and cultures; and language loss, maintenance and preservation. (E)

416./516. Introduction to Language Change. (3)
(Also offered as LING 446.) Theories and methods of comparative and historical linguistics, emphasizing change in English, Indo-European and Native American languages.
Prerequisite: 317 or LING 304. (E) {Alternate years}

***420. Topics in Archaeology. (3 to a maximum of 15) Δ**
Topics of archaeological interest including gender in archaeology, European contact and post-processualism. (A)

***421. Historical Archaeology of the Spanish Borderlands. (3)**
Using archaeology and history, this course focuses on change and continuity of native populations that occurred with Spanish colonization across the Borderlands. Topics include demography, missionization, technologies and settlement organization. Format includes lecture and discussion.
(A) {Offered periodically}

434. Synthesis of Sustainability Perspectives and Innovations. (3)

(Also offered as AMST 434, ARCH 449, SUST 434.) Presents frameworks for complex and creative analysis, including systems thinking and synergistic integration of the three pillars of sustainability: environment, equity, economy. Examines innovative local and international case studies in environment, business, policy, and community development.
Prerequisite: SUST 134 and (ECON 106 or ECON 203.)

444/J544. Anthropology of World Beat. (3)

(Also offered as MUS 444.) The study of musical globalization, concentrating on the 100 year background of indigenous and ethnic sound recordings that led to the creation of the "World Music" genre in the late 20th Century. (E)

448/548. The Anthropology of Music and Sound. (3)

(Also offered as MUS 448/548.) The cultural study of music and sound. Course materials are drawn from written and audio music ethnographies of contemporary indigenous, diasporic, refugee, exile, and industrial communities. (E)

449/549. New Guinea Representations. (3)

Through writings, films, radio, and Internet, the course explores how the island of New Guinea has been represented, both by indigenous New Guineans, and by visiting explorers, adventurers, colonizers, missionaries, tourists, scientists and artists. (E)

***450. Topics in Biological Anthropology. (3-4 to a maximum of 15) Δ**

(EV)

451/651. Bioarcheology. (3)

The analysis of the skeletal remains from past human populations, oriented at the mortality, morbidity and genetic affinities of those extinct populations.

Prerequisite: 351L. (EV) {Alternate years}

454/554. Human Paleopathology. (3)

Ancient disease through the study of normal and abnormal bone remodeling processes and dental conditions. Population health evaluated by descriptive and radiologic analyses of human remains.

Prerequisite: 351L. (EV) {Alternate years}

455/555. Human Genetics. (3)

(Also offered as BIOL 452.) Fundamentals of human transmission, cellular, molecular, developmental and population genetics.

Prerequisite: 150 or BIOL 110 or BIOL 123 or BIOL 201 or BIOL 202. (EV) {Alternate years}

456/656. Field School in Evolutionary Anthropology. (3-6 to a maximum of 12) Δ

A course in the field and laboratory techniques used in Biological Anthropology. The focus varies by instructor to include human osteology, primate and human evolution, or genetics.

Prerequisite: 150 or BIOL 110 or BIOL 123 or BIOL 201 or BIOL 202. (EV) {Intercession and Summer}

457/557. Paleoanthropology. (3)

Events and processes leading from the appearance of the human lineage to the beginnings of agriculture, with discussions of *Australopithecus* and the genus *Homo*, through *Homo sapiens*.

Prerequisite: 351L. (EV) {Alternate years}

462. Human Evolutionary Ecology. (3)

The capstone course for Anthropology concentrators in Human Evolutionary Ecology. Provides students with a broad, but deep, overview of the major theoretical issues in HEE and of empirical data brought to bear on them.

Prerequisite: 360. (EV)

464/564. Human Behavioral Evolution. (3)

Behavioral transitions throughout human evolution, including social systems, diet, life history, intelligence and locomotion. Focus on hominid origins, the transition from ape-like to human-like hominid, and the origin of our own species.

Prerequisite: 357.

473L/573L. Archaeological Measurement and Laboratory Analysis. (4)

Emphasizes the methods and techniques employed to construct and analyze archaeological materials. Style, function and technology of flaked and ground stone and ceramics are considered. Course work includes readings, discussions and laboratory exercises. Exercises focus on the construction, analysis and interpretation of data.

Prerequisite: 320. (A) {Alternate years}

480/580. Ceramic Analysis. (3)

Basic concepts, methods and approaches used in the analysis of archaeological pottery. Lectures cover concepts and strategies. Labs give practical experience with techniques of analysis. (A) {Spring}

482L/582L. Geoarchaeology. (3)

(Also offered as EPS 482L.) Application of geological concepts to archaeological site formation with emphasis on pre-ceramic prehistory of the southwestern United States. Quaternary dating methods, paleoenvironment, landscape evolution, depositional environments. Quaternary stratigraphy, soil genesis, sourcing of lithic materials, site formation processes. Required field trip.

Prerequisite: 121L and 220 and EPS 101 and EPS 105L. Restriction: junior standing. (A) {Alternate Years}

485/585. Seminar in Museum Methods. (3 to a maximum of 6) Δ

(Also offered as MSST, ARTH 485.) Theoretical and practical work in specific museum problems.

Prerequisite: 402 or ARTH 407. (E)

486/586. Practicum: Museum Methods. (3 to a maximum of 6) Δ

(Also offered as MSST, ARTH 486.) Practicum in museum methods and management.

Prerequisite: 402 or ARTH 407. Restriction: permission of instructor. (E)

491/591. Population Genetics. (3)

(Also offered as BIOL 491.) This course investigates how genetic variation is patterned within and between and how these patterns change over time. Topics include neutral theory, population structure, phylogenetics, coalescent theory, molecular clock, and laboratory methods. (EV)

495/596. Summer Institute in Cultural Resource Management. (9)

Summer Institute in Cultural Resource Management. Two weeks lecture, six weeks internship. Classes introduce knowledge/skills needed for a career in CRM. Supervised work experience in government or private firms.

Restriction: permission of instructor.

497. Individual Study. (1-3 to a maximum of 6) Δ

Directed study of topics not covered in regular courses. (A, E, EV)

498. Honors Seminar. (3)

Readings and discussions concerning anthropological research methods, sources, goals and professional ethics. Open to upper-division majors and concentrators whose applications for the honors program have been approved. (A, E, EV)

Restriction: permission of instructor. {Fall}

***499. Field Research. (2-6 to a maximum of 9) Δ**

Field research for qualified advanced undergraduate or graduate students with previous experience in archaeology, biological anthropology, human evolutionary ecology, linguistics or general ethnology. Problems are selected on the basis of student-faculty interest and field research opportunities.

Restriction: permission of instructor. (A, E, EV) {Offered upon demand}

Graduate Courses

501./401. Native American Art I. (3)

(Also offered as ARTH 502.) Archaeological and historic art forms of the Arctic Northwest coast and the eastern woodlands of North America. {Fall} (E)

503./403. Native American Art II. (3)

(Also offered as ARTH 506.) Archaeological and historic art forms of the Plains, Southwest and western regions of North America. {Spring} (E)

504./304. Current Research in Anthropology. (1-3)

This course familiarizes students with current, active research in Anthropology by the University of New Mexico faculty and visiting scholars. It also teaches students to critically assess and discuss research questions. (A, E, EV)

509. Seminar in Native American Art. (3, no limit) Δ

(Also offered as ARTH 559.)

Restriction: permission of instructor. (E)

Prerequisite: 501 and 503. {Offered upon demand}

510./410. Topics in Linguistic Anthropology. (3 to a maximum of 15) Δ

Topics from various areas of anthropological linguistics including, but not limited to, ethnosemantics, the ethnography of communication and the biology of language. (E)

511./310. Language and Culture. (3)

(Also offered as CJ 519 and LING 559.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition.

Prerequisite: 110 or LING 101 or LING 301. (E) {Spring}

512./413. Linguistic Field Methods. (3)

(Also offered as LING 513.) Practice in transcribing from oral dictation, phonemic analysis, introduction to problems of morphology.

Prerequisite: 317. Restriction: permission of instructor. (E) {Offered upon demand}

513. Functional Syntax. (3)

(Also offered as LING 523.) Description and explanation of morphological, syntactic and discourse phenomena, both in language-specific and topological perspective, in terms of their cognitive representations and the cognitive and interactional processes in which they function.

Prerequisite: LING 322. (E)

514. Seminar: Linguistic Theory. (3)

(Also offered as LING 554.) Current topics and issues in phonology, syntax or semantics. (E)

515./415. Native American Languages. (3)

(Also offered as LING 515.) Survey of Indian languages of North America, with special emphasis on languages of New Mexico. Topics: linguistic structure in particular languages and language families; relationship of languages and cultures; and language loss, maintenance and preservation. (E)

516./416. Introduction to Language Change. (3)

(Also offered as LING 546.) Theories and methods of comparative and historical linguistics, emphasizing change in English, Indo-European and Native American languages.

Prerequisite: 317. (E) {Alternate years}

517./317. Phonological Analysis. (3)

(Also offered as LING 504.) Introduction to patterns in sound structure, with an emphasis on problem-solving. Topics include distinctive features, common phonological processes, autosegmental theory and syllable structure.

Prerequisite: LING 303. (E) {Fall}

519. Cognitive Linguistics. (3)

(Also offered as LING 519.) Introduction to cognitive linguistic approaches (e.g., Cognitive Grammar, Construction Grammar) to syntax, morphology, and semantics. Grammatical phenomena at various scales from morpheme to discourse and in a variety of languages. (E)

Prerequisite: LING 322 or 522 or SPAN 351.

520./320. Strategy of Archaeology. (3)

The purpose and theory of the study of archaeology; relates archaeology to anthropological principles and the practice of science.

Prerequisite: 101 and either 121L or 220. (A) {Yearly}

521./321. Southwest Archaeology. (3)

An intensive survey of Southwest prehistory including discussion of major interpretative problems. Covers the period from 11,000 years ago to historic times. (A) {Fall}

522. Lithic Analysis. (3)

Examines how flaked stone artifacts can be studied and contribute to archaeological research. Includes such topics as raw material procurement; manufacturing technology; tool morphology, function, and style; debitage; and theoretical frameworks.

Restriction: admitted to Anthropology graduate program.

523./323. Archaeology of Eastern North America. (3)

A survey of the archaeology of Eastern North America that begins with human entry into the East and terminates with European discovery and settlement. (A) {Alternate years}

524./324. South American Archaeology. (3)

Archaeology of South America from the Paleo-Indian to the European colonial period. Emphasizes the origins and evolution of Andean civilization and associated interpretive problems. (A) {Alternate years}

525./325. Stone Age Europe. (3)

The prehistory of Europe with emphasis on hunter-gatherer adaptations of the Pleistocene and early Holocene using primary data sources.

Prerequisite: 101 or 121L or 220. (A) {Alternate years}

526./326. Late European Prehistory. (3)

An intensive survey of the later prehistory of Europe, from the development of agricultural communities through the Roman Empire. (A) {Alternate years}

527./327. African Prehistory. (3) Straus

The prehistory of Africa from the appearance of the first hominids to the development of complex societies.

Prerequisite: 101 or 121L or 220. (A) {Alternate years}

528./328. Near Eastern Archaeology. (3)

A survey of the Near Eastern culture area from the origins of agriculture to the development of Bronze Age civilization. (A) {Offered periodically}

529./329. Archaeology of Complex Societies. (3)

Comparative approach to origin and development of stratified societies and pristine states as known from the archaeological record. (A)

530. Topics in Ethnology. (3, no limit) Δ

Current topics in ethnology to be explored in experimental seminars. (E)

531./331. Indigenous Peoples of North America. (3)

Major culture types and selected ethnographic examples of North American Indian cultures. (E) {Offered annually}

532./332. Indigenous Peoples of South America. (3)

Culture and history of indigenous peoples of South America. Selected examples from lowland and highlands regions. (E) {Offered periodically}

533./333. Ritual Symbols and Behavior. (3)

(Also offered as RELG 533.) Ethnographic studies and a variety of anthropological approaches to ritual are read to examine the defining characteristics of ritual activity and its contemporary significance in peoples' lives.. (E) {Offered annually}

535./345. Spanish-Speaking Peoples of the Southwest. (3)

Analysis of the ethnohistory and modern culture patterns of Spanish-speaking peoples of the Southwest. (E) {Alternate years}

536. Theories of Symbolic Action. (3)

An overview of a variety of anthropological approaches to ritualized activity, including symbolic, semiotic and performative approaches. (E)

537. Seminar: Southwestern Ethnology. (3)

Examination of data and theories relevant to study of Indian, Hispanic and dominant society cultures in southwestern U.S. and northwestern Mexico. Student research generated from students professional interests. Non-majors admitted. (E)

539/339. Human Rights in Anthropology. (3)

A description and analysis of competing theories about the content of human rights; the history, politics and economics of human rights situations. Emphasis on the interplay among power, difference, "culture" and human rights abuses. (E)

540/340. Topics in Cultural Anthropology. (3, no limit)

Δ Current topics in sociocultural anthropology to be explored in experimental courses. (E)

541. Problems and Practice in Ethnography. (3)

A practicum in ethnographic methods and theory. (E)

542. Seminar: Urban Anthropology. (3)

Historical overview of urban anthropology development. Introduction to research on contemporary urban issues. Focus on cases from Brazil, Mexico, Japan, Germany and Vietnam. Recent research on U.S. cities that examines industrial decline, immigration and homelessness. (E)

543/343. Latin American Cultures and Societies. (3)

Cultural and social institutions common throughout Latin America and their historical antecedents. Contemporary social movements and their prognosis for the immediate future. Analysis of the variations among selected Latin American societies. (E) {Offered annually}

544/444. Anthropology of World Beat. (3)

(Also offered as MUS 544.) The study of musical globalization, concentrating on the 100 year background of indigenous and ethnic sound recordings that led to the creation of the "World Music" genre in the late 20th Century. (E)

546. Theory in Ethnology I. (3)

Early history of anthropology from 19th-century cultural evolutionists to anthropology of the mid-20th century. Contributions of Historical School, Structural Functionalists and Neo-Evolutionists. (E) {Fall}

547. Theory in Ethnology II. (3)

Recent trends in ethnological theory including processual analysis, structuralism, cognitive and symbolic anthropology, Marxist, feminist and interpretive approaches. (E) {Spring}

548/448. The Anthropology of Music and Sound. (3)

(Also offered as MUS 548/448.) The cultural study of music and sound. Course materials are drawn from written and audio music ethnographies of contemporary indigenous, diasporic, refugee, exile, and industrial communities. (E)

549/449. New Guinea Representations. (3)

Through writings, films, radio, and Internet, the course explores how the island of New Guinea has been represented, both by indigenous New Guineans, and by visiting explorers, adventurers, colonizers, missionaries, tourists, scientists and artists. (E)

550. Topics in Biological Anthropology. (3-4 to a maximum of 15) Δ (EV)**552. Quantitative Methods in Biological Anthropology. (3)**

Basic overview of quantitative methods, including randomization, multivariate statistics, ordination and cladistics, used to explore problems in systematics, functional morphology, population genetics and skeletal biology. Restriction: permission of instructor. (EV) {Alternate years}

554/454. Human Paleopathology. (3)

Ancient disease through the study of normal and abnormal bone remodeling processes and dental conditions. Population health evaluated by descriptive and radiologic analyses of human remains.

Prerequisite: 351L. (EV) {Alternate years}

555/455. Human Genetics. (3)

Fundamentals of human transmission, cellular, molecular, developmental and population genetics.

Prerequisite: 150 or BIOL 110 or BIOL 123 or BIOL 201 or BIOL 202. (EV) {Alternate years}

557/457. Paleoanthropology. (3)

Events and processes leading from the appearance of the human lineage to the beginnings of agriculture, with discussions of *Australopithecus* and the genus *Homo*, through *Homo sapiens*.

Prerequisite: 351L. (EV) {Alternate years}

559. Advanced Osteology. (3)

This course is to further develop the skills of graduate and senior undergraduate students in human osteology and to introduce advanced methods of skeletal analysis. Both lecture and laboratory components.

Prerequisite: 351L or equivalent, upper-division standing or consent of instructor. (EV)

560. Advanced Topics in Evolutionary Anthropology. (3 to a maximum of 15) Δ

Topics of interest including Critical reading, Anthropological economics, Life history strategies, Primate reproductive strategies, Game theory. (EV)

561. Seminar: Human Reproductive Ecology and Biology. (3)

Investigates relationships between ecology, ontogeny and reproduction in terms of energy allocation trade-offs faced by individuals and age/sex/group-specific behavioral/physiological solutions which together describe human life history strategy variation. (EV) {Alternate years.}

562. Human Life History. (3)

In-depth treatment of human life history evolution. Covers basic population demography; mortality, senescence, menopause, mating, reproduction, parental investment with additional focus on brain evolution. Experiences in evaluation and building mathematical models of fitness trade-offs.

Prerequisite: (360, or BIOL 300) and MATH 121. (EV)

563/363. Primate Social Behavior. (3)

Special emphasis will be on strategies of survival, reproduction, mating and rearing in the complex social systems of apes and monkeys. The costs and benefits of alternative strategies are used to understand individual life histories. (EV) {Alternate years}

564/464. Human Behavioral Evolution. (3)

Behavioral transitions throughout human evolution, including social systems, diet, life history, intelligence and locomotion. Focus on hominid origins, the transition from ape-like to human-like hominid, and the origin of our own species.

Prerequisite: 357.

567/360. Human Behavioral Ecology. (3)

Introduces students to the fundamental principles of evolutionary theory and their application to human behavior. It surveys current research on human sexuality, mate choice, reproduction and parenting from the perspective of human evolutionary ecology. (EV)

568/365. Anthropology of Health. (3)

Analysis of systems of health, curing and disease in aboriginal, western and pluralistic societies. (EV) {Offered periodically}

570. Advanced Topics in Archaeology. (3 to a maximum of 15) Δ (A)

572./372. Analytic Methods in Anthropology. (4)
Introduction to basic qualitative and quantitative analytic methods in anthropology. (A) {Fall}

573. Topics in Advanced Technical Studies in Archaeology. (3 to a maximum of 12) Δ (A)

573L./473L. Archaeological Measurement and Laboratory Analysis. (4)
Emphasizes the methods and techniques employed to construct and analyze archaeological materials. Style, function and technology of flaked and ground stone and ceramics are considered. Course work includes readings, discussions and laboratory exercises. Exercises focus on the construction, analysis and interpretation of data.
Prerequisite: 320. (A) {Alternate years}

574. History and Theory of Archaeology. (3)
Advanced discussion of concepts and theories within world archaeology. The course emphasizes the structure of archaeological thought in culture history, new archaeology, evolutionary theory and post-modernism. (A) {Fall}
Restriction: admitted to ANTH graduate program.

575./375. Archaeology Field Session. (2-6 to a maximum of 12) Δ
Intensive instruction in archaeological field and laboratory techniques and the opportunity for independent student research.
Restriction: permission of instructor. (A)

576. Seminar: Southwestern Archaeology. (3)
In-depth analysis of current research issues and topics in Southwest archaeology. (A)

577. Seminar: European Prehistory. (3 to a maximum of 9) Δ
Explores critical issues and debates in different periods of European prehistory, based on primary sources. (A)

579. Current Debates in Archaeology. (3)
Advanced discussion of current theoretical debates in archaeology, including Processual and Post-processual paradigms, formation processes; middle-range, optimal foraging, evolutionary, hunter-gatherer mobility theories; cultural ecology; and origins of agriculture and complex society. (A)

580./480. Ceramic Analysis. (3)
Basic concepts, methods and approaches used in the analysis of archaeological pottery. Lectures cover concepts and strategies. Labs give practical experience with techniques of analysis. (A)

581./381. Ethics in Anthropology: A Four Field Approach. (3)
The class examines topical issues such as human rights, indigenous rights, researcher rights, and professional and scientific responsibility that face the various subfields of anthropology in its everyday practice. {Spring}

582./402. Museum Practices. (3)
(Also offered as MSST, ARTH 507.) History, philosophy and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation and public relations. {Offered upon demand} (E)

582L./482L. Geoarchaeology. (3)
(Also offered as EPS 582L.) Application of geological concepts to archaeological site formation with emphasis on pre-ceramic prehistory of the southwestern United States. Quaternary dating methods, paleoenvironment, landscape evolution, depositional environments. Quaternary stratigraphy, soil genesis, sourcing of lithic materials, site formation processes. Required field trip. (A) {Alternate Years}

584./384. Peoples of Mexico. (3)
Emergence of the modern Indian and Mestizo cultures of Mexico and Guatemala. Persistence and change in social institutions and cultural patterns. (E) {Alternate years}

585./485. Seminar in Museum Methods. (3 to a maximum of 6) Δ
(Also offered as MSST, ARTH 585.) Theoretical and practical work in specific museum problems.
Prerequisite: 402 or ARTH 407. (E)

586./486. Practicum: Museum Methods. (3 to a maximum of 6) Δ
(Also offered as MSST, ARTH 586.) Practicum in museum methods and management. (E)
Prerequisite: 585 or ARTH 585. Restriction: permission of instructor. {Offered upon demand}

587./387. Peoples and Cultures of the Circum-Caribbean. (3)
Outlines the sociocultural transformation of the region since 1492. Emphasis upon cultural legacies of, and resistance to, colonialism, the Afro-Caribbean and Hispanic heritages and the contemporary trans-nationalization of island identities. (E)

588./385. Images of the Indian in American Culture. (3)
Analysis of literary, historical, ethnographic and contemporary texts, written by both Indians and non-Indians, to understand Native American peoples' reaction and adjustment to conquest and domination. (E)
Prerequisite: 331. {Offered periodically}

591./491. Population Genetics. (3)
(Also offered as BIOL 591.) This course investigates how genetic variation is patterned within and between and how these patterns change over time. Topics include neutral theory, population structure, phylogenetics, coalescent theory, molecular clock, and laboratory methods. (EV)

592. Managing Cultural Resources. (3)
Examines the history and philosophy of statutes, regulations, consultation processes, research directions and funding sources underlying management of archaeological sites, traditional cultural properties, historic buildings, cultural and historical landscapes, and museum collections. (A)

593. Cultural Resource Management Archaeology. (3)
This course covers basic business practices in archaeological consulting; research designs and proposals in a contract environment; best-practice fieldwork and analytical strategies; and the requirements for legal compliance.

594./392. Arctic Archaeology. (3)
Outlines archeology of northern North America and adjacent regions (including eastern Siberia and NW Coast) from the late Pleistocene to contact with Euro-American cultures.

595./395. The First Americans. (3)
Presents and interprets the earliest archeology of North America from the terminal Pleistocene through the early Holocene including relevant archaeological evidence from eastern Eurasia and South America.

596./495. Summer Institute in Cultural Resource Management. (9)
Summer Institute in Cultural Resource Management. Two weeks lecture, six weeks internship. Classes introduce knowledge/skills needed for a career in CRM. Supervised work experience in government or private firms.

597. Problems. (1-3 to a maximum of 6) Δ
Limited to graduate majors in the master's program. (A, E, EV)

598. Advanced Research. (3, no limit) Δ
Limited to graduate majors in the master's program. (A, E, EV)

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only. (A, E, EV)

620. Topics in Interdisciplinary Biological and Biomedical Sciences. (3, unlimited) Δ

(Also offered as BIOL 520, CS 520, ECE 620, STAT 520)
Varying interdisciplinary topics taught by collaborative scientists from UNM, SFI, and LANL.

624. Collaborative Interdisciplinary Teaching. (3)

(Also offered as BIOL 524, CS 524, ECE 524, STAT 524)
Course designed to develop the methods content and assessment of effective interdisciplinary biological courses; Students will develop and teach an undergraduate interdisciplinary topics course. Topics vary.
Restriction: permission of instructor.

651./451. Bioarchaeology. (3)

The analysis of the skeletal remains from past human populations, oriented at the mortality, morbidity and genetic affinities of those extinct populations.
Prerequisite: 351L. (EV)

661./361. Behavioral Ecology and Biology of Sex Roles. (3)

Uses the perspective of evolutionary biology to examine the diversity of sex roles played by men and women in the historical and cross-cultural record. (EV) {Alternate years}

662./362. Great Apes: Mind and Behavior. (3)

Explores recent research in both captivity and the wild on cognition and behavior of great apes (chimpanzees, gorillas, bonobos, orangutans), the closest living relatives of humans. (EV)

663. Human Evolutionary Ecology Research Methods and Design. (3)

Provides an overview of research design and methods utilized in the social/behavioral sciences and public health. It introduces a 'top-down,' problem-oriented approach to question development, sample selection, design decisions, specific methods, data analysis. (EV) {Alternate years}

664. Human Evolutionary Ecology Data Analysis. (3)

Utilizes existing datasets (student- or instructor-generated). Provides 'hands-on' training in data analysis with goal of publishable article. Focuses on data issues, selection of appropriate models and problems of interpretation. (EV)
Prerequisite: ECON 509 or ECON 510 or STAT 527 or STAT 528 or STAT 574. Restriction: permission of instructor.

667. The Evolution of Sociality. (3)

This course focuses on a survey of the recent literature on the evolution and behavioral ecology of human social behavior. Topics include kin selection, social group formation, cooperation, territoriality, status, striving behavior, costly signaling, ethnicity and inter-group violence. (EV) {Offered periodically}

675. Anthropological Research Proposals. (3)

Exploration and evaluation of practical anthropological research designs. Exhaustive preparation of realistic grant proposals for specific student-generated projects, with intensive group criticism.
Prerequisite: M.A. or semester in which M.A. will be received. (A, E, EV)

697. Problems. (1-3 to a maximum of 6) Δ

Limited to graduate majors in the doctoral program. (A, E, EV)

698. Advanced Research. (3, no limit) Δ

Limited to graduate majors in the doctoral program. (A, E, EV)

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only. (A, E, EV)

ART

Joyce M. Szabo, Chairperson
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See *College of Fine Arts, Art and Art History, for faculty list.*

Students may enroll in the College of Arts and Sciences and earn a 33-hour Art major with a concentration either in art studio or art history. These students may pair it with an A&S minor (or 2nd Major). Students must choose the second component from an A&S Department.

Although a student receives a degree from Arts and Sciences, authority and advisement for Major specific information is housed in the College of Fine Arts. Please refer to the College of Fine Arts section of the catalog for course description.

The major with a concentration in art studio is as follows:

Nine hours of art history: ARTH 201, 202 and 250.

Twenty-four hours in art studio including ARTS 106, 125 and 126.

Twelve of the 24 art studio courses must be upper division.

The major with a concentration in art history is as follows:

Twenty-seven hours in art history courses:

9 hours: ARTH 201, 202 and 250.

One course selected from: 261, 262, 315, 321, 322, 331, 332 or 340.

One course selected from: 251, 343, 401, 402, 406, 411 or 412.

At least 12 of the 27 hours must be upper-division art history.

Six hours in art studio fundamentals: ARTS 106; and either 125 or 126.

Writing and speaking and second language must be selected as two of the seven group requirements in Arts and Sciences.

ARTS AND SCIENCES

Mark Ondrias, Associate Dean
Ortega Hall, Room 201
MSC03 2120
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-6720

Arts & Sciences (ARSC)

198. Freshman Seminar Topics. (3)

Variable content in an academic discipline. Through study of topic, develops academic skills including scholarship, research, comprehension, analysis, synthesis, evaluation, application, critical thinking, and communication of ideas. Most sections require coregistration in a specified "linked" course.

Corequisite: some sections may require co-registration in another specified course. Restriction: freshman standing. {Fall, Spring}

ARTS AND SCIENCES COOPERATIVE EDUCATION PROGRAM (ASCP)

Career Services
Cooperative Education, SSC 220
MSC06 3710
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2531

To enroll in the following courses, contact:
UNM Career Services Cooperative Education
Student Services Center, Room 220
(505) 277-2531

Students enrolled in the Cooperative Education Program are required to register in AS COP 105 while on work phase. Students also are encouraged to enroll in one of the appropriate evaluation courses in the semester immediately following each work phase

105. Arts and Sciences Co-op Work Phase. (0)

A mechanism for registered work phase students from the College of Arts and Sciences as full-time students while working. **Offered on a CR/NC basis only.**

409. Evaluation of Arts and Sciences Co-op Work Phase V. (1-3)

Offered on a CR/NC basis only.

410. Evaluation of Arts and Sciences Co-op Work Phase VI. (1-3)

Offered on a CR/NC basis only.

ASIAN STUDIES

See *International Studies*.

ASTRONOMY

See *Physics and Astronomy*

BIOCHEMISTRY

William L. Anderson, Ph.D., Chairperson
Basic Medical Sciences Building, Room 249
MSC08 4670
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 272-3333

Professors

Jeffrey K. Griffith, Ph.D., Purdue University
Tudor I. Oprea, M.D., Ph.D., University of Medicine and Pharmacy, Timisoara, Romania

Associate Professors

William L. Anderson, Ph.D., University of Minnesota
Chien-An Andy Hu, Ph.D., Ohio State University
Robert A. Orlando, Ph.D., University of California (Irvine)
Marcy P. Osgood, Ph.D., Rensselaer Polytechnic Institute
Vallabh Shah, Ph.D., Maharaja Sayajirao University, Baroda, India

Assistant Professors

William Sherman Garver, Ph.D., New Mexico State University
Karllett J. Parra, Ph.D., State University of New York (Syracuse)
Marco Bisoffi, Ph.D., University of Basel

Research Associate Professors

Cristian G. Bologa, Ph.D., Romanian Academy of Science, Timisoara, Romania
Robert E. Royer, Ph.D., The University of New Mexico
Laurel O. Sillerud, Ph.D., University of Minnesota
Dorothy J. VanderJagt, Ph.D., The University of New Mexico

Research Assistant Professor

Natalie Adolphi, Ph.D., Washington University, St. Louis
Charlotte Mobarak, Ph.D., The University of New Mexico

Professors Emeriti

Robert H. Glew, Ph.D., University of California (Davis)
Robert B. Lofffield, Ph.D., Harvard University
Andrzej Pastuszyn, Ph.D., University of Vienna
Edward Reyes, Ph.D., University of Colorado
David L. Vander Jagt, Ph.D., Purdue University
Beulah M. Woodfin, Ph.D., University of Illinois (Urbana)

Major Study Requirements

The Department of Biochemistry and Molecular Biology of the School of Medicine is responsible for teaching Biochemistry courses and for administering the Biochemistry Major in Arts and Sciences. It is expected that students will spend at least three semesters (not including summer) completing required biochemistry courses.

Bachelor of Arts

MATH 162–163 (or 180-181)
PHYC 151–151L, 152–152L (or 160–160L, 161–161L, 262)
BIOL 201–202
CHEM 131L (or 121 and 123L); 132L (or 122 and 124L plus 253L); CHEM 301–302, or 307–308; 303L–304L; CHEM 315 (or 311–312)
BIOC 445L–446L

In addition to the core courses the Bachelor of Arts requires: BIOC 448L or 3 credit hours from an approved advanced course in Biochemistry or a related discipline; CHEM 315; six credit hours from approved elective Biochemistry courses above Biochemistry 450 and approved courses in related disciplines to a minimum of a total of 62 credit hours. BIOC 497, 498, and 499 may not be applied to elective requirements. No minor study is required.

Bachelor of Science

In addition to the core courses listed under the Bachelor of Arts degree, the Bachelor of Sciences requires: BIOC 448L; CHEM 311–312 or CHEM 315 (or CHEM 311) and BIOC 451; six (6) credit hours from approved elective Biochemistry courses above BIOC 450 and the minimum total of approved courses in related disciplines is 65 credit hours. MATH 264 is a required corequisite for CHEM 311–312. BIOC 497, 498, and 499 may not be applied to elective requirements. No minor study is required.

Departmental Honors

Students who will have completed 6 hours of *Senior Research* (Biochemistry 497–498) may submit a Senior Thesis based on their Senior Research project. The award of Honors will be based on the quality of the thesis and on an oral presentation of the research. (Note that the University requires an overall grade point average of 3.20 for Departmental Honors.)

The Chairperson of the Department of Biochemistry and Molecular Biology will be responsible for the administration of the Biochemistry Major Program and will submit an Annual Report on the program to the Dean of the College of Arts and Sciences. As with other Arts and Sciences Programs, the Biochemistry Undergraduate Major may not be significantly modified without prior advice and approval from the Arts and Sciences Curriculum Committee and from the Arts and Sciences Faculty.

Biochemistry (BIOC)**201. Current Issues in Human Reproduction. (3)**

Interdisciplinary course on the principles of human reproduction and the associated clinical, social and ethical issues, taught by faculty of the Division of Women's Health Research, School of Medicine.

***423. Introductory Biochemistry. (3)**

Introductory course into metabolic reactions within the cell with emphasis on a chemical understanding of the way the cell integrates and controls intermediary metabolism; also included are quantitative problems in pH control, enzyme kinetics and energetics. BIOC 423 should not be taken by students who anticipate majoring in Biochemistry.
Prerequisite: CHEM 302 or 308. {Fall, Spring}

***445L. Intensive Introductory Biochemistry I. (4)**

An introduction into the physical and chemical properties of proteins and enzymes; enzymic catalysis; structure, synthesis and processing of nucleic acids and proteins.
Prerequisite: CHEM 302 or 308. Graduate students see 545L. {Fall}

***446L. Intensive Introductory Biochemistry II. (4)**

An introduction to intermediary metabolism and hormonal control of catabolic and anabolic pathways.
Prerequisite: 445L. Graduate students see 546L. {Spring}

***448L. Biochemical Methods. (3)**

Biochemical techniques including chromatographic and electrophoretic purification of enzymes, determination of enzyme parameters (V_{max} , K_m), fractionation of subcellular organelles, isolation of chromatin, biosynthesis of protein, analysis of DNA.

Pre- or corequisite: 446L. {Spring}

451. Physical Biochemistry. (4)

A quantitative physical chemical approach to analyzing macromolecular structure and function; electrophoretic and hydrodynamic methods; mass spectrometry; optical and vibrational spectroscopic methods; nuclear magnetic resonance; diffraction methods; and computational techniques.
Prerequisite: 445 and (CHEM 311 or 315). {Spring}

463/563. Biochemistry of Disease I. (3)

Five three-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states.

Prerequisite: 423 or 445L. Graduate students see 563. {Fall}

464/564. Biochemistry of Disease II. (3)

Five three-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of states.

Prerequisite: 423 or 445L. Graduate students see 564. {Spring}

***465. Biochemistry Education. (3)**

Seminars and readings in current methods of Biochemistry education. The course includes a practical experience in Biochemistry education techniques and practices.

Prerequisite: minimum grade of B in BIOC 446. Restriction: permission of instructor.

497. Senior Honors Research. (1-3 to maximum of 6) Δ

Senior thesis based on independent research.

Restriction: permission of instructor. {Summer, Fall}

498. Senior Honors Research. (1-3 to a maximum of 3) Δ

Senior thesis based on independent research.

Restriction: permission of instructor. {Spring}

499. Undergraduate Research. (1-3 to a maximum of 3) Δ

Offered on a CR/NC basis only.

Restriction: permission of instructor. {Summer, Fall, Spring}

521. Neurochemistry. (3)

(Also offered as BIOM 532.) An introduction to neurochemistry and neuropharmacology, with heavy emphasis on student participation, by reading and evaluating current publications.
Restriction: permission of instructor. {Spring}

545L. Intensive Introductory Biochemistry I. (4)

(Also offered as BIOM 511L.) An introduction into the physical and chemical properties of proteins and enzymes; enzymatic catalysis; structure, synthesis and processing of nucleic acids and proteins; structure and control of genetic material. {Fall}

546L. Intensive Introductory Biochemistry II. (4)

(Also offered as BIOM 512L.) An introduction to intermediary metabolism and hormonal control of catabolic and anabolic pathways.

Prerequisite: 545L. {Spring}

563/463. Biochemistry of Disease I. (1-3)

(Also offered as BIOM 553.) Five three-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states.

Prerequisite: 423 or 545L. {Fall}

564/464. Biochemistry of Disease II. (1-3)

(Also offered as BIOM 554.) Five three-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states.

Prerequisite: 423 or 546L.

BIOLOGY

Richard Cripps, Chairperson
Castetter Hall 167A
MSC03 2020
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-3411

Distinguished Professors

James H. Brown, Ph.D., University of Michigan
Eric L. Charnov, Ph.D., University of Washington
Randy Thornhill, Ph.D., University of Michigan

Regents' Professor

Eric S. Loker, Ph.D., Iowa State University
Margaret Werner-Washburne, Ph.D., University of Wisconsin (Madison)

Professors

Scott Collins, Ph.D., University of Oklahoma
Joseph A. Cook, Ph.D., The University of New Mexico
Richard M. Cripps, D.Phil., University of York
Clifford N. Dahm, Ph.D., Oregon State University
Astrid Kodric-Brown, Ph.D., University of Southern California
Timothy K. Lowrey, Ph.D., University of California (Berkeley)
Diane L. Marshall, Ph.D., University of Texas
Robert D. Miller, Ph.D., Thomas Jefferson University
Bruce T. Milne, Ph.D., Rutgers University
Donald O. Natvig, Ph.D., University of California (Berkeley)
Mary Anne Nelson, Ph.D., University of Colorado
Robert Sinsabaugh, Ph.D., Virginia Polytechnic Institute and State University
Howard L. Snell, Ph.D., Colorado State University
Stephen A. Stricker, Ph.D., University of Washington
Eric C. Toolson, Ph.D., Arizona State University
Thomas Turner, Ph.D., Florida International University
Robert Waide, Ph.D., University of Wisconsin (Madison)

Associate Professors

Coen Adema, Ph.D., Free University (Amsterdam)
Charles Cunningham, Ph.D., University of Aberdeen, Scotland
David Hanson, Ph.D., University of Wisconsin (Madison)
William T. Pockman, Ph.D., University of Utah
Steven Poe, Ph.D., University of Texas (Austin)
Felisa Smith, Ph.D., University of California (Irvine)

Andrews Wagner, Ph.D., Yale University
Blair Wolf, Ph.D., Arizona State University

Assistant Professors

Ulfar Bergthorsson, Ph.D., University of Rochester
Vaishali Katju, Ph.D., Indiana University
Marcy E. Litvak, Ph.D., University of Colorado
Kelly Miller, Ph.D., Cornell University
Cristina Vesbach, Ph.D., Montana State University
(Bozeman)

Helen Wearing, Ph.D., Heriot-Watt University
Christopher Witt, Ph.D., Louisiana State University

Lecturers

Cara Lea Council-Garcia, M.S., Iowa State University
Lee Couch, M.S., The University of New Mexico
Paul Farnsworth, Ph.D., University of London
Christina Fridrick, M.S., The University of New Mexico
Bruce Hofkin, Ph.D., The University of New Mexico
Kelly Howe, Ph.D., The University of New Mexico
Mariken Shaner, M.S., University of New Mexico
Jim Swan, M.S., Florida State University

Professors Emeriti

J. Scott Altenbach, Ph.D., Colorado State University
Oswald G. Baca Ph.D., University of Kansas
Larry L. Barton, Ph.D., University of Nebraska
Earl W. Bourne, Ph.D., Oklahoma State University
Clifford S. Crawford, Ph.D., Washington State University
William G. Degenhardt, Ph.D., Texas A&M University
Howard J. Dittmer, Ph.D., State University of Iowa
Donald W. Duszynski, Ph.D., Colorado State University
James S. Findley, Ph.D., University of Kansas
Gordon V. Johnson, Ph.D., University of Arizona
William W. Johnson, Ph.D., University of Minnesota
Paul Kerkof, Ph.D., University of California (Berkeley)
J. David Ligon, Ph.D., University of Michigan
William C. Martin, Ph.D., Indiana University
Manuel C. Molles, Ph.D., University of Arizona
Loren D. Potter, Ph.D., University of Minnesota
John Trujillo, Ph.D., University of Texas Medical Branch
(Galveston)
Kathryn G. Vogel, Ph.D., University of California
(Los Angeles)

Introduction

Students majoring in Biology learn about the basic organization, processes and dynamics of the living world. The program of study provides students with a liberal education emphasizing the life sciences. The many subdisciplines of biology can prepare students for a wide range of careers and professional schools.

Museum of Southwestern Biology

The **Museum of Southwestern Biology (MSB)** is an integral part of the University of New Mexico Department of Biology. It contains collections of plants and animals of national and international significance. The MSB also maintains a division devoted to frozen tissues, which is among the largest in the world. The western research collections of the National Biological Service are integrated with those of the MSB. The museum concentrates on research and teaching and is not open to the public except by appointment. The MSB publishes two scholarly periodicals, *Occasional Papers* and *Special Publications*.

Major Study Requirements

Majors in biology seeking a Bachelor of Science degree must satisfy the requirements given in sections A, B, and C. Majors in biology seeking a Bachelor of Arts degree must satisfy the requirements given in sections D and E. (Biol. 110, 112L, 123, 124L and 239L are not allowed for biology major credit.)

A. The B.S. Program requires a minimum of 37 credit hours earned in biology courses. These courses must

include 201, 202, 203L, 204L; at least one of the following: 351 and 352L, 360L, 371L, 386L. The remainder hours are to be earned in elective biology courses. (BIOC 423 may be included.)

- B. To satisfy an upper-division breadth requirement for the Biology B.S., each student must complete at least three 400-level courses that are spread across three of the following five categories: 1) Cell/Molecular (CM); 2) Physiology (PH); 3) Organismal (OR); 4) Ecology/Evolution (EE) or 5) Interdisciplinary Science (ID). Note: the category to which each eligible course belongs is listed in parentheses (CM, PH, OR, EE, or ID), and completing three of these courses from only one or two categories will NOT satisfy the breadth requirement.
- C. Required Supportive Courses for the B. S.: MATH 180-181 or 162-163; PHYC 151-152 (or 160-161); CHEM 121, 123L, 122, 124L (or 131L-132L) and 301-303L (or 212). (For those interested in microbiology, molecular/cellular biology, physiology or medicine, CHEM 301-303L and 302-304L are recommended.)
- D. The B.A. Program requires a minimum of 32 credit hours earned in biology courses. These courses must include 201, 202, 203L, 204L. The remainder of the total required credit hours is to be earned in elective biology courses. The elective courses must include two upper-division courses (300 or 400 level) each of which carries at least 3 credit hours and is exclusive of BIOL 400, 402, and 499. (BIOC 423 may be included.) (BIOL 110, 112L, 123L and 239L are not allowed for biology major credit.)
- E. Required Supportive Courses for the B.A.: A total of seven semesters of math, physics, and chemistry courses must be completed from the following four sets of courses: 1) two semesters of math courses: (MATH 180 or MATH 162) and (MATH 181 or MATH 163 or STAT 145 or CS 150L); and 2) two semesters of physics courses: (PHYC 151 and 152) or (PHYC 160 and 161) or (PHYC 102 and E&PS 101); and 3) two semesters of general chemistry courses: (CHEM 121/123L and CHEM 122/124L) or (CHEM 131L and CHEM 132L); and 4) one semester of organic chemistry: (CHEM 301/303L or CHEM 212).

For both the B.A. and B.S., a grade of C or better is required for: i) the Biology core (201, 202, 203L, 204L), ii) all required supporting courses in Computer Sciences, Chemistry, Earth and Planetary Sciences, Mathematics, and Physics; and iii) all elective courses in Biology. No credit toward the major will be given for courses completed with a grade of C- or below. Transfer students must obtain 19 Biology credits at UNM for the B.S., or 16 credits for the B.A. Only Biology courses completed within the previous ten years will apply.

Areas of Study

The courses offered by the Biology Department can be used to pursue specialized programs in the following areas: Botany, Computational Biology, Evolution/Ecology, Microbiology, Molecular/Cellular Biology, Physiology, Systematics, and Zoology. Departmental advisement is recommended for students who wish to complete one of these informal specializations. A formal concentration in Conservation biology is also offered (see below).

Concentration in Conservation Biology*

The growing emphasis on Conservation in the biological sciences supports this concentration. Students may receive either the Bachelor of Science or Bachelor of Arts degree in Biology with a concentration in Conservation Biology. The concentration provides students with a strong background in biology as well as the complementary interdisciplinary skills critical to understanding and addressing contemporary conservation questions.

Majors in biology seeking a Bachelor of Science degree with a concentration in Conservation Biology must satisfy

the requirements given in sections A, B, C and F. Majors in biology seeking a Bachelor of Arts degree must satisfy the requirements in sections D, E, and F.

- A. The B.S. Program with a Concentration in Conservation Biology requires a minimum of 45 credit hours earned in biology courses. These courses must include: 201, 202, 203, 204, 310L, 360L, 379; at least one of the following: 351 and 352L, 371L386L. A minimum of 3 credit hours must be from the Conservation Biology Seminar 402.
- B. To satisfy an upper-division breadth requirement for the Biology B.S., each student must complete at least three 400-level courses that are spread across three of the following five categories: 1) Cell/Molecular (CM); 2) Physiology (PH); 3) Organismal (OR); 4) Ecology/Evolution (EE) or 5) Interdisciplinary Science (ID). Note: the category to which each eligible course belongs is listed in parentheses (CM, PH, OR, EE, or ID), and completing three of these courses from only one or two categories will NOT satisfy the breadth requirement.
- C. The B.A. Program with a concentration in Conservation Biology requires a minimum of 37 credit hours earned in biology courses. These courses must include: 201, 202, 203, 204, 310L, 360L, 379; and at least one of the following: 351 and 352L, 371L, 386L. A minimum of 3 credit hours must be from the Conservation Biology Seminar 402. A minimum of one 400-level course must be successfully completed.
- D. Required Supportive Courses for the B. S.: MATH 180-181 or 162-163; PHYC 151-152 (or 160-161); CHEM 121, 123L, 122, 124L (or 131L-132L) and 301-303L (or 212). (For those interested in microbiology, molecular/cellular biology, physiology or medicine, CHEM 301-303L and 302-304L are recommended.)
- E. Required Supportive Courses for the B.A.: A total of seven semesters of math, physics, and chemistry courses must be completed from the following four sets of courses: 1) two semesters of math courses: (MATH 180 or MATH 162) and (MATH 181 or MATH 163 or STAT 145 or CS 150L); and 2) two semesters of physics courses: (PHYC 151 and 152) or (PHYC 160 and 161) or (PHYC 102 and E&PS 101); and 3) two semesters of general chemistry courses: (CHEM 121/123L and CHEM 122/124L) or (CHEM 131L and CHEM 132L); and 4) one semester of organic chemistry: (CHEM 301/303L or CHEM 212).
- F. Candidates for both the B.A. and the B.S. degrees in Biology with a concentration in Conservation Biology must take a minimum of 6 credit hours to be taken from a list of complementary interdisciplinary electives available from the department advisor.

Grade of C or better required in all of the above courses.

***NOTE:** Departmental advisement is required for students who wish to complete the concentration in Conservation Biology.

Minor Study Requirements

BIOL 201, 202, 203L and 204L, plus 6 additional hours of biology. (BIOL 110, 112L, 123L, 239L, and 499 are not allowed for biology minor credit.)

Grade of C or better required in all courses counted for the minor. Transfer students must obtain 6 Biology credits at UNM.

Curricula Preparatory to Health Sciences

See School of Medicine.

Graduate Program

Graduate Advisor

Eric L. Charnov
Donald O. Natvig

Application Deadline

January 15

Degrees Offered

Nanoscience & Microsystems (NSMS) M.S. & Ph.D. Degree Program

This department participates in the interdisciplinary NSMS program; for more information, see the Graduate Interdisciplinary Studies section of this catalog.

M.S. and Ph.D. in Biology

Areas of study: arid land ecology, behavioral ecology, botany, cellular and molecular biology, community ecology, comparative immunology, comparative physiology, computational biology, conservation biology, ecology, ecosystem ecology, evolutionary genetics, evolutionary biology, genomics, microbiology, molecular genetics, parasitology, physiology, physiological ecology, population biology, systematics, vertebrate and invertebrate zoology.

Admission

Students considering applying for graduate study are encouraged to write to the Department of Biology or consult our Web site for information and application material. Each applicant's course background is evaluated and emphasis is placed on the applicant's scholarship and research potential. Letters of reference are particularly important. The General Graduate Record Exam test scores are required and the Subject test in biology or in another relevant major discipline is required. Each applicant must include a letter of intent stating the reasons for attending, goals and tentative academic area in which he/she hopes to work. All applicants must be sponsored by at least one member of the graduate faculty before admission to graduate study can be recommended by the Graduate Student Selection Committee.

The Department of Biology offers the Ph.D., M.S. Plan I (thesis option) and M.S. Plan II (non-thesis option). The M.S. Plan II is not a research degree and normally does not lead to work in the doctoral program. It is intended primarily for individuals who wish to supplement their baccalaureate programs with additional course work. The M.S. Plan I is a research degree with the same philosophy as the Ph.D. It is not a prerequisite for the Ph.D. but may lead to work on that degree. Students whose ultimate goal is a Ph.D. are encouraged to consult with potential advisors within the department about applying directly to the Ph.D. program. The research degree is the heart of the graduate program. The Biology Department Graduate Handbook gives additional information on all aspects of the graduate program. The Department of Biology Graduate Handbook should be consulted by all students who have been admitted to the Program.

Degree Requirements

General requirements for the Ph.D. degree in biology are presented in earlier pages of this catalog. In addition to the comprehensive and final examinations required by the Office of Graduate Studies, departmental requirements include a series of graduate core courses and a public final defense. At least one outside referee (extradepartmental) is mandatory for reviewing the dissertation and participating in the public final defense of dissertation. Formal experience in lecturing and laboratory direction under the supervision of a professor in an appropriate field is required. The candidate for the Ph.D. in certain fields of biology may carry on research for the dissertation at the Los Alamos National Laboratory, Lovelace Respiratory Research Institute, Sandia National Laboratories or Santa Fe Institute under the terms of an agreement for cooperation between the University of New Mexico and these institutions. Certain conditions have been specified for the acceptance of students for research at these institutions; each case will be considered on an individual basis. Several researchers at all four institutions, as well as the U.S. Fish and Wildlife Service, the New Mexico Game & Fish Department, and the New Mexico Museum of Natural History, have adjunct faculty status in the Biology Department and may co-chair graduate student committees.

M.S. I. General requirements for this degree in biology are presented earlier in this catalog.

M.S. II. General requirements for this degree are presented earlier in this catalog. The program of studies will be determined in consultation with the student's major advisor.

Non-Biological Skills. Candidates for both M.S. degrees are required to satisfy one non-biological skill, while Ph.D. candidates must satisfy two skill areas. Areas of non-biological tool skills include advanced training in mathematics and/or statistics, computer science, chemistry or biomedical instrumentation. A minimum of 6 credits per skill with a grade point average of 3.0 (B) or better can satisfy the requirement. Courses taken to meet the non-biological skill requirements cannot be counted toward semester hour credits required for graduate degrees. Tool skill requirements may also be met by demonstrating proficiency in consultation with a student's graduate committee.

Biology (BIOL)

Biology 121, 122, 219 and 221 can substitute for Biology 201, 202, 203L and 204L as prerequisites for upper-division courses.

110. Biology Non-Majors. (3) Farnsworth
Biological principles important for the non-major in today's world. Ecological, evolutionary and molecular topics. Three lectures. (Credit not allowed for both 110 and 123/124L.) Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). {Fall or Spring}

112L. Biology Laboratory for Non-Majors. (1) Council-Garcia
An optional laboratory which may be taken concurrently with or subsequent to 110. One 3-hour lab per week including plant and animal diversity, techniques and investigation of current issues. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). {Fall, Spring}
Pre- or corequisite: 110.

123. Biology for Health Related Sciences and Non-Majors. (3) Fridrick, Howe, Shaner
Principles of cell biology, genetics and organismic biology. (Credit not allowed for both 123 and 110. Not accepted toward a Biology major.) {Fall, Spring}

124L. Biology for Health Related Sciences and Non-Majors Lab. (1) Council-Garcia
One credit optional laboratory to accompany 123.
Pre- or corequisite: 123.

201. Molecular and Cell Biology. (4) Adema, Cunningham, Hofkin, Howe, Loker, Natvig, Stricker, Vesbach
The scientific method, the role of water in cell biology, carbon and molecular diversity, macromolecules, introduction to metabolism, tour of cell structures and functions, membrane structure and function, cellular respiration, photosynthesis, cell communication and the cell cycle. Three lectures, 1 discussion section.
Pre- corequisite: CHEM (121 and 123L) or 131L. (Credit not allowed for both BIOL 201 and 219.) {Fall, Spring}

202. Genetics. (4) Berghorsson, Cripps, Hofkin, Howe, Miller, Natvig, Nelson
Mitosis, meiosis, Mendelian genetics, chromosomes and inheritance, molecular basis of inheritance, genes to proteins, genetic models (viruses and bacteria), eukaryotic genomes, genetic basis of development and overview of genomes. Three lectures, 1 discussion section.
Prerequisite: 201 and (CHEM 121 and 123L or CHEM131L). Pre- or corequisite: (CHEM 122 and 124L) or CHEM132L. (Credit not allowed for both BIOL 202 and 221.) {Fall, Spring}

203L. Ecology and Evolution. (4) Collins, Cook, Dahm, Milne, Poe, Sinsabaugh, Snell, Thornhill, Turner
Darwinian principles, origin of the earth, the fossil record and diversification of ancient life, evolution of populations, origin of species, phylogenetics, introduction to ecology and the biosphere, behavioral ecology, population ecology, community ecology, ecosystem ecology and conservation biology. Three lectures, 3 hours lab. Lab material includes a survey of the diversity of life.
Prerequisite: 202 and (CHEM 132L or 122 and 124L) Pre- or corequisite: MATH 162 or 180. {Fall, Spring}

237. Human Anatomy and Physiology I for the Health Sciences. (3) Swan
An integrated study of human structure and function to include histology, skeletal, muscular and nervous systems.
Prerequisite: (123 and 124L) or 201 and (CHEM 111L or 121 and 123L). Three lectures. {Fall, Spring}

238. Human Anatomy and Physiology II for the Health Sciences. (3) Swan
A continuation of 237 to include cardiovascular, respiratory, digestive, excretory, reproductive and endocrine systems.
Prerequisite: 237. Three lectures. {Fall, Spring}

239L. Microbiology for Health Sciences and Non-Majors. (4) Couch
Introduction to microbiology with emphasis on principles of infection and immunity. Not accepted toward a Biology major or minor. (Credit not allowed for both 239L and 351–352L.)
Prerequisite: (123 and 124L) and (CHEM 111L or 121 and 123L) or 201 and (CHEM 111L or 121 and 123L). {Fall, Spring}

247L. Human Anatomy and Physiology Laboratory I. (1)
Laboratory work using cadavers. Anatomy stressed with appropriate physiological work. Topics integrated with 237.
Pre- or corequisite: 237. Three hours lab. {Fall, Spring}

248L. Human Anatomy and Physiology Laboratory II. (1)
Continuation of BIOL 247L. Topics integrated with 238.
Pre- or corequisite: 238. Three hours lab. {Fall, Spring}

249L. Human Anatomy Laboratory. (1)
Accelerated human anatomy course using cadavers for students who have completed 8 hours of anatomy and physiology with labs but lack cadaver study.
Prerequisite: (237 and 247L) and (238 and 248L). Restriction: permission of instructor. Three hours lab. {Spring}

300. Evolution. (3) Thornhill
Basic principles, and contemporary issues of evolution.
Prerequisite: 203L and 204L. Three lectures. {Spring}

310L. Principles of Ecology. (4) Milne
A comprehensive survey of the ecology of individuals, populations, communities and ecosystems.
Prerequisite: 203L and 204L. Three lectures, 3 hours lab or field exercise. {Fall, alternate Springs}

324L. Natural History of the Southwest. (4) Shepherd
(Also offered as UHON 324–324L.) Biogeography, natural history and ecological processes of the Southwest. Focusing on the land, climate, flora and fauna of the region. Field trips and labs.
Prerequisite: 203L and 204L. {Fall}

****351. General Microbiology. (3)** Sinsabaugh, Vesbach
Anatomy, physiology and ecology of microorganisms. Principles of bacterial techniques, host-parasite relationships and infection and immunity.
Prerequisite: 203L. Three lectures. (Credit not allowed for both 351–352L and 239L.) {Fall, Spring}

****352L. General Microbiology Laboratory. (1)**
Methods and techniques used in microbiology.
Pre- or corequisite: 351. 1 hr. lab. {Fall, Spring}

360L. General Botany. (4) Hanson, Marshall
Overview of plant anatomy, physiology, classification, evolution and ecology. Covers both higher and lower plants.
Prerequisite: 203L and 204L. Two lectures, 4 hours lab. (Fall)

365. Evolution of Human Sexuality. (3) Thornhill
An examination of how natural selection has shaped the sexual psychologies of men and women and how evolutionary theory can guide the study of sexual psychology and behavior.
Prerequisite: 203L and 204L. (Spring)

***371L. Invertebrate Biology. (4)** Hofkin, Loker, Stricker
Survey of the major invertebrate groups with emphasis on evolutionary and ecological relationships, and the correlation of structure with function.
Prerequisite: 203L and 204L. Three lectures, 4 hours lab. (Fall)

379. Conservation Biology. (3) Snell, Turner
Importance of biological diversity from ecological, aesthetic, economic and political viewpoints. Extinction as a past, present and future process, and the roles of genetics, levels of biological organization, reserves and laws in the protection and recovery of endangered organisms.
Prerequisite: 203L and 204L. (Spring)

386L. General Vertebrate Zoology. (4) Poe, Snell, Turner
Ecology, behavior, sociology, adaptations, and evolution of the vertebrates.
Prerequisite: 203L and 204L. Three lectures, 3 hours lab. (Fall, Spring)

Upper-Division Courses for Undergraduates To satisfy an upper-division breadth requirement for the Biology B.S., each student must complete at least three 400-level courses that are spread across three of the following five categories: 1) Cell/Molecular (CM); 2) Physiology (PH); 3) Organismal (OR); 4) Ecology/Evolution (EE) or 5) Interdisciplinary Science (ID). Note: the category to which each eligible course belongs is listed in parentheses (CM, PH, OR, EE, or ID), and completing three of these courses from only one or two categories will NOT satisfy the breadth requirement.

400. Senior Honors Thesis. (1-3, no limit) Δ
Original theoretical and/or experimental work under supervision. Work for the thesis is carried on throughout the senior year. A maximum of 4 hours credited towards a biology major; credits over 4 contribute to upper level Arts and Sciences requirements. (Summer, Fall, Spring)

***401. Topics in Cell and Molecular Biology (3, no limit) Δ**
Continually changing selection of sections that satisfy upper-division Cell/Molecular breadth requirement. (CM)
Prerequisite: 203L and 204L. Restriction: junior or senior standing and permission of instructor.

402/502. Topics in Biology. (1-3, no limit) Δ
Maximum of 4 hours credited towards the biology major and 2 hours towards the biology minor; credits over 2 contribute to upper level Arts and Sciences requirements.
Restriction: senior standing and permission of instructor. (Summer, Fall, Spring)

404/504. Topics in Physiology. (3, no limit) Δ
Continually changing selection of sections that satisfy upper-division Physiology breadth requirement. (PH)
Prerequisite: 203L and 204L. Restriction: junior or senior standing and permission of instructor.

405/505. Ecosystem Dynamics. (3) Collins
Understand structure and function of diverse ecological systems of North America; use of on-line Long-term Ecological Research databases. (EE)
Prerequisite: 203L. (Spring)

***406. Topics in Organismal Biology (3)**
Continually changing selection of sections that satisfy upper-division Organismal Biology breadth requirement. (OR)
Prerequisite: 203L and 204L. Restriction: junior or senior standing and permission of instructor.

408L./508L. Bosque Internship. (3 to a maximum of 9)
Δ Crawford
UNM students train as interns with the Bosque Ecosystem Monitoring Program to mentor K-12 students and teachers in monthly data collection at field sites along the Rio Grande floodplain. Study includes ecosystem dynamics and environmental education components. Weekly on- and off-campus meetings. (K-12 interaction limited in summer session). (EE)
Prerequisite: 110 or 203L. (Summer, Fall, Spring)

409./509. Topics in Ecology/Evolution. (3, no limit) Δ
Continually changing selection of sections that satisfy upper-division Ecology/Evolution breadth requirement. (EE)
Prerequisite: 203L and 204L. Restriction: junior or senior standing and permission of instructor.

410./510. Ecological and Evolutionary Genomics. (4)
Wagner
This course focuses on methods, both experimental and computational, to study the structure of genomes and to analyze gene expression and protein function on a genome-wide scale. Computational topics include graph approaches in sequence assembly; discriminant analysis in gene finding; dynamic programming in sequence comparison; and clustering techniques in the analysis of gene expression data. (CM)
Prerequisite: 203L and 204L. Three lectures.

***412. Developmental Biology. (3)** Cripps, Stricker
Comparative biology of animal development emphasizing regulatory mechanisms. (CM)
Prerequisite: 203L and 204L. (Spring)

***416L. Histology. (4)** Stricker
Microscopic structure of vertebrate tissues, emphasizing correlation of structure and function. (PH)
Prerequisite: 203L and 204L. Three hours lecture, 3 hours lab. (Fall)

419./519. Topics in Interdisciplinary Science (3, no limit) Δ
Continually changing selection of section that satisfy upper-division Interdisciplinary breadth requirement. (ID)
Prerequisite: 203L and 204L. Restriction: junior or senior standing and permission of instructor.

***425. Molecular Genetics. (3)** Nelson
Molecular biology of the gene. (CM)
Prerequisite: 203L and 204L. (Spring)

***428. Human Heredity. (3)**
Genetic principles applied to humans. (CM)
Prerequisite: 203L and 204L. (Fall)

***429. Molecular Cell Biology I. (3)**
Cellular processes with emphasis on membranes; includes reading original landmark papers in cell biology. (CM)
Prerequisite: 201 and 202 and (CHEM 212 or 301 and 303L). (Fall)

430./530. Conservation and Indigenous Peoples. (3)
Trotter
(Also offered as NATV 430.) Cultural diversity fosters biodiversity. Students work on conservation projects initiated by native ecologist on Southwestern native lands. Short field trips and one longer field trip. (ID)

***435L. Animal Physiology. (4)** Altenbach, Toolson, Wolf
The function of organ systems in animals, emphasizing neuromuscular, cardiovascular, gastrointestinal and renal physiology. (PH)
Prerequisite: 371L or 386L. Three lectures, 3 hours lab. Restriction: permission of instructor. (Every other Spring)

436L./536L. Phylogenetics. (4) Poe
Principles of phylogenetic inference using morphological and molecular data. Applications of phylogeny to ecology, systematics and molecular evolution. (EE)
Prerequisite: 203L and 204L. Three hours lecture, 2 hours lab. (Spring)

437/537. Evolutionary Genetics. (3)

Mutation, natural selection, genetic drift; how evolutionary forces shape population structure. Mechanisms of speciation. Macroevolution of biochemical processes essential to higher organisms, such as signal transduction pathways, developmental genes and complex organs. (EE)
Prerequisite: 203L and 204L. (Spring)

444/544. Genomes and Genomic Analyses. (3) Werner-Washburne

Overview of genomic analyses from DNA sequence to gene expression and proteomics. (CM)
Prerequisite: 203L and 204L. Restriction: permission of instructor. (Fall)

445/545. Biology of Toxins. (3) Toolson

Principles of toxicology; pharmacology and biotransformation of xenobiotics. Mechanism of action, medical uses, and evolutionary ecology of biological toxins. (PH)
Prerequisite: 204L. (Spring)

446/546. Laboratory Methods in Molecular Biology. (4)

Adema, Cripps, Hanson, Natvig, Vesbach
Principles of DNA and RNA purification, enzymatic manipulation of nucleic acids, molecular cloning, gel electrophoresis, hybridization procedures and nucleotide sequencing. (CM)
Restriction: permission of instructor. Two hours lecture, hours lab. (Fall)

***447. Prosection. (3)** Swan

Human gross anatomy, dissection of human cadaver. Anatomy topics integrated with Biology 237 and 238. (PH)
Prerequisite: 237 and 247L. Restriction: permission of instructor. (Fall, Spring)

***448. Microbial Evolution and Diversity. (3)**

Advanced course surveying microbial diversity (bacteria, archaea and protist eukaryotes) and examining the evolutionary mechanisms responsible. A central theme is the molecular evolutionary mechanisms of microbes (especially those differing from macro-organisms). (OR)

***450. General Virology. (3)** Hofkin, Miller

Structure, properties and chemistry of viruses; virus-host interactions, multiplication, serological properties, used as probes in molecular biology; effects of physical and chemical agents, classification. (CM)
Prerequisite: 351 and 352L and (429 or BIOC 423 or BIOM 511). (Spring)

***451. Microbial Ecology. (3)** Sinsabaugh, Vesbach

Role of microorganisms in terrestrial and aquatic ecosystems. Emphasis on biogeochemistry and nutrient cycling. (EE)
Prerequisite: 203L and 204L. Three lectures. (Fall)

452. Human Genetics. (3)

(Also offered as ANTH 455.) Fundamentals of human transmission, cellular, molecular, developmental and population genetics. (ID) (Alternate years)
Prerequisite: 110 or 123 or 201 or 202 or ANTH 150.

***455. Ethology: Animal Behavior. (3)** Kodric-Brown

A survey of behavior patterns in animals, with emphasis on adaptive significance. (EE)
Prerequisite: 203L and 204L. (Spring)

456/556. Immunology. (3) Cunningham, Hofkin, Miller

Immunoglobulin structure, antigen-antibody reactions, immunity and hypersensitivity; experimental approach will be emphasized. (PH)
Prerequisite: 203L and 204L. Three lectures. (Fall, Spring)

***460. Microbial Physiology. (3)**

Physiological and biochemical activities of bacteria and fungi with emphasis on cell energetics. (PH)
Prerequisite: 351 and 352L. Three lectures. (Spring)

461L. Introduction to Tropical Biology. (3) Cook

Marine and terrestrial tropical environments, primarily in the Caribbean; topics stressed may include organisms, communities, structure, function, distribution, geology, history, politics, ecology and others. Two lectures, 2 hours lab, one-

week field trip to the Caribbean and field trip fee is required.

Open to majors and/or non-majors. (EE)

Prerequisite: 203L and 204L. (Spring)

***463L. Flora of New Mexico. (4)** Lowrey

Identification, classification, nomenclature, and geography of vascular seed plants in New Mexico. Survey of adaptations and evolutionary trends in plants of the Southwest. Field trips. (OR)

Prerequisite: 360L. Three lectures, 3 hours lab. (Fall)

465/565. Sociobiology and Evolutionary Ecology. (3)

Charnov
Evolutionary and social biology; speciation, adaptation, population ecology. (EE)

Prerequisite: 203L and 204L and (MATH 163 or MATH 181).

(Fall)

466/566. Immunogenetics. (3) Miller

Classical and molecular genetics of immune responses, presented as a survey of the fundamental literature in immunology. Genetics of histocompatibility and the generation of diversity in the immune system. (CM)

Prerequisite: 456. (Spring, alternate years)

467/567. Evolutionary Plant Ecology. (3) Marshall

Evolutionary approach to the study of plants and plant populations. Will cover plant life history strategies, plant population biology and plant reproduction with an emphasis on empirical studies. (EE)

Prerequisite: 203L and 204L and (310L or 360L).

470/570. Biology: Discovery and Innovation (4)

Werner-Washburne

Critical-thinking, research-based, survey of a biological area. Primarily for students interested in research. 2.5 hour class, 1 hour of discussion. (ID)

Prerequisite: 203L and 204L. Restriction: permission of instructor.

471/571. Plant Physiological Ecology. (3) Pockman

Interaction of plants with their environment, covering plant water relations, carbon gain and utilization and soil mineral nutrition. Common research methodologies will be demonstrated in class. (ID)

Prerequisite: 310L and 360L. (Spring, alternate years)

475/575. Plant Community Ecology. (3) Collins

Plant community structure and dynamics in North American deserts and grasslands. Field trip to Sevilleta LTER required. (EE)

Prerequisite: 203L and 204L. Restriction: permission of instructor. (Spring)

478L/578L. Plant Physiology. (4) Hanson

Plant function examined from molecular to whole organism levels. Core areas include: nutrition and water balance, photosynthesis and metabolism, and growth and development. (PH)

Prerequisite: 204L. Three hrs lecture, 3 hrs lab. (Spring)

482L/582L. Parasitology. (4) Adema, Hofkin, Loker

The protozoa and worms important in human and veterinary medicine. Emphasis on life histories, epidemiology and ecology of parasites with laboratory practice in identification and experimentation. (OR)

Prerequisite: 203L and 204L. Three lectures, 3 hours lab. (Spring)

485L/585L. Entomology. (4) K. Miller

Classification, phylogeny, natural history and literature of insects. (OR)

Prerequisite: 203L and 204L. Three lectures, 3 hours lab. (Spring)

***486L. Ornithology. (4)** Witt, Wolf

Classification phylogeny, natural history and literature of birds. Field trips required. (OR)

Prerequisite: 203L and 204L. Three lectures, 3 hours lab. (Fall, alternate years)

***487L. Ichthyology. (4)** Turner

Classification, phylogeny, natural history and literature of fishes. All-day field trips and one or more overnight field trips required. (OR)
Prerequisite: 203L and 204L. Three lectures, 3 hours lab. (Fall)

***488L. Herpetology. (4)** Poe, Snell

Classification, phylogeny, natural history and literature of reptiles and amphibians. All-day field trips and one or more overnight field trips required. (OR)
Prerequisite: 386L. Two lectures, 6 hours lab.

***489L. Mammalogy. (4)** Cook

Classification, phylogeny, natural history and literature of mammals. All-day field trips and one or more overnight field trips required. (OR)
Prerequisite: 386L. Three lectures, 3 hours lab. (Fall, alternate years)

***490. Biology of Infectious Organisms. (3)** Hofkin, Loker

The full spectrum of infectious entities including prions, viruses and parasitic prokaryotes and eukaryotes will be discussed with respect to their transmissibility, interactions with immune systems and their influences on evolutionary processes and biodiversity issues. (CM)
Prerequisite: 203L and 204L. (Spring, alternate years)

491./591. Population Genetics. (3)

(Also offered as ANTH 491.) This course investigates how genetic variation is patterned within and between and how these patterns change over time. Topics include neutral theory, population structure, phylogenetics, coalescent theory, molecular clock, and laboratory methods. (EE)

492./592. Introductory Mathematical Biology. (3)

Toolson

Application of mathematics to models of biological systems, from genes to communities. Emphasis placed on broadly-applicable concepts and qualitative solution techniques. Laboratory exercises introduce students to MATLAB programming. (ID)
Prerequisite: (MATH 180 and 181) or (MATH 162 and 163).

***494. Biogeography. (3)** Brown

Geographical distributions of organisms: patterns and their ecological and historical causes. (EE)
Prerequisite: 203L and 204L. (Spring, alternate years)

***495. Limnology. (3)** Dahm

Biological, physical and chemical interactions in fresh water ecosystems. (ID)
Prerequisite: 203L and 204L and (CHEM 122 and 124L or PHYC 152 or PHYC 161). Three lectures. (Spring)

***496L. Limnology Laboratory. (1)** Dahm

Techniques for studying the biology, chemistry and physics of aquatic ecosystems.
Pre- or corequisite: 495. (Spring)

497./597. Principles of Gene Expression. (3) Cripps,

A detailed and critical study of how different genes are regulated during the life of an organism, principally at the level of transcription. (CM)
Prerequisite: 203L and 204L.

499. Undergraduate Problems. (1-3, no limit) Δ

Maximum of 2 hours credited towards a biology major. Credit not allowed toward a biology minor. (Summer, Fall, Spring)
Restriction: junior or senior standing and permission of instructor.

500. New Graduate Student Seminar. (1)

Offered as a CR/NC basis only.

502./402. Topics in Biology. (1-3, no limit) Δ

Maximum of 4 hours credited towards the biology major.
Restriction: permission of instructor. (Summer, Fall, Spring)

503. Seminar in Interdisciplinary Biological and

Biomedical Sciences. (3, no limit) Δ Brown, Milne
Students take a leadership role in suggesting, hosting and interacting with visiting scientists from UNM, SFI, LANL and other institutions.
Restriction: permission of instructor.

504./404. Topics in Physiology (3, no limit) Δ

Continually changing selection of sections that satisfy upper-division Physiology breadth requirement.
Prerequisite: 203L and 204L. Restriction: permission of instructor.

505./405. Ecosystem Dynamics. (3) Collins

Understand structure and function of diverse ecological systems of North America; use of on-line Long-term Ecological Research databases. (Spring)

508L./408L. Bosque Internship. (3 to a maximum of 9)

Δ Crawford

UNM students train as interns with the Bosque Ecosystem Monitoring Program to mentor K-12 students and teachers in monthly data collection at field sites along the Rio Grande floodplain. Study includes ecosystem dynamics and environmental education components. Weekly on- and off-campus meetings. (K-12 interaction limited in summer session). (Summer, Fall, Spring)

509./409. Topics in Ecology/Evolution (3, no limit) Δ

Continually changing selection of sections that satisfy upper-division Ecology/Evolution breadth requirement.
Prerequisite: 203L and 204L. Restriction: permission of instructor.

510./410. Ecological and Evolutionary Genomics. (4)

This course focuses on methods, both experimental and computational, to study the structure of genomes and to analyze gene expression and protein function on a genome-wide scale. Computational topics include graph approaches in sequence assembly; discriminant analysis in gene finding; dynamic programming in sequence comparison; and clustering techniques in the analysis of gene expression data. Three lectures.

511. Community Ecology. (3) Brown

Structure and dynamics of assemblages of multiple species of organisms. (Fall)

513. Physiological and Behavioral Ecology. (5) Snell, Toolson

Ecological and evolutionary aspects of animal physiological adaptation with emphasis on temperature, water, energy/nutrients and organismal performance. Format includes lectures, literature discussion, one field trip and a term paper. Three lectures, 4 hours lab/discussion. (Fall)

514. Ecosystem Studies. (3) Collins, Dahm

Study of biological communities emphasizing the interactions between living and non-living parts and the flow of materials and energy between these parts. Three lectures. (Fall)

515. Research in Field Biology. (3) Collins, Pockman, Wolf

Planning, execution and write-up of field research conducted during Spring Recess. Twelve-day field trip, and lab fee required. Three hours lecture/discussion. (Spring)

516. Basic Graduate Ecology. (4) Brown, Charnov,

Collins, Milne, Sinsabaugh, Wolf

Major themes in current ecological research, with in-depth exploration of the theoretical and empirical literature of individual, population, community, ecosystem and landscape ecology. Recommended for all Biology Department graduate students in any field of ecology, evolution and behavior. Three lectures, 1.5 hours lab/discussion. (Fall)

517. Basic Graduate Evolution. (4) Cook, Kodric-Brown, Natvig, Poe, Thornhill, Wagner

An in-depth coverage of the primary literature and ideas in the major areas of evolutionary biology: adaptationism, social evolution, phylogeny, molecular evolution, speciation.

Recommended for all Biology Department graduate students in any field of ecology, evolution and behavior. Three lectures, 1.5 hours lab/discussion. {Spring}

518. Ecological Genomics. (3)

Emerging role of genomics in ecological sciences; genomic approaches to ecological research; application of ecological theory to genomics.

Prerequisite: 201, 202, 203L, 204L and calculus. {Fall}

519/419. Topics in Interdisciplinary Science (3, no limit) Δ

Continually changing selection of section that satisfy upper-division Interdisciplinary breadth requirement.

Prerequisite: 203L and 204L. Restriction: permission of instructor.

520. Topics in Interdisciplinary Biological and Biomedical Sciences. (3, unlimited) Δ

(Also offered as ANTH 620, CS 520, ECE 620, STAT 520) Varying interdisciplinary topics taught by collaborative scientists from UNM, SFI, and LANL.

521. Advanced Behavioral Ecology. (3) Kodric-Brown
Analysis of behavior and social systems in an ecological and evolutionary context. {Fall, alternate years}

524. Collaborative Interdisciplinary Teaching. (3)

(Also offered as ANTH 624, CS 524, ECE 524, STAT 524) Course designed to develop the methods content and assessment of effective interdisciplinary biological courses; Students will develop and teach an undergraduate interdisciplinary topics course. Topics vary.

Restriction: permission of instructor.

530/430. Conservation and Indigenous Peoples. (3)

Trotter

(Also offered as NATV *430.) Cultural diversity fosters biodiversity. Students work on conservation projects initiated by native ecologist on Southwestern native lands. Short field trips and Fall break field trip.

535. Freshwater Ecosystems. (3) Dahm

(Also offered as EPS 535.) Integration of physical and chemical components of drainage basins and groundwater systems with biological metabolism, growth and reproduction along functional gradients of stream, wetland, reservoir, lake and groundwater ecosystems. {Spring}

536L/436L. Phylogenetics. (4) Poe

Principles of phylogenetic inference using morphological and molecular data. Applications of phylogeny to ecology, systematics and molecular evolution.

Restriction: permission of instructor. Three hours lecture, 2 hours lab. {Spring}

537/437. Evolutionary Genetics. (3) Wagner

Mutation, natural selection, genetic drift; how evolutionary forces shape population structure. Mechanisms of speciation. Macroevolution of biochemical processes essential to higher organisms, such as signal transduction pathways, developmental genes and complex organs.

540. The Soil Ecosystem. (3) Sinsabaugh

Interrelationship between the abiotic and biotic factors in soils; influence of soils on above-ground biota.

Prerequisite: 201, 202, 203L, 204L, CHEM 121, 123L, 122, 124L or 131L–132L. {Fall}

544/444. Genomes and Genomic Analyses. (3) Werner-Washburne

Overview of genomic analyses from DNA sequence to gene expression and proteomics. {Fall}

545/445. Biology of Toxins. (3) Toolson

Principles of toxicology; pharmacology and biotransformation of xenobiotics. Mechanism of action, medical uses, and evolutionary ecology of biological toxins.

Prerequisite: 204L. {Spring}

546/446. Laboratory Methods in Molecular Biology. (4)

Cripps, Hanson, Natvig, Vesbach

Principles of DNA and RNA purification, enzymatic manipulation of nucleic acids, molecular cloning, gel electrophoresis, hybridization procedures and nucleotide sequencing.

Restriction: permission of instructor. Two hours lecture, 5 hours lab. {Fall}

547. Advanced Techniques in Light Microscopy. (4)

Stricker

Theory and practical methods of modern light microscopy (e.g., photomicroscopy, DIC optics, immunofluorescence microscopy, video microscopy, image processing, confocal microscopy, microinjection). One lecture, 1 lab. {Spring}

551. Research Problems. (1-12, no limit) Δ

556/456. Immunology. (3) Cunningham, Hofkin, Miller
Immunoglobulin structure, antigen-antibody reactions, immunity and hypersensitivity; experimental approach will be emphasized. Three lectures. {Fall, Spring}

558. Geomicrobiology. (3) Crossey, Dahm

(Also offered as EPS 558.) The role of microbes in mineral precipitation, dissolution and diagenesis; interactions between microbes and geochemistry/mineralogy.

561. Tropical Biology. (3) Cook

Marine and terrestrial tropical environments, primarily in the Caribbean; topics stressed may include organisms, communities, structure, function, distribution, geology, history, politics, ecology and others. Two lectures, 2 hours lab, one-week field trip to the Caribbean and field trip fee is required. Open to majors and/or non-majors. {Alternate years}

565/465. Sociobiology and Evolutionary Ecology. (3)

Charnov, Thornhill

Evolutionary and social biology; speciation, adaptation, population ecology. {Fall}

566/466. Immunogenetics. (3) R. Miller

Classical and molecular genetics of immune responses, presented as a survey of the fundamental literature in immunology. Genetics of histocompatibility and the generation of diversity in the immune system.

Prerequisite: 556.

567/467. Evolutionary Plant Ecology. (3) Marshall

Evolutionary approach to the study of plants and plant populations. Will cover plant life history and strategies, plant population biology and plant reproduction with an emphasis on empirical studies. {Spring}

570/470. Biology: Discovery and Innovation (4)

Werner-Washburne

Critical-thinking, research-based, survey of a biological area. Primarily for students interested in research. 2.5 hour class, 1 hour of discussion. {ID}

Prerequisite: 203L and 204L. Restriction: permission of instructor.

571/471. Plant Physiological Ecology. (3) Pockman

{Spring, alternate years}

575/475. Plant Community Ecology. (3) Collins

Plant community structure and dynamics in North American deserts and grasslands. Field trip to Sevilleta LTER required. {Spring}

576. Landscape Ecology and Macroscopic Dynamics. (4) Milne

Conceptual and methodological approaches to landscape ecology. Emphasis on climate, paleoecology and the quantitative representation, analysis and modeling of spatial complexity. {Spring, alternate years}

578L/478L. Plant Physiology. (4) Hanson

Plant function examined from molecular to whole organism levels. Core areas include: nutrition and water balance, photosynthesis and metabolism, and growth and development.

Prerequisite: 204L. Three hrs lecture, 3 hrs lab. {Spring}

581. Advanced Molecular Biology. (4)

(Also offered as BIOM 507.) The course covers the structures and functions of nucleic acids and proteins, mechanisms and macromolecular synthesis and principles of enzymology.

582. Advanced Cell Biology. (4)

(Also offered as BIOM 508.) Course covers advanced topics in cell biology, including microscopy, the nucleus, protein and membrane trafficking, cytoskeleton signal transduction, cell cycle and division and extracellular matrix.

Prerequisite: 581. (Spring)

582L/482L. Parasitology. (4) Hofkin, Loker

The protozoa and worms important in human and veterinary medicine. Emphasis on life histories, epidemiology and ecology of parasites with laboratory practice in identification and experimentation. Three lectures, 3 hours lab. (Spring)

585L/485L. Entomology. (4) K. Miller

Classification, phylogeny, natural history and literature of insects. Three lectures, 3 hours lab. (Spring)

591/491. Population Genetics. (3)

(Also offered as ANTH 591.) This course investigates how genetic variation is patterned within and between and how these patterns change over time. Topics include neutral theory, population structure, phylogenetics, coalescent theory, molecular clock, and laboratory methods.

592/492. Introductory Mathematical Biology. (3)

Toolson

Application of mathematics to models of biological systems, from genes to communities. Emphasis placed on broadly-applicable concepts and qualitative solution techniques. laboratory exercises introduce students to MATLAB programming. Prerequisite: (MATH 180 and 181) or (MATH 162 and 163).

597/497. Principles of Gene Expression. (3) Cripps

A detailed and critical study of how different genes are regulated during the life of an organism, principally at the level of transcription.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

651. Advanced Field Biology. (4-8)

Approval of Committee on Studies required.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

CHEMISTRY AND CHEMICAL BIOLOGY

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Associate Professors

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David Keller, Ph.D., University of California (Berkeley)
Wei Wang, Ph.D., North Carolina State University

Assistant Professors

John Gray, Ph.D., McGill University

Lecturers

Donald Bellew, Ph.D., University of Southern California
Alisha Ray, M.S., University of New Mexico
Lisa J. Whalen, Ph.D., University of Colorado

Professors Emeriti

Fritz S. Allen, Ph.D., University of Illinois
Roy D. Caton, Ph.D., Oregon State University
Christie G. Enke, Ph.D., University of Illinois
William M. Litchman, Ph.D., University of Utah
Miriam Malm, M.S., The University of New Mexico
Donald R. McLaughlin, Ph.D., University of Utah
Cary J. Morrow, Ph.D., Tulane University
Thomas M. Niemczyk, Ph.D., Michigan State University
E. Paul Papadopoulos, Ph.D., University of Kansas
Riley Schaeffer, Ph.D., University of Chicago
Edward A. Walters, Ph.D., University of Minnesota

Introduction

The program of the Department of Chemistry and Chemical Biology conforms to the standards prescribed by the American Chemical Society. The University has mandated that all graduating seniors take part in an outcomes assessment program designed by their major departments. In Chemistry, this may involve taking one or more of the American Chemical Society area assessment examinations and also discussing your educational experiences in the department in an individual exit interview. All graduating seniors are required to take part in this program.

NOTE: The policy of the Department of Chemistry and Chemical Biology regarding enrollment under the pass/fail (CR/NC) grade option is that CR (credit) will be given only for grades of C or better.

Major Study Requirements

The Bachelor of Arts degree has three options each of which requires a minimum of 24 credit hours earned in chemistry courses beyond CHEM 121, 123L, 122, 124L. The B.A. must also include the following: 253L, 301, 302, 303L, and 304L. In addition to these courses, students must select their remaining course work from one of the following areas of concentration:]

Pre-medical/Pre-pharmacy B.A.: CHEM 315, CHEM 421 (or BIOC 423), and five additional hours of chemistry electives. Electives must be selected from the following courses: CHEM 351L, 425, 431, approved CHEM 471 topics, 495-496 (no more than 2 credit hours in 495-496). The Pre-medical B.A. concentration must also include MATH 162 (or 180), MATH 163 (or 181), and PHYC 151, 151L, 152, and 152L. These B.A. requirements also fulfill the prerequisites in chemistry, physics, and, if BIOC 423 is taken, biochemistry, that are required for admission to many medical and pharmacy schools. Courses in other areas, such as biology, that are specified in each professional school's admissions materials, will also need to be included in the student's undergraduate program to gain admission to one of those professional schools. This program may also be suitable for fulfilling many of the prerequisite requirements for admission to other professional schools such as dentistry.

Pre-graduate school in chemistry B.A.: CHEM 311 and 312, 6 credit hours from CHEM 421, 425, 431, approved CHEM 471 topics, or three hours of CHEM 495 and/or 496. The Pre-graduate school B.A. concentration must also include MATH 162, 163, and 264, and PHYC 160 and 161 plus PHYC 160L and 161L. These B.A. requirements also include the minimum prerequisites for admission to many

second and third tier universities' graduate programs (M.S. or Ph.D.) in chemistry. Some institutions may require the student to complete additional undergraduate courses following matriculation into their graduate program.

General B.A.: CHEM 315, and eight additional hours of chemistry electives. Electives must be selected from the following courses: CHEM 421 (or BIOC 423), 425, 351L, 431, approved CHEM 471 topics, 495-496 (no more than 2 credit hours in 495-496). The General B.A. concentration must also include MATH 162 (or 180), MATH 163 (or 181), and PHYC 151, 151L, 152, and 152L.

For the degree of Bachelor of Science: CHEM 121, 123L, 122, 124L, 301, 302, 303L, 304L, 311, 312, 351L, 352, 411L, 431, 432L and at least 6 additional hours selected from courses numbered CHEM 325-498. The program must also include PHYC 160, 160L, 161, 161L, mathematics equivalent to MATH 264 and one course from MATH 311-316. Up to 3 credits of CHEM 495-498 or 2 credits of 495-498 and 1 credit of 325/326 may be counted toward the B.S. degree. NOTE: CHEM 131L may be substituted for CHEM 121 and 123L and 132L may be substituted for CHEM 122 and 124L.

NOTE: Physics and mathematics courses required for the B.S. or B.A. degree may not be taken on the credit/no credit grade option.

NOTE: If changing from a B.A. to a B.S., students will be required to complete Math 162 and Math 163 and PHYC 160, 160L, 161, 161L.

Students wishing to have their B.S. degree certified by the American Chemical Society (ACS) must include CHEM 421 and 3 hours of research in their 6 hours of electives.

No distributed minors are allowed for B.A. majors.

In lieu of a specific minor, a student in the B.S. program may obtain the following distributed minor:

Distributed Minor

Completion of the Chemistry B.S. requirements in addition to taking one additional course from MATH 311, 314 or 316 and ENGL 219.

Minor Study Requirements

The minor has two options each of which requires a minimum of 21 credit hours earned in chemistry courses. In addition to CHEM 121, 123L, 122, and 124L:

1. The student must fulfill the course requirements in two of the following areas (**Note:** some of the courses have math, physics, chemistry or other prerequisites).

Analytical Chemistry: CHEM 253L and 311 or 315

Biological/Biochemistry: two courses from CHEM 421, 425, BIOC 423

Organic Chemistry: CHEM 301, 302, 303L, 304L

***Inorganic/Physical Chemistry:** CHEM 315 or 311 and 431— credit is not allowed for both 311 and 315.

***Physical Chemistry:** CHEM 311, 312 (credit is not allowed for both 311 and 315)

***Inorganic/Physical Chemistry, Analytical/Physical Chemistry, and Physical Chemistry areas, cannot be taken in conjunction with one another as your two options.**

2. Must fulfill the requirements of Pre-Medical/Pre-Pharmacy/Biology area which includes all of the chemistry courses typically required of applicants to a medical, dental, or pharmacy school:

Pre-Medical/Pre-Pharmacy/Biology: CHEM 253L or 315, plus 301, 302, 303L, 304L, and BIOC 423 (or CHEM 421 or 425).

Departmental Honors

The student enters the program at the beginning of the junior year. At this time the student's grade point average must be at

least 3.20 overall and 3.50 in chemistry. This minimum must be maintained throughout the junior and senior years. Course requirements for graduation with honors are as follows: 121, 122, 123L, 124L, or (131L, 132L) 301, 302, 303L, 304L, 311, 312, 351L, 352, 411L, 421, 431, 432L and 6 hours of additional courses from 325-498, including at least 3 hours of 497-498. A senior honors thesis will be written based on the senior honors research and submitted to the faculty. An oral presentation will also be made in a departmental or divisional seminar. Honors students will also take the Graduate Record Examination Advanced Test in Chemistry in their senior year and must obtain a satisfactory score.

Any deviation from the requirements prescribed above must be approved in writing.

Graduate Program

Graduate Recruitment

Professor Wei Wang

Application Deadlines

Domestic:

Fall semester: July 31

International:

Fall semester: February 1

NOTE: Recommendations for admission by the Department are made until all financial aid is exhausted. Typically, aid resources are committed by February 1. The department does not generally recommend admission without financial aid. Exceptions to this policy must be negotiated with the Department Chairperson and the Graduate Recruitment and Selection Committee.

Degrees Offered

M.S. in Chemistry

Concentrations: Analytical, Inorganic, Organic, Physical.

Nanoscience & Microsystems (NSMS) M.S. & Ph.D. Degree Program

This department participates in the interdisciplinary NSMS program; for more information, see the Graduate Interdisciplinary Studies section of this catalog.

Ph.D. in Chemistry

Concentrations: Analytical, Inorganic, Organic, Physical.

The areas of chemistry available for advanced degree work are Analytical, Inorganic, Organic and Physical, with a particular focus on Materials and Biological Chemistry. The program in chemistry is designed to encourage a broad education while remaining flexible enough to permit students to pursue their own interests and to develop programs to satisfy their goals. The specific requirements for admission to the graduate program are a minimum of 28 semester hours of chemistry, including general, analytical, organic and physical chemistry. A general physics course and mathematics through differential and integral calculus are also required.

General requirements for the Master of Science and Doctor of Philosophy degrees are specified in earlier pages of this catalog. Departmental requirements are described below and discussed in detail in the department's Graduate Program Handbook (available upon request).

Each student's major advisor and his or her Committee on Studies will, in consultation with the student, determine the type of additional research skills in which the student must exhibit competence (for example: computer programming, electronics, mathematics, etc.).

The department offers the master's degree under Plan I and Plan II. In addition to the general requirements delineated

170 ARTS AND SCIENCES

earlier in this catalog, the candidate for a Plan I degree must present a seminar on his or her research work and pass a series of cumulative examinations; the candidate for a Plan II degree must prepare and orally defend a research proposal or related paper and may need to pass a series of written cumulative examinations.

General requirements for the Ph.D. degree are given in the earlier pages of this catalog. A significant department modification is that the comprehensive examination has two constituent parts: 1) a research proposal and oral defense and 2) a series of written cumulative examinations. Further details are given in the department's Graduate Program Handbook mentioned above.

For additional Biochemistry courses, see listings under Biochemistry.

Chemistry (CHEM)

111L. Elements of General Chemistry. (4)

One-semester course in general chemistry, especially for non-science majors in the health sciences except premedicine and medical technology. (Credit not allowed for both 111L and 121 and 123L.) Three lectures, 3 hours demo lab/recitation. Prerequisite: ACT=>22 or SAT=>510 or MATH 120 or 121 or MATH 150 or MATH 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264. Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). {Summer, Fall, Spring}

121. General Chemistry I. (3)

Introduction to the chemical and physical behavior of matter. Prerequisite: ACT=>25 or SAT=>570 or MATH 121 or MATH 123 or MATH 150 or MATH 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264. Corequisite: 123L. Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1214). {Summer, Fall, Spring}

122. General Chemistry II (3)

Continuation of 121. Prerequisite: (ACT=>25 or SAT=>570 or MATH 121 or MATH 123 or MATH 150 or MATH 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264) and (121 and 123L) or 131L. Pre- or Co-requisite: 124L. Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1224). {Summer, Fall, Spring}

123L. General Chemistry I Laboratory. (1)

Introduction to basic chemical laboratory principles and techniques. Prerequisite: ACT=>25 or SAT=>570 or MATH 121 or MATH 123 or MATH 150 or MATH 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264. Pre- or Co-requisite: 121. {Summer, Fall, Spring}

124L. General Chemistry II Laboratory. (1)

Experiments illustrating the fundamental principles and techniques of chemistry. (3 hour lab) Prerequisite: (ACT=>25 or SAT=>570 or MATH 121 or MATH 123 or MATH 150 or MATH 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264) and (121 and 123L) or 131L. Pre- or Co-requisite: 122. {Summer, Fall, Spring}

131L. Principles of Chemistry. (4)

Chemical and physical behavior of matter, atomic and molecular structure and chemical periodicity. Introduction to quantitative laboratory techniques and chemical instrumentation. Strongly recommended for students intending to major in chemistry.

Prerequisite: ACT=>28 or SAT=>640 or Pre-or Corequisite: MATH 162 or MATH 180 or MATH 264. Three lectures, 3 hours lab. (Credit not allowed for both (121 and 123L) and 131L.) {Fall}

132L. Principles of Chemistry. (4)

Thermodynamics, equilibria and kinetics in chemical terms. Continuation of General Chemistry I. Pre- or corequisite: MATH 163 or MATH 181 or MATH 264. Prerequisite: (121 and 123L) or 131L. {Spring} (Credit not allowed for both (122 and 124L) and 132L)

212. Integrated Organic Chemistry and Biochemistry. (4)

Survey interrelating the major principles of organic chemistry and biochemistry with special emphasis toward interests of students in the health sciences. Credit not allowed for both 212 and 301.

Prerequisite: 111L or 121. {Fall, Spring}

253L. Quantitative Analysis. (4)

Theory and techniques of chemical analysis. Three lectures, 4 hours lab. {Summer, Fall, Spring} Prerequisite: 122 and 124L.

**301. Organic Chemistry. (3)

Chemistry of the compounds of carbon. Prerequisite: (122 and 124L) or 132L. {Summer, Fall, Spring}

**302. Organic Chemistry. (3)

Continuation of 301. Prerequisite: 301. {Summer, Fall, Spring}

303L. Organic Chemistry Laboratory. (1)

Teaches basic organic chemistry laboratory techniques, including separations, thin-layer chromatography, gas chromatography, and set up of apparatus for organic synthesis. Three hours lab. Prerequisite: (122 and 124L) or 132L. Pre- or corequisite: 301. {Summer, Fall, Spring}

304L. Organic Chemistry Laboratory. (1)

Teaches synthesis of organic compounds using reactions learned in CHEM 302 and spectroscopic characterization of the products. Three hours lab. Prerequisite: 303L. Pre- or corequisite: 302. {Summer, Fall, Spring}

**311. Physical Chemistry. (3)

An introduction to quantum chemistry that starts from the postulates of quantum mechanics and simple models and covers structure of polyatomic molecules. Prerequisite: 132L or (122 and 124L) and Math 163 and (PHYC 152L or PHYC 161L). Pre- or corequisite: MATH 264.

**312. Physical Chemistry. (3)

An introduction to chemical thermodynamics. Topics will include basic thermodynamic principles, phase diagrams, and solution phase thermodynamics. Prerequisite: 132L or (122 and 124L) and MATH 163 and (PHYC 152L or PHYC 161L). Pre- or corequisite: MATH 264.

**315. Introductory Physical Chemistry. (4)

Fundamentals of physical chemistry with primary emphasis upon biological and biochemical applications. Cannot be used for credit toward B.S. Credit not allowed for both (CHEM 311 or 312) and 315. Prerequisite: (122 and 124L) or 132L and (MATH 163 or MATH 181) and (PHYC 152 or PHYC 161).

**325. Special Topics for Undergraduates. (1-3, may be repeated once) Δ

Possible topics are: chemical literature, environmental chemistry, photochemistry, stereochemistry, macromolecules, C-13-NMR, natural products.

**326. Special Topics for Undergraduates. (1-3 to a maximum of 6) Δ

Possible topics are: chemical literature, environmental chemistry, photochemistry, stereochemistry, macromolecules, C-13-NMR, natural products.

351L. Instrumental Analysis. [Integrated Chemical Laboratory I.] (3)

Hands-on introduction to analytical methods, including instrumental technique. Students will learn how to perform quantitative lab operations and data analysis, including spectroscopic, electrochemical, mass spectrometry and chromatographic instrumentation.

Prerequisite: (131L and 132L) or 253L. (Fall)

352. Analytical Chemistry. (3)

This course will introduce students to the theory of chemical analysis, including equilibrium calculations, classical methods, optical spectroscopy, mass spectrometry, electrochemical analysis, and analytical separations.

Prerequisite: 351L.

****391. Readings in Selected Topics.** (1-3 to a maximum of 6) Δ

Advanced topics not covered in general offerings.

****392. Readings in Selected Topics.** (1-3, may be repeated once) Δ

Advanced topics not covered in general offerings.

411L. Laboratory Methods In Physical Chemistry [Physical Chemistry Laboratory.] (3)

Introduction to modern physical chemistry laboratory techniques including computational chemistry, quantum mechanical description of molecular rotations, molecular vibrations and electronic absorption, and thermodynamics. One lecture, 6 hrs. lab.

Prerequisite: 311 or (315 and 351L).

412. Advanced Physical Chemistry. (3)

Advanced topics in physical chemistry, including statistical mechanics, reaction kinetics, chemical dynamics and transition state theory will be discussed.

Prerequisite: 311 and 312.

421. [421./521.] Biological Chemistry. (3)

Brings the fundamentals of general and organic chemistry to bear on the complex array of structures and chemical processes that occur in living organisms. (Offered upon demand)

Prerequisite: 301 and 302 and (311 or 315).

424L./524L. Experimental Chemical Biology. (4)

Introduction to experimental techniques for the study of protein and nucleic acid structure and function. Topics include protein isolation and purification, protein structure analysis, protein expression systems, enzyme kinetics, RNA purification and characterization.

Prerequisite: 421 and 422.

425. Organic Chemistry of Biological Pathways. (3)

Covers basic principles of mechanisms, acidity, stereochemistry; structures; properties of biomolecules; reactions in lipid, carbohydrate, amino acid, nucleotide metabolic pathways. (3hrs lecture).

Prerequisite: 301 and 302.

***431. Advanced Inorganic Chemistry.** (3)

Atomic theory and molecular structure, the fundamentals of symmetry, point groups, bonding concepts, acid-base chemistry, periodic trends, and reaction chemistry of both transition metals and non-metals.

Prerequisite: 311 or 315.

432L. Advanced Synthetic Chemistry Laboratory [Advanced Inorganic Laboratory.] (3)

Provides students with basic laboratory techniques in synthetic, structural, mechanistic, spectroscopic, and computational chemistry. 1 hr lecture, 6 hrs lab.

Prerequisite: 411L and 431.

***433. Group Theory (1)**

Chemical group theory will provide basic concepts of molecular symmetry and the use of group theory in defining molecular orbitals and transition probabilities. Prerequisite: 311 or 315. Corequisite: 431.

442./552. Molecular Structure Analysis. (3)

Introduction to using X-ray, Mass Spec, and NMR techniques to determine structure. Suggested for students planning to use X-ray/Mass Spec facilities, required for those requesting NMR training.

Prerequisite: 312.

471. Advanced Topics in Chemistry. (2-3 to a maximum of 6) Δ

Current topics requiring a background in physical chemistry such as spectroscopy, reaction mechanisms, advanced synthesis, polymer chemistry and materials chemistry.

Prerequisite: 302 and either 315 or 311-312.

495. Undergraduate Problems. (1-3)**496. Undergraduate Problems.** (1-3 to a maximum of 4) Δ**497. Senior Honors Research.** (1-3 to a maximum of 4) Δ

Senior paper based on independent research.

498. Senior Honors Research. (1-3 to a maximum of 4) Δ

Senior paper based on independent research.

***499. Chemistry Seminar-Research.** (1)

Offered on a CR/NC basis only.

500. Scientific Teaching in Chemistry. (1-3, no limit) Δ

A course which includes lecture, seminar, workshop and field experience to provide a scientific framework for teaching chemistry and practice in strategies of scientific teaching.

501. Molecular Structure Theory. (3)

General introduction to quantum mechanics with emphasis on chemical applications. Topics covered include basic postulates of quantum mechanics, standard analytically solvable quantum systems (free electrons, particle in a box, harmonic oscillator, rigid rotor, hydrogen atom), approximation methods (perturbation theory and the variational method). An introduction to molecular quantum mechanics, molecular spectroscopy and time-dependent perturbation theory.

504. Chemical Dynamics. (3)

A rapid review of chemical thermodynamics and kinetics. Usually for graduate students in areas outside of physical chemistry.

511. Mechanisms in Organic Chemistry. (3)

An introduction to the methods used for determining reaction mechanisms in organic chemistry and the application of those methods for determining the mechanisms of reactions based on ionic processes.

513. Organic Molecular Structure Determination. (3)

Determination of the structure of organic compounds using spectroscopic methods, especially hydrogen and carbon NMR, infrared and electronic spectroscopies and mass spectrometry.

514. Synthesis in Organic Chemistry. (3)

Development of strategies for synthesizing organic compounds including stereochemical control; introduction to advanced reactions for carbon-carbon bond formation and functional group manipulation.

515. Topics in Organic Chemistry. (1-3 to a maximum of 6) Δ**516. Topics in Organic Chemistry.** (1-3 to a maximum of 6) Δ**521. [521./421.] Biological Chemistry.** (3)

Brings the fundamentals of general and organic chemistry to bear on the complex array of structures and chemical processes that occur in living organisms.

Restriction: permission of instructor.

524L./424L. Experimental Chemical Biology. (4)

Introduction to experimental techniques for the study of protein and nucleic acid structure and function. Topics include protein isolation and purification, protein structure analysis, protein expression systems, enzyme kinetics, RNA purification and characterization.

534. Physical Methods in Inorganic Chemistry. (3)

Survey of the theory and application principles of spectroscopic methods typically utilized in solving molecular and electronic structure problems in inorganic chemistry. This usually includes electronic spectroscopies, vibrational spectroscopies, magnetic resonance spectroscopies, x-ray diffraction analysis, mass spectrometry and surface spectroscopies.

536. Synthesis and Mechanism in Inorganic Chemistry. (3)

A general outline of synthesis methodologies and approaches for main group element and transition metal compounds is provided. In addition, the reactivity of these compounds is explored with particular emphasis on systematics in reaction mechanisms.

537. Topics in Inorganic Chemistry. (1-3 to a maximum of 6) Δ**538. Topics in Inorganic Chemistry. (1-3 to a maximum of 6) Δ****540. Advanced Analytical Chemistry. (3)**

A study of the fundamental processes underlying the techniques of chemical analysis including thermodynamics, acid/base chemistry and electrochemistry.

541. Separations. (3)

Theory and practice of the chemical separation techniques used for chemical analysis including chromatography and electrophoresis.

552/442. Molecular Structure Analysis. (3)

Introduction to using X-ray, Mass Spec, and NMR techniques to determine structure. Suggested for students planning to use X-ray/Mass Spec facilities, required for those requesting NMR training.

545. Topics in Analytical Chemistry. (1-3 to a maximum of 6) Δ**546. Topics in Analytical Chemistry. (1-3 to a maximum of 6) Δ****560. Biophysical Chemistry. (3)****565. Kinetics. (3)**

Molecular reaction dynamics and chemical reactivity, experiment and theory; phenomenology or rates of chemical reactions and the relationship to reaction mechanism; potential energy surfaces, transition state theory and other approaches.

566. Spectroscopy. (3)

A graduate physical chemistry course in spectroscopy. Covers theory of atomic and molecular absorption and emission as well as applications to Fluorescence and Raman.

567. Topics in Physical Chemistry. (1-3 to a maximum of 6) Δ**587. Advanced Topics in Biological Chemistry. (1-3 to a maximum of 6) Δ****599. Master's Thesis. (1-6, no limit) Δ**
Offered on a CR/NC basis only.

623. Research Colloquium. (1 to a maximum of 10) Δ
Presentation and discussion of current research by faculty from other institutions. Offered on a CR/NC basis only.

625. Chemistry Divisional Seminar. (1, no limit) Δ

Student presentations and discussion of current research by students and faculty in the same traditional division of chemistry. Offered on a CR/NC basis only.

627. Chemistry Instrumentation Seminar. (1 to a maximum of 2) Δ

Training and practice in use of research instrumentation required by a student's graduate research. Offered on a CR/NC basis only.

650. Research/Readings. (2-12, no limit) Δ
Offered on a CR/NC basis only.**699. Dissertation. (3-12, no limit) Δ**
Offered on a CR/NC basis only.**COMMUNICATION & JOURNALISM**

John G. Oetzel, Chairperson
Department of Communication & Journalism
Communication & Journalism Room 235
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Regents Professor

Karen A. Foss, Ph.D., University of Iowa

Professors

Mary Jane Collier, Ph.D., University of Southern California
Miguel Gandert, M. A., The University of New Mexico
John G. Oetzel, Ph.D., University of Iowa
Janice E. Schuetz, Ph.D., University of Colorado
W. Gill Woodall, Ph.D., University of Florida

Associate Professors

Glenda Balas, Ph.D., University of Iowa
Patricia Covarrubias, Ph.D., University of Washington
Janet M. Cramer, Ph.D., University of Minnesota
Dirk C. Gibson, Ph.D., Indiana University
Nagesh Rao, Ph.D., Michigan State University
Ilia Rodriguez, Ph.D., University of Minnesota
Richard J. Schaefer, Ph.D., University of Utah
Olaf Werder, Ph.D., University of Florida

Assistant Professors

Karma Chavez, Ph.D., Arizona State University
Pamela Lutgen-Sandvik, Ph.D., Arizona State University
Virginia McDermott, Ph.D., University of Illinois
Tema Milstein, Ph.D., University of Washington
Saumya Pant, Ph.D., Ohio University
Judith White, Ph.D., Texas A.M. University

Lecturers

Karolyn Cannata-Winge, M.A., University of Missouri-Columbia
Judith Hendry, Ph.D., University of Denver
Dennis Herrick, M.A., University of Iowa
Janet Shiver, Ph.D., University of New Mexico

Professors Emeritus

Fred V. Bales
Jean M. Civikly-Powell
Charles K. Coates
John C. Condon, Regents' Professor
Kenneth D. Frandsen
Bob Gassaway

Major Study Requirements

The department offers two undergraduate degrees: Bachelor of Arts in Communication, Bachelor of Arts in Journalism, and Bachelor of Arts in Mass Communication.

For admission to any degree program, a cumulative grade point average of 2.50 is required. Requirements of the degrees include:

- 1) Complete major courses as specified by the department.
- 2) Earn a grade of C (not C-) or better in each course used to fulfill major requirements.
- 3) Earn a 2.50 grade point average for all course work in the major, and
- 4) Have a cumulative grade point of 2.0 at graduation.

Departmental majors should choose a minor in other departments in the College of Arts and Sciences or in another college or unit of the University, such as Fine Arts or the Anderson Schools of Management or Education. A distributed minor is available and must be approved by the department chair before the beginning of the senior year.

Communication Major

To earn a degree in Communication, students must complete 36 credits in departmental courses, including 101, 300, 301, 332 or 333, and 400. Twenty-one of the required 36 credits must be taken in courses 300 level or above. Students must complete 101 with a C or better before being admitted as majors. 101 is a prerequisite for 300 and 301; 300 and 301 must be completed before taking 400.

Communication majors must also complete 9 credits in one of the concentrations in the department—intercultural communication, interpersonal communication, organizational communication, and public communication. **The first course in the sequence—noted in bold type—is required.** Students may select the remaining 6 units from the other courses in the track. Courses within the concentration may be taken in any order.

Intercultural Communication

314	Intercultural Communication
318	Language, Thought and Behavior
320	Mediation
323	Nonverbal Communication
413	Studies in Intercultural Communication
469	Multiculturalism, Gender and Media

Interpersonal Communication

221	Interpersonal Communication
318	Language, Thought and Behavior
320	Mediation
323	Nonverbal Communication
344	Interviewing
421	Communication and Relationships

Mass Media

461	Media Criticism
268	Media Theories
335	Sociology of Mass Communication
365	History of the Media
465	Mass Media Ethics
467	Mass Communication: International Perspectives
469	Multiculturalism, Gender, and Media

Critical Studies in Mass Media

(No minor is required for this concentration)

461	Media Criticism
6 hours (2 courses) from:	
268	Media Theories
335	Sociology of Mass Communication
365	History of Media
465	Media Ethics
467	Mass Communication: International Perspectives
469	Multiculturalism, Gender and Media
IFDM 205	Inter and New Media Studies
CS 152L	Computer Programming Fundamentals
IFDM 205	Studio I: Activating Digital Space
IFDM 210	Introduction to Modeling and Postproduction
IFDM 300	Critical Intermediations
IFDM 310	Studio II: Writing Digital Narrative
IFDM 400	Ethics, Science and Technology
IFDM 410	The Business and Law of Film and New Media
IFDM 450	IFDM Capstone I Senior Projects Course
IFDM 451	IFDM Capstone II Senior Projects Course

Organizational Communication

340	Communication in Organizations
225	Small Group Communication
314	Intercultural Communication
344	Interviewing
443	Current Developments in Organizational Communication
446	Organizational Analysis and Training

Public Communication

337	Rhetorical Theory
327	Persuasive Communication
331	Argumentation
334	Political Communication
336	Rhetoric of Dissent
435	Legal Communication

Journalism and Mass Communication Major

To earn a degree in Journalism and Mass Communication, students must complete 36 hours of course work, 27 hours in required course and 9 hours in electives. All Journalism and Mass Communication majors must complete the following core requirements: 171, 269, 365, 466, and 478. Majors must take STAT 145 Introduction to Statistics as well as 80 or more semester hours in courses outside the department, with no fewer than 65 semester hours in the basic liberal arts and sciences.

Journalism and mass communication majors must also complete 12 hours in one of the concentrations—advertising, public relations, or multimedia journalism. The courses should be taken in order.

Advertising

CJ 380	Introduction to Advertising
CJ 381	Advertising Media Planning
CJ 384	Advertising Creative
CJ 482	Advertising Campaign

Digital Field Broadcast

No Minor is required for this concentration.

CJ 278	Writing and Editing for Multimedia Journalism
CJ 360	Broadcast News I
CJ 375	Intermediate Reporting
CJ 475	Advanced Multimedia Journalism
IFDM 105	Inter and New Media Studies
CS 152L	Computer Programming Fundamentals
IFDM 205	Studio I: Activating Digital Space
IFDM 210	Introduction to Modeling and Postproduction
IFDM 300	Critical Intermediations
IFDM 310	Studio II: Writing Digital Narrative
IFDM 400	Ethics, Science and Technology
IFDM 410	The Business and Law of Film and New Media
IFDM 450	IFDM Capstone I Senior Projects Course
IFDM 451	IFDM Capstone II Senior Projects Course

Multimedia Journalism

CJ 278	Writing and Editing for Multimedia Journalism
CJ 360	Broadcast News I
CJ 375	Intermediate Reporting
CJ 475	Advanced Multimedia Journalism

Public Relations

CJ 385	Introduction to Public Relations
CJ 386	Writing for Public Relations
CJ 485	Public Relations Case Studies
CJ 489	Public Relations Campaigns

Electives (Students must take 9 hours from the following)

Any CJ course from another Journalism and Mass Communication concentration or from the following list:

CJ 279	Electronic Publishing
CJ 361	Photojournalism
CJ 372	Copyediting
CJ 373	Magazine Writing
CJ 374	Design and Visual Presentation I
CJ 376	Media Management
CJ 460	Broadcast News II
CJ 464	Multimedia Visual Production
CJ 474	Design and Visual Presentation II
CJ 495	Internship in Advertising
CJ 496	Internship in Broadcast
CJ 497	Internship in Public Relations
CJ 498	Internship in Print

Minor Study Requirements

Students who declare a minor in Communication must complete 21 credits in departmental courses, including 101, and 12 credits in 300-400 level courses. All departmental courses used to fulfill requirements in the minor must be completed with a grade of C or better.

A minor in Journalism and Mass Communication consists of 21 credits in departmental courses, including 171L; 278 or 386 or 380; 269 or 268; 466; and an additional 9 hours.

Departmental Honors

Students seeking departmental honors should obtain guidelines from the department office and make application to the chairperson or the director of Undergraduate Studies. Admission requires an overall grade point average of 3.5 or better. An honors thesis must be completed during the senior year.

Graduate Program

Review of Applications Begins

Fall semester: January 15 (M.A. and Ph.D.)

Fall date (January) is observed for financial aid. Early application is strongly recommended; application is made directly to department. The GRE is required for admission to both the M.A. and the Ph.D. programs. All applications must be postmarked on or before the due date.

Degree Requirements

M.A. in Communication

The Master of Arts in Communication is offered under two options—Plan I (thesis) and Plan II (project or comprehensive exam)—according to regulations set forth in earlier pages of this catalog.

Students are required to complete 500, 501, 507 and 507L, 604, 605, or 606 and one seminar course from 514, 521, 531, 544, 550 and 566. They also need to complete 15 units of electives, 9 of which may be outside the department.

NOTE: Students are required to complete 500 and 501 during the earliest semesters they are available following admission.

All plans require a minimum of 35 credit hours, with at least 27 hours in Communications. A tentative plan of study form should be submitted by the second semester, so as to reflect the student's major and minor interests. Contact the Director of Graduate Studies for additional information.

Each candidate is assisted by a committee of at least three faculty members for Plan I. Candidates must prepare a detailed prospectus and have it approved by their committee prior to proceeding with research for the thesis (Plan I) or beginning work on a project (Plan II). Candidates must submit a written thesis or project report to their committee for examination.

Candidates in Plans I and II are required to complete an oral Master's Examination. These examinations are conducted by the candidate's committee following completion of the thesis or project. This examination emphasizes the thesis or project and assesses the candidate's ability to relate his or her formal course of study to the thesis or project. Candidates must submit their Program of Studies for approval for a master's degree prior to completing this examination. Candidates should consult with their thesis or project advisor concerning deadlines and specific procedures.

Candidates in Plan II opting for the comprehensive examination must complete 36 hours of course work and a comprehensive exam. In order to take the comprehensive exams students must have completed 30 units and have taken all the required courses. Comprehensive exams are offered once a semester.

Minor in Communication for Master's Students

Students getting a Master's degree in other departments may select a minor in Communication. The minor requires 12 credit hours of graduate course work. CJ 500 is required and should be taken as soon as possible. Students must consult with the CJ Graduate Director for advisement before taking 500. There is a 3 credit maximum on Graduate Problems (CJ 593).

Ph.D. in Communication

Concentrations: intercultural communication, health communication and mass communication

Doctoral study in the Department of Communication and Journalism aims to prepare students to become scholars and professionals who are conversant with one or more areas in the field of communication. Departmental faculty offer courses in intercultural communication, health communication and mass communication. Because of the wide diversity of disciplinary approaches represented in the work of the department, the graduate program is open to students with undergraduate preparation in communication, journalism, the humanities, the social sciences and other fields related to the study of human communication. For all candidates, admission must be approved by the departmental committee on graduate studies.

Academic requirements for the Ph.D. in Communication consist of an intensive program of course work, research and professional development. The doctoral degree requires a minimum of 48 graduate credit hours with at least 36 graduate credit hours of course work beyond the Master's degree.

In their first year, students are required to take 509 (1 credit) and the following (2 credits). Coursework requirements also include the following:

Nine (9) credit hours in Theory:

600 History and Philosophy of Communication
601 Theories of Communication
602 Theorizing Culture and Communication

Nine (9) hours in Research Methods:

507 Quantitative Data Analysis
-OR-
607 Communication Research Methods: Quantitative (students must take 607 if they had 507 or similar course in their MA program),
604 Field Research Techniques OR 605 Textual Analysis OR 606 Qualitative Methods Practicum,
And one additional methods course from the following: 604, 605, 606, 607, 609.

Nine (9) credit hours in one Concentration:

Health Communication (culture/health disparities)

550 Seminar: Health Communication

Two additional classes from:

552 Topics in Health Communication
553 Health Communication Campaigns
555 Culture, Disparities and Health Communication

Intercultural Communication

514 Seminar: Intercultural Communication

Two additional classes from:

511 Culture, Borderlands and Change
513 Culture, Sustainability and Change
517 Culture, Community and Change

Mass Communication (intercultural, global/international perspectives and culture broadly defined)

566 Mass Communication Theories

Two additional classes from:

567 Media Effects and Public Opinion
568 Mass Media Structures and Institutions
569 Critical and Cultural Approaches to Media

In addition to these required courses, Ph.D. candidates will select elective courses (9 credit hours) from within or outside the department with consultation of the Plan of Studies committee.

Ph.D. candidates also will be required to satisfy a research skills requirement by demonstrating competency in a foreign language (passing 202 with a B or better or demonstrated fluency determined by the Plan of Studies committee) or, alternatively, 6 credits of methods or data analysis beyond the methods requirement.

Communication and Journalism (CJ)

101L. Introduction to Communication. (3)

Principles and concepts of various types of human communication including interpersonal, small group, organizational, public and mass communication. Two hours lecture, 1 hr. lab.

110. Introduction to Mass Communication. (3)

(Also offered as MA 110.) The development of the mass media with emphasis on television in the areas of programming, policy, regulations, economics and technology. Examination of the social, cultural and political impact of the mass media on contemporary society.

115. Communication Across Cultures. (3)

(Also offered as AFST 115.) An introduction to communication among people from different cultural backgrounds, emphasizing intercultural relations. The class seeks to identify, honor and enhance the strengths of different cultural perspectives.

130. Public Speaking. (3)

A performance course that deals with the analysis, preparation and presentation of speeches. Meets New Mexico Lower-Division General Education Common Core Curriculum Area I: Communications (NMCCN 1113).

171L. Introduction to Media Writing. [Writing for Media.] (3)

Practical introduction to journalism, emphasizing journalistic conventions and the gathering and writing of news for the print and broadcast media. Language and typing skills required.

Prerequisite: 15 hours, 2.00 GPA, ENGL 102.

220. Communication for Teachers. (3)

Concepts and practices of interpersonal, small group and public communication pertinent to classroom teachers at the elementary, middle and secondary levels of education.

221. Interpersonal Communication. (3)

Analysis of a variety of interpersonal communication concepts, with special emphasis on the application of communication skills in different situations. Meets New Mexico Lower-Division General Education Common Core Curriculum Area I: Communications.

225. Small Group Communication. (3)

Basic characteristics and patterns of communication in small groups. Includes attention to role theory, conflict resolution and creative decision-making methods.

261. News Photography/Lab. (3)

Camera and darkroom techniques for newspapers and magazines; editing of photos, including preparation of outlines; production of all varieties of photos for publication, including photo stories.

262. Radio/Television Performance. (3)

Verbal and nonverbal performance and message preparation skills related to both the audio and video components of the mass media. Emphasis on fundamentals of prepared, extemporaneous and interpretive speaking for radio and television.

264. Broadcast Practice. (1 to a maximum of 3) Δ

Open to staff members of KUNM-FM. May be taken three times.

267. Writing for Broadcast Journalism. (3)

Continuation of 171L, with increased emphasis on writing for radio and television.

Prerequisite: 171L, or consent of instructor.

268. Media Theories. (3)

Introduction to theories of mass media and their influences.

269. Multimedia and Visual Communication. (3)

Exploration of visual images in the mass media, with emphasis on the design and theory of mediated imaging. Includes some practical training in still photography and video.

Prerequisite: 171L.

271. Writing for Print Journalism. (3)

Continuation of CJ 171L with increased emphasis on gathering news from original sources and writing for the various print journalism outlets.

Prerequisite: 171L.

273. Newspaper Practice. (1 to a maximum of 3) Δ

Open to staff members of the *New Mexico Daily Lobo*. May be taken three times.

278. Writing and Editing for Multimedia Journalism. (3)

Continuation of CJ 171L with increased emphasis of how to write on platforms available to the modern journalist. Writing workshop for web, broadcast, print and magazine.

Prerequisite: 171L.

279. [479.] Electronic Publishing. (3)

Introduction to writing and designing electronic publications using personal computers and online publishing software. Emphasizes use of graphics and text to communicate with users of the Internet. Competency with personal computers required.

292. Beginning Internship in Communication and Journalism. (1 to a maximum of 6) Δ

Internships and service projects for students at the lower level. Cannot have credit if already taken 492 or 495 or 496 or 497 or 498 or 499. Restriction: permission of instructor.

293. Topics. (1-3 to a maximum of 6) Δ

300. Theories of Communication. (3)

Study of the nature of communication theories and theory development, theories of meaning, information processing and influence with applications to selected communication contexts.

Prerequisite: 101.

301. Communication Research Methods. (3)

Quantitative and qualitative methods useful in investigation of communication processes and effects; concepts and techniques used in research design, data analysis, reporting and critically evaluating research.

Prerequisite: 101.

314. Intercultural Communication. (3)

Examines cultural influences in communication across ethnic and national boundaries.

317. International Cultural Conflict and Community Building. (3)

Cultural focus on communicative systems related to national, ethnic, gendered, class, religious, regions, corporations, and institutions. Research on mediation, intergroup dialogue, and community development focuses on three international sites.

318. Language, Thought and Behavior. (3)

Examination of the influence of language on perception, evaluations, mass media, creativity and interpersonal relations.

176 ARTS AND SCIENCES

319. Language and Culture. (3)

(Also offered as ANTH 310 and LING 359.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition.
Prerequisite: ANTH 110 or LING 101 or LING 301.

320. Mediation. (3)

Includes an introduction to conflict-management techniques with workplace, classroom and personal applications. The basic mediation skills presented prepare students to mediate in a variety of situations.

323. Nonverbal Communication. (3)

Theory, analysis and practice of a variety of nonverbal messages, including body movement and appearance, vocal cues and environmental cues.

326. Gender and Communication. (3)

(Also offered as WMST 326.) Study of the relationship between gender and communication with specific attention to how gender affects language, verbal and nonverbal communication practices and how women's movements have attempted to transform gendered communication practices.

327. Persuasive Communication. (3)

Analysis, practice and evaluation of principles of attitude change for a variety of interpersonal and public communication situations.

331. Argumentation. (3)

Examines historical and contemporary theories of argumentation. Emphasis placed on development of effective advocacy and criticism of arguments.

332. Business and Professional Speaking. (3)

Analysis, preparation and presentation of speeches common in business and professional settings.

333. Professional Communication. (3)

Focuses on the written and presentation skills needed to succeed in a professional environment. Lessons emphasize writing reports and proposals, acquiring social information, social interaction skills, the influence of audience on message design and business etiquette.

334. Political Communication. (3)

Focuses on the theory and practice of political communication in speech making, campaigns, debates and town meetings, as reported through the mass media and via new technologies.

335. Sociology of Mass Communication. (3)

(Also offered as SOC 335.) Mass communication in society with emphasis on Western industrial societies, the impact of mass communication on social movements and on sectors of the social structure and the social psychology of mass communication.

336. Rhetoric of Dissent. (3)

Study of the rhetoric of agitators, demagogues and representatives of the establishment including analysis of the rhetoric of controversial issues.

337. Rhetorical Theory. (3)

Historical survey of major contributors and contributions to the development of contemporary rhetorical theory.

339. Rhetoric and the Environment. (3)

The course examines the ways we communicate about the environment and how this, in turn, impacts the way we view and treat the natural world.

340. Communication in Organizations. (3)

Examines current theories of organizational behavior with emphasis on communication patterns and practices. Attention to superior-subordinate communication, formal and informal communication networks, authority and power.

344. Interviewing. (3)

Theory and practice of interviewing for informational, journalistic, employment and decision-making purposes.

360. Broadcast News I. (3)

Gathering and reporting news for radio/television. Instruction in shooting and editing videotape; writing to picture; and writing, producing and anchoring short news programs.
Prerequisite: 269 and 278.

361. Photojournalism. [Photojournalism II.] (3)

Camera reporting, color photography, weekly news assignments, scaling photos for reproduction and advanced black and white darkroom techniques.
Restriction: CJ majors only.

365. History of Media. (3)

The course will explore the development of communication media in the United States and the social and cultural contexts within which media emerged and evolved over time.

372. Copy-Editing and Makeup. (3)

Practice in editing and presenting news copy by headlines, typography, page makeup and video display terminal.
Pre- or corequisite: 271.

373. Magazine Writing. (3)

The process of writing and marketing fiction and non-fiction for magazines.

374. Design and Visual Presentation I. [Desktop Publishing.] (3)

Introduction to writing, editing and designing newsletters and other short publications using personal computers and desktop publishing software. Emphasis will be on the layout and design of newsletters with special attention to readability. Basic competency in the use of personal computers is required.

375. Intermediate Reporting. (3)

Emphasis on reporting public affairs, the news feature story, developing and covering beats, and computer-assisted reporting.
Prerequisite: 278.

376. Media Management. (3)

This course is designed to provide insights into the management and ownership aspects of running a media company. Attention will be given to leadership skills and the complex operations of media companies.

380. Introduction to Advertising. (3)

Introduces the basic framework of advertising writing and strategy needed to excel in advanced courses as well as an understanding of how communication tools are used to propel products in the marketplace.

381. Advertising Media Planning. (3)

Preparing a media plan and buying space and time effectively and efficiently.
Prerequisite: 171L and 380.

384. Advertising Creative. (3)

The accepted practices and skills used in conceptualizing, writing, designing, and producing advertising copy and visuals for a variety of media.
Prerequisite: 171L and 380.

385. Introduction to Public Relations. (3)

Introduction to the public relations program, with emphasis on learning basic information about the history and practice of public relations. Students will focus on the history, ethics, practice contexts, and professional opportunities and challenges.

386. Writing for Public Relations. (3)

Public relations writing, with emphasis on gathering material from various sources and writing for print and broadcast media, and internet stories. Public relations writing with strong emphasis on learning media style expectations.
Prerequisite: 171L.

393. Topics in Communication and Journalism. (1-3 to a maximum of 6) Δ**400. Senior Seminar: Perspectives on Communication. (3)**

In this capstone course, seniors assess the theories, concepts and skills learned throughout their communication major and apply them to real-world situations as well as to the fulfillment of professional, personal and social goals. Prerequisite: 300 and 301 and (332 or 333).

413. Studies in Intercultural Communication. (3 to a maximum of 6) Δ

Intensive study of theory and research in intercultural communication concerning interactions between members of specific cultures chosen by the instructor. Content varies from semester to semester, may be repeated with different content. Prerequisite: 314.

421. Communication and Relationships. (3)

Advanced analysis of theories and research in interpersonal communication with emphasis on communication processes, relational development and conflict resolution. Prerequisite: 221.

425. Theories of Small Group Communication. (3)

Major concepts, theories and research in small group communication with attention given to decision-making, group formation and development, and communication processes and networks. Consideration of applications in a variety of contexts. Prerequisite: 225.

***430. American Religious Communication. (3)**

(Also offered as RELG 430.) The roles of religious communication during the Puritan period, the first and second awakenings and the period of media evangelism. The course examines various types of communicators, messages, audiences and channels of persuasion.

***435. Legal Communication. (3)**

Using historical trials as case studies, the course investigates the various communicative functions of litigation including media coverage, opening statements, direct and cross-examination, closing arguments, judge's instructions and appellate arguments.

443. Topics in Organizational Communication. (3 to a maximum of 6) Δ

Intensive study of one area of theory and research in organizational communication chosen by the instructor, e.g., conflict and negotiation, information technology, organizational cultures. Content varies from semester to semester; may be repeated with different content. Prerequisite: 340.

446. Organizational Analysis and Training. (3)

Identification and analysis of communication problems in organizations. Attention to problems and requirements of communication training and development in organizational settings.

450. Health Communication. (3)

Concepts and strategies for preventive health communication in such contexts as provider-patient interaction, health campaigns, social marketing, health images in the mass media and communication in health care organizations.

454. Diffusion of Innovations. (3)

The spread of new ideas, especially technological innovations, among the members of a system. Sources of innovations, importance of interpersonal networks in diffusion and consequences of technological innovations.

460. Broadcast News II. (3)

Continuation of CJ 360. Students create longer, more elaborate programs with their own documentary segments, essays and in-studio interviews. Prerequisite: 360.

461. Media Criticism. (3)

Evaluation of radio/television programming content from the perspective of the journalistic and academic critic. Examination of theoretical issues and production elements as they affect programming genres.

463. Topics in Mass Communication. (3 to a maximum of 6) Δ

Intensive study of one area of theory and research in mass communication chosen by the instructor, e.g., rating systems, programming, economics, regulation, social effects. Content varies from semester to semester; may be repeated with different content.

464. Multimedia Visual Production. [News Documentaries.] (3)

Advanced ENG production and television programming, with emphasis on investigation of subject matter and visual approaches to reporting in series and in longer, in-depth segments. Prerequisite: 460.

466. Media Ethics and Law. (3)

Intersection of journalism and mass communication with society and its ethical standards and laws. Focus on news media and ethical and legal issues in advertising, public relations and management.

467. Mass Communication: International Perspectives. (3)

The structure and role of international and national media in molding public attitudes and in policy making. Development of opinion on central issues in international relations and in nations other than the U.S.

469. Multiculturalism, Gender and Media. (3)

(Also offered as WMST 469.) Exploration of how gender, race, class, sexual orientation, ethnicity and other social positions affect media coverage, portrayals, production and reception. The course focuses on theories, methods of analysis and topics of current interest.

474. Design & Visual Presentation II. (3)

The theories, strategies and practical application of advance visual presentation in designing print collateral. An in-depth study of color and typography theories. Use of InDesign, Photoshop.

475. Advanced Multimedia Journalism. [Advanced Reporting.] (3)

Emphasis on multimedia reporting. The creation and maintenance of a news website. The understanding of software, in-depth reporting, and multimedia platforms to produce news information in all forms. Prerequisite: 360 and 375.

478. Media Theory and Research. (3)

Introduces media theories in the context of professional research settings. Covers media content research conducted for political purposes and advertising, PR and media firms.

482. Advertising Campaigns. (3)

Develops the fundamental skills needed to analyze, evaluate, develop, and write integrated communication plans. Prerequisite: 381 and 384.

485. Public Relations Case Studies. (3)

Introduction to analytic foundations of public relations practice, with emphasis on the Langdell case study used in legal education. Objectives, policies, and materials as analytic structure of campaigns. Prerequisite: 385 and 386.

***489. Public Relations Campaigns. (3)**

Concepts and principles of public relations techniques and application of those techniques in campaigns. Attention to history, evolution and present structure of public relations. Prerequisite: 485.

490. Undergraduate Problems. (1-3 to a maximum of 6) Δ
Restriction: permission of department chairperson.

***491. Internship in Communication Education. (3)**
Review of recent developments in course content, teaching materials and instructional strategies; simulated classroom experience with analysis of teaching behavior using media.
Restriction: permission of department chairperson.

492. Internship in Communication. (1-3 to a maximum of 6) Δ
Internships in communication arranged with individual faculty members.
Prerequisite: 2.5 overall GPA and completion of 9 hours in CJ, to include at least one 300-level course. Six hours maximum of any CJ internship credit is allowed. Restriction: permission of instructor. **Offered on CR/NC basis only.**

494. Senior Thesis. (3)

495. Internship in Advertising. (1-3, to a maximum of 6 in all CJ internships) Δ
Internships in advertising arranged with individual faculty members. Maximum of 3 hours per semester. **Offered on a CR/NC basis only.**
Prerequisite: 2.5 overall GPA and 9 hours in CJ to include 380. Restriction: permission of the instructor.

496. Internship in Broadcasting. (1-3, to a maximum of 6 in all CJ internships) Δ
Internships in broadcasting arranged with individual faculty members. Maximum of 3 hours per semester. **Offered on a CR/NC basis only.**
Prerequisite: 2.5 overall GPA and 9 hours in CJ to include 360 or 362. Restriction: permission of the instructor.

497. Internship in Public Relations. (1-3, to a maximum of 6 in all CJ internships) Δ
Internships in public relations arranged with individual faculty members. Maximum of 3 hours per semester. **Offered on a CR/NC basis only.**
Prerequisite: 2.5 overall GPA and 9 hours in CJ to include 385. Restriction: permission of the instructor.

498. Internship in Print Journalism. (1-3, to a maximum of 6 in all CJ internships) Δ
Internships in print journalism arranged with individual faculty members. Maximum of 3 hours per semester. **Offered on a CR/NC basis only.**
Prerequisite: 2.5 overall GPA and 9 hours in CJ to include 372 or 375. Restriction: permission of the instructor.

499. Internship in Mass Communication. (1-3, to a maximum of 6 in all CJ internships) Δ
Internships in mass communication arranged with individual faculty members. Maximum of 3 hours per semester. **Offered on a CR/NC basis only.**
Prerequisite: 2.5 overall GPA and 9 hours in CJ to include at least one 300 level course. Restriction: permission of the instructor.

500. Foundations of Communication Theory. (3)
Survey and analysis of concepts, models and perspectives in the development of theories of communication; attention to philosophical, critical, historical and scientific bases for the study of communicative processes. Required of all M.A. students.

501. Foundations of Communication Research. (3)
Review and evaluation of various forms of research and scholarly writing in the field of communication; identification of conceptual and paradigmatic problems in interpretation of research results; attention to skills in writing and reporting research.

506. Critical and Cultural Studies. (3)
Introduces contemporary critical and cultural studies from a historical perspective. Analysis and criticism of cultural practices, including discourse, allocation of resources, political interests, and the structural organization of society.

507. Quantitative Data Analysis. (3)
Designing empirical research in communication, with special reference to applications of experimental design to communication research, methods of data analysis and developing a research report.

507L. Quantitative Data Analysis Lab. (1)
Lab that accompanies CJ 507. The lab emphasizes learning statistical analysis through computer software applications such as SPSS.
Corequisite: CJ 507.

509. Introduction to Graduate Studies in Communication: Creating a Culture of Research Excellence. (1)
Introduces students to the ideas, history, and literatures of the communication discipline, the areas of concentration in C&J, the faculty research, the expectations in the field. Develops students' research and writing abilities.
Restriction: graduate student in CJ. **Offered on CR/NC basis only.**

510. Introduction to Graduate Studies in Communication II: Creating a Culture of Research Excellence. (2)
Second part of a general introduction to graduate studies in communication. Introduces students to the ideas, history, and literatures of communication, areas of concentration in CJ, expectations of field. Develops students as researchers and writers.
Prerequisite: 509. Restriction: graduate student in CJ. **Offered on CR/NC basis only.**

514. Seminar: Intercultural Communication. (3)
Theories and evidence on factors that facilitate and inhibit communication between representatives of different cultural groups, across national boundaries and among people of different ethnic backgrounds.

517. Culture, Community and Change. (3)
The diverse, intricate, and fundamental ties between community, communication, and culture and how the links are in the codes speakers use in their daily interactions.

518. Culture, Sustainability and Change. (3)
Addresses processes of both maintenance and positive transformation within culture, environment and society.

519. Culture, Borderlands and Change. (3)
Borderlands theoretical approaches to communication and culture. Cultural, political and socio-economic dimensions; transnationalism, and globalization, gender and intersectionality, relationship between border theory, borderlands and migration.

521. Seminar: Interpersonal Communication. (3)
Theories and research on the components and dynamics of interpersonal interaction and comparative analysis of approaches to the study of interpersonal communication.

522. Topics in Interpersonal Communication. (3 to a maximum of 6) Δ
Intensive study of theory and research in one area of interpersonal communication chosen by the instructor. Content varies from semester to semester, may be repeated with different content.

531. Contemporary Rhetoric. (3)
Approaches of different rhetorical theorists to the analysis of rhetorical discourse.

542. Topics in Organizational Communication. (3 to a maximum of 6) Δ
Intensive study of one area of theory and research in organizational communication chosen by the instructor, e.g., conflict and negotiation, information technology, organizational cultures. Content varies from semester to semester, may be repeated with different content.

544. Seminar: Organizational Communication. (3)

Intensive survey of classical and contemporary organizational communication theory emphasizing current research trends. Advanced readings in such topics as organizational innovation, intercultural organizations, critical theory applications to organizations, computer mediated communication and employee participation.

550. Health Communication. (3)

Concepts and strategies for preventive health communication in such contexts as provider-patient interaction, health campaigns, social marketing, health images in the mass media and communication in health care organizations.

552. Topics in Health Communication. (3 to a maximum of 6) Δ

Intensive study of theory and research in one area of health communication chosen by the instructor. Content varies from semester to semester, may be repeated with different content.

553. Health Communication Campaigns. (3)

Focuses on the design, implementation and evaluation of communication programs for addressing health issues. Provides an overview of relevant theory and research and opportunities to study, design, implement, and evaluate actual health communication campaigns.

555. Culture, Disparities, and Health Communication. (3)

Covers the influence of culture on health beliefs, values, and health care practices. How beliefs and values impact communication in health care settings.

557. Seminar: Persuasion. (3)

Theories and research on the processes by which behavioral and attitudinal change are produced primarily by messages.

566. [664.] Mass Communication Theories. (3)

Surveys theories dealing with the production, content, and reception of mass communication. Analyzes the theories and their meta-theoretical assumptions in light of their structural/functional, cultural/critical, behaviorist/effects and postmodern paradigmatic characteristics.

567. Media Effects and Public Opinion. (3)

Examines the impact of mass media on modern society. Explores the processes that underlie individuals' uses of mass media and their interactions with media content.

568. Mass Media Structures and Institutions. (3)

Structural and institutional analyses of media systems, with emphasis on the economics of global mass media, sociology of media professions and the impact of technological innovation in media.

569. Critical and Cultural Approaches to Media. (3)

What is the role of media in constructing our identity and our world? Focus is on the theoretical frameworks of ideological, cultural, discursive, and semiotic theories and approaches.

583. Teaching the Basic Course. (1)

Current issues associated with teaching introductory courses focusing on the role of graduate teaching assistants.

593. Graduate Problems. (1-3 to a maximum of 6) Δ

Independent study on questions and issues beyond those covered by regularly approved seminars. Plan must be prepared and approved by a faculty member who agrees to direct the study. Approval by department chairperson required.

598. Master's Project. (1-6)

Plan II students only. Having registered for the project plan, the student must continue to register for a minimum of 1 hour of 598 during each regular semester (exclusive of summer) until the project is completed and approved.

Restriction: permission of advisor. **Offered on CR/NC basis only.**

599. Master's Thesis. (1-6, no limit) Δ

Plan I students only. Having registered for the thesis plan, the student must continue to register for a minimum of 1 hour of

599 during each regular semester (exclusive of summer) until the thesis is approved. **Offered on CR/NC basis only.**

600. History and Philosophy of Communication. (3)

Advanced study of the modern history and philosophical foundations of the study of human communication with attention to contributions of both humanistic and social science traditions and consideration of contemporary controversies concerning theory and research.

601. Theories of Communication. (3)

Advanced study of concepts, models and perspectives in the development of theories of communication with attention to the reciprocal relationship between theory building and theory testing in the study of human communication processes.

602. Theorizing Culture and Communicator. (3)

Reviews historical and contemporary theorizing and research programs addressing cultural and intercultural communication.

604. Field Research Techniques. (3)

Identifies principles and ethics of ethnography and their application in diverse cultural situations. Uses visual/technical communication skills and the DAE concept of describe, analyze, evaluate.

605. Textual Analysis. (3)

The history of textual approaches in communication. The study and practice of critical approaches and to use them to uncover the nature and function of messages of various kinds.

606. Qualitative Methods Practicum. (3)

The steps of the qualitative research process from conceptualization of research questions to the production of a written report. Synthesization of the various stages of communication research.

607. Communication Research Methods: Quantitative. (3)

Advanced study of methods, techniques and instruments useful in investigations that employ quantitative analysis of human communication processes.

609. Mixed Methods Research Designs. (3)

Introduces the students to mixed methods research, including designs for data collection, analysis and integration. Prerequisite: 501.

699. Dissertation. (3-12, no limit) Δ

Having registered for the dissertation, the student must continue to register for a minimum of 1 hour of 699 during each regular semester (exclusive of summer) until the dissertation is completed and approved.

Restriction: permission of advisor. **Offered on a CR/NC basis only.**

CRIMINOLOGY

The Sociology Department serves as the administrative unit for the criminology program. See *Sociology* for program requirements and course descriptions.

**EARTH AND
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180 ARTS AND SCIENCES

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Grant Meyer, Ph.D., The University of New Mexico
Jane Selverstone, Ph.D., Massachusetts Institute of Technology
Zachary D. Sharp, Ph.D., University of Michigan
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Associate Professors

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Mousumi Roy, Ph.D., Massachusetts Institute of Technology
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Assistant Professor

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Amy Ellwein, M.S., The University of New Mexico
Matthew Nyman, Ph.D., Virginia Polytechnic Institute and State University
Aurora Pun, Ph.D., The University of New Mexico
Timothy Wawrzyniec, Ph.D., The University of New Mexico

Senior Research Professors

Roger Y. Anderson, Ph.D., Stanford University
Wolfgang E. Elston, Ph.D., Columbia University
Cornelis Klein, Ph.D., Harvard University
Lee A. Woodward, Ph.D., University of Washington

Research Professors

Horton Newsom, Ph.D., University of Arizona
Charles K. Shearer, Jr., Ph.D., University of Massachusetts
V. Rama Murthy, Ph.D., Yale University
James J. Papike, Ph.D., University of Minnesota
Frans Rietmeijer, Ph.D., Rijksuniversiteit-Utrecht (Netherlands)

Senior Research Scientists III

Viorel Atudorei, Ph.D., University of Lausanne (Switzerland)
Ying Bing Jiang, Ph.D., The University of New Mexico
Penelope King, Ph.D., Arizona State University

Senior Research Scientists I

Abdul Mehdi S. Ali, Ph.D., University of Arizona
Victor Polyak, Ph.D., Texas Tech University
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Research Scientist III

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Adjunct Faculty

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Sidney Ash, Ph.D., University of Reading (England)
W. Scott Baldrige, Ph.D., California Institute of Technology
John D. Bloch, Ph.D., University of Calgary
Mark Boslough, Ph.D., California Institute of Technology
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Joseph McAuliffe, Ph.D., California Institute of Technology
Sean McKenna, Ph.D., Colorado School of Mines
Duane M. Moore, Ph.D., University of Illinois
Claudia Mora, Ph.D., University of Wisconsin, Madison

Walter C. Riese, Ph.D., The University of New Mexico
Charlotte Rowe, Ph.D., New Mexico Institute of Mining and Technology
John Shomaker, Ph.D., University of Birmingham, United Kingdom
Aviva Sussman, Ph.D., University of Arizona
Jolante Van Wijk, Ph.D., Vrije Universiteit, Amsterdam, the Netherlands
Thomas E. Williamson, Ph.D., The University of New Mexico

Professor Emeritus

Michael E. Campana, Ph.D., University of Arizona
Rodney C. Ewing, Ph.D., Stanford University
Stephen P. Huestis, Ph.D., University of California San Diego

Introduction

Earth and Planetary Sciences is the study of the Earth and other bodies in the solar system. It involves the study of the formation, composition and history of rocks; the large- and small-scale processes that modify them after they form (including the effects of water, the atmosphere and human activities); and the useful materials (metals, petroleum, coal, etc.) that may be obtained from them. Earth and Planetary Sciences is a multidisciplinary science that utilizes chemistry, physics, biology, meteorology, oceanography and other disciplines to achieve a comprehensive understanding of the evolution of our planet and the solar system and to enhance the stewardship of our planet's natural resources. Prospective majors are encouraged to begin their lower-division requirements in math, chemistry and physics as early as possible and visit with a Departmental Undergraduate Advisor to assist in curriculum planning. The B.S. degree is the recommended route for preparation for graduate study Geology, Geophysics or Planetary Science. B.S. students do not need to select a minor: completion of degree requirements fulfills requirements for a Distributed Minor. Petitions for course substitutions in the degree programs are welcome and should be made in consultation with a department advisor. All majors are encouraged to pursue an undergraduate thesis (493 and 495) in collaboration with a faculty advisor.

Students are advised to check with the department for information on new or changed requirements.

Major Study Requirements

For the degree of Bachelor of Science: EPS required courses: 101, 105L (or ENVS 101 and 102L), 201L, 301, 302L, 303L, 304L, 307L, 319L, 401, 490 and 12 additional hours in Earth and Planetary Sciences above 299 (excluding 300, 491-492, 493 and 495). Total credits for the Earth and Planetary Sciences sequence=43.

Non-Earth and Planetary Sciences Required Courses: CHEM 121, 123L, 122 and 124L; MATH 162 and 163, and either STAT 345 or EPS 433; PHYS 160 and 161; and 7 additional hours from Chemistry, Math or Physics above the required levels, or BIOL 123/124L or higher, or ASTR 270 or above, or (with permission from the EPS Undergraduate Committee) from selected Anthropology, Engineering (including Computer Science) or Geography courses. Total Credits of Supporting Science=32.

ENGL 219, 220 or 290 is required as an A&S Group Requirement.

Students completing the B.S. program will fulfill the requirements for a distributed minor, although an alternative minor or second major may be selected.

For the degree of Bachelor of Arts: EPS required courses: 101, 105L (or ENVS 101 and 102L), 201L, 301, 302L, 303L, 304L, 307L, 310L (or 319L), 401, 490 and 6 additional hours in Earth and Planetary Sciences above 299 (excluding 491-492, 493 and 495). Total credits for the Earth and Planetary Sciences sequence=37.

Non-Earth and Planetary Sciences required courses: CHEM 121 and 123L and either PHYC 151 or 160; and 9 additional hours from Chemistry or Physics above the required levels, or from MATH 162 or above, BIOL 123/124L or higher, or ASTR 270 or above, or (with permission from the EPS Undergraduate Committee) from selected Anthropology, Engineering or Geography courses. Total Credits of Supporting Science=16.

Minor Study Requirements

The minor in Earth and Planetary Sciences will consist of 20 credit hours, of which 12 must be above the 299 level (excluding 401, 493 and 495). No more than 3 credit hours of problems (491–492) may be applied to the Earth and Planetary Sciences minor.

Departmental Honors

Students seeking honors in Earth and Planetary Sciences should consult with the department honors advisor no later than two full semesters prior to graduation. EPS 493 and 495 are required, as is a written senior thesis that will be orally defended.

Graduate Program

Application Deadlines

Fall semester:	January 15 (with financial aid)
	April 1: (without financial aid)
Spring semester:	November 1

Degrees Offered

M.S. in Earth and Planetary Sciences Ph.D. in Earth and Planetary Sciences

The Department of Earth & Planetary Sciences offers the M.S. and Ph.D. degrees. In addition to the application form and fee and official transcripts for all college study required by the Office of Admissions, the Department requires three letters of recommendation, a letter of intent, unofficial transcript copies, and general GRE scores for admission consideration. Application instructions and forms for admission, financial aid, and letters of recommendation are available from the Department of Earth & Planetary Sciences via our Web site: <http://epswww.unm.edu>.

Entering graduate students must demonstrate via their transcripts that they have received rigorous scientific preparation in courses relevant to graduate study in earth, planetary, atmospheric, or environmental science. Because the E&PS Department offers graduate training in many aspects of the earth sciences, there is no single list of courses that must have been completed prior to graduate study. Necessary background courses must instead be mutually agreed upon by the student, thesis advisor, and thesis committee, and must be approved by the Graduate Committee. It is expected that some students will need to take one or more 300-level EPS courses in order to prepare them adequately for their graduate programs; such courses must be taken as early in those students' programs as possible. No graduate credit can be earned for 300-level classes in E&PS. Entering graduate students are expected to have completed the equivalent of Math 162 and 163, Chemistry 121 and 123L and 122 and 124L, and Physics 160 and 161 (calculus I and II, general chemistry I and II, and calculus-based physics that includes mechanics, electricity, heat, and magnetism). If one or more of these courses has not been taken, it will be formally identified as a deficiency that must be made up within the student's first year in the graduate program. Additional coursework in math, chemistry, physics, statistics, or biology is encouraged. No graduate credit can be earned for 100- or 200-level math and science classes.

Students with a B.S. degree are generally admitted into the M.S. program. Under certain circumstances direct admission to the Ph.D. program from a B.S. degree may be possible. General requirements for the M.S. and Ph.D. degrees are stated in the earlier pages of this catalog. Each candidate will meet with their advisor, during the first week or so of the first semester of enrollment. The results of this interview will determine in part the student's ensuing schedule. M.S. candidates are required to pass an examination involving the preparation and defense of a thesis proposal during the second semester of enrollment. Ph.D. candidates are required to pass a Comprehensive Examination, during the third semester of post-M.S. enrollment, involving the preparation and defense of two dissertation proposals.

Earth and Planetary Sciences (EPS)

101. How the Earth Works—An Introduction to Geology. (3)

A fascinating tour of our active planet. Explore earth materials (rocks and minerals), the continents' motions and related origins of earthquakes, volcanoes, mountain building, oceans, landscapes, natural energy and economic resources, global warming and other topics. Students are encouraged but not required to enroll concurrently in 105L. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1114).

105L. Physical Geology Laboratory. (1)

Minerals, rocks and topographic and geologic maps; field trips. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). Pre- or corequisite: 101. {Fall, Spring}

106. Evolution and Age of the Earth. (2) Sharp

The scientific method applied to determination of the age of the earth, origin of life, evolution of the Earth and of life, extinction, life on other worlds and related topics. Intended for non-science majors.

110. Topics in the Earth Sciences. (1-3 to a maximum of 3) Δ

Eight- to 16-week courses on selected topics relating directly to the human experience, e.g., Volcanoes, Extinctions, Weather, Earthquakes, New Mexico's Water, Soils, Nuclear Hazards, Geomagnetism, Albuquerque Field Geology and the Geology of Everyday Life. {Fall, Spring}

115. Geological Disasters. (3)

Causes and effects of disastrous geological events, including earthquakes, volcanic eruptions, tsunamis, landslides and floods.

201L. Earth History. (4) Elrick, Smith

Origin and history of the Earth including age of the planet and dating of rocks, changing configurations of oceans and continents as a result of plate tectonics, records of climate change, history of formation and erosion of mountain chains, origin and evolution of life and causes of extinction. Required field trip and lab exercises permit understanding of how Earth history is interpreted from the geologic rock record. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science. Prerequisite: 101 or ENVS 101; Pre- or corequisite: 105L or ENVS 102L. {Fall, Spring}

203. Earth Resources and Environment. (3)

Geologic context for the occurrence of metals, industrial minerals, water, and energy resources on Earth. Environmental ramifications of resource exploration, exploitation and use and local, national and global environmental laws and treaties governing those activities. Prerequisite: 101 or ENVS 101 recommended.

210. Life in the Universe. (3) Brearley

This course will examine scientifically the plausibility of life occurring elsewhere in the universe including possible environments and conditions for life and the recent debate over the evidence for life in Martian meteorite, ALH 84001.

182 ARTS AND SCIENCES

211. **Dinosaurs and Their World.** (3)

Survey of the fossil record, evolution, paleobiology and extinction of dinosaurs, and the animals they shared the earth with. (Spring)

225. **Oceanography.** (3)

Understanding physical, chemical, and biological processes in the world oceans.

250. **Geology of New Mexico.** (3) Kues

Survey of geologic features of New Mexico including structures, land forms, stratigraphy, fossils, geologic history and mineral resources. A course in elementary geology recommended.

251. **Meteorology.** (3) Gutzler

(Also offered as GEOG 251.) Description of weather phenomena, principles of atmospheric motion, weather map analysis and weather prediction.

252. **Volcanoes!** (3) Fischer

Types of volcanoes and eruption products, role of volcanism in planetary evolution, volcanoes as sources of geothermal energy and mineral deposits, volcanic hazards and disasters, environmental effects of volcanic eruptions.

Prerequisite: 101 or ENVS 101.

300. **Topics in Geology. (1-4 may be repeated once) Δ

Summary of specific areas of geology, designed especially for earth science teachers and other nontraditional students. Subjects may vary from year to year; lectures normally supplemented by laboratory exercises.

301. **Mineralogy/Earth and Planetary Materials. (3)

Introduction to crystallography, crystal chemistry and their relation to physical and chemical properties of materials. Overview of major structure types and crystal chemistry/occurrence of common rock-forming minerals. EPS majors must enroll in 301 and 302L in the same semester.

Prerequisite: CHEM 121 and 123L. {Fall}

302L. **Mineralogy Laboratory. (2)

Laboratory exercises in crystallography and crystal chemistry. Hand specimen identification of the common rock-forming minerals. {Fall}

303L. **Igneous and Metamorphic Petrology. (4)

Silverstone

Introduction to processes leading to formation of igneous and metamorphic rocks. Emphasis on plate tectonic settings and interactions between physical and chemical processes.

Prerequisite: 301 and 302L. {Spring}

304L. **Sedimentology and Stratigraphy. (4) Elick

Introduction to origin, petrology and stratigraphic occurrence of sedimentary rocks.

Prerequisite: 201L and CHEM 121 and 123L {Fall}

307L. **Structural Geology. (4) Geissman, Karlstrom

Nature and origin of rock structures and deformation; map and stereographic projection problems; stress and strain.

Pre- or corequisite: 303L. Prerequisite: 304L, and PHYC 151 or 160. {Spring}

310L. **New Mexico Field Geology.** (4)

Scientific method based on field observation, analysis of geologic phenomena and geologic history of New Mexico. Written report for each 4-hour field trip to outcrops in the Albuquerque area.

Prerequisite: 101 or ENVS 101, and EPS 105L, or ENVS 102L.

319L. **Introductory Field Geology. (4) Geissman

Principles and techniques of basic field mapping, layout, preparation, and presentation of maps and cross-sections; construction of geologic reports.

Prerequisite: 304L and 307L. Offered as a 3-week summer course (20 consecutive days).

333. **Environmental Geology. (3) Smith

Earth processes and anthropogenic environmental factors and their cycles. Physical and chemical aspects of environmental change will be considered.

Prerequisite: (101 or ENVS 101) and MATH 121.

352. **Global Climate Change.** (3) Gutzler

(Also offered as GEOG 352.) Comparison of natural and anthropogenic causes of large-scale climate change. Factors influencing development of mitigation of adaptation policies.

365. **Exploring the Solar System. (3) Agee

Survey of space exploration past, present, and future. Detailed overview of solar system formation, the Sun, the planets and their moons, asteroids, comets, meteorites and astrobology.

*400. **Topics in Earth & Planetary Sciences.** (1-4 may be repeated once) Δ

401./501. **Colloquium.** (1 to a maximum of 3) Δ

Current topics in geology. For graduate students, may be repeated once for credit towards degree. See description for 490.

Restriction: junior or senior standing. Offered on CR/NC basis only.

405L./505L. **Stable Isotope Geochemistry.** (3) Sharp

Examinations of principles governing the distribution of stable isotopes in geological materials and their applications in understanding geochemical processes.

Prerequisite: CHEM 121 and 123L and MATH 163.

407L./507L. **Thermodynamics and Physical Foundations of Geochemistry.** (4) Sharp

Thermodynamics and application to geologic systems, phase equilibria, phase rule, ideal and nonideal solutions.

Prerequisite: 303L and CHEM 121 and 123L and MATH 163.

410./510. **Fundamentals of Geochemistry.** (3) Asmeron

Geochemistry of igneous, metamorphic and sedimentary rocks. Geochemical methodology.

*411L. **Invertebrate Paleontology.** (4) Kues

General principles and familiarization with diagnostic features of fossils. Introduction to environmental implications. 8 hours of EPS or BIOL recommended.

Prerequisite: 201L or BIO 203L.

415./515. **Geochemistry of Natural Waters.** (3) Crossey

Principles of aqueous chemistry and processes controlling the composition of natural waters: streams, lakes, groundwater and the oceans.

Prerequisite: 304L or CHEM 122 and 124L.

420L./520L. **Advanced Field Geology.** (4) Karlstrom

Advanced geological field techniques; special field problems concentrating on the tectonic evolution of the Rocky Mountain region.

Prerequisite: 319L. Offered as a 3-week course (20 consecutive days). {Summer}

421L./521L. **Metamorphism.** (4) Silverstone

Metamorphic petrology and its applications to interpretation of tectonics processes. Discussions include thermochemistry, phase equilibria, thermobarometry, P-T paths and behavior of metamorphic fluid phase.

427./527. **Geophysics.** (3) Geissman, Roy

(Also offered as PHYC 327.) Applications of gravity, magnetics, seismology, heat flow to the structure, constitution and deformation of earth. Related aspects of plate tectonics and resource exploration.

Prerequisite: (101 or ENVS 101) and MATH 163 and PHYC 161.

428./528. **Applied Mathematics for Earth and Environmental Sciences.** (3)

Introduction to linear algebra, differential equations, and vector calculus with applications to hydrology, geophysics, and atmospheric sciences.

Prerequisite: MATH 163.

433./533. Statistics and Data Analysis in Earth Science. (3)

Selected mathematical methods of geological data analysis, including elementary statistics, matrix algebra, multivariate data analysis and Fourier analysis.

Prerequisite: MATH 163.

436./536. Climate Dynamics. (3) Gutzler

A quantitative introduction to the Earth's climate system, emphasizing processes responsible for maintaining the current climate and governing climate change on global and regional scales, including interactions between the atmosphere, ocean and biosphere.

Prerequisite: MATH 162 and PHYC 160.

437./537. Applied Meteorology. (3)

Analysis and prediction of weather systems; weather observing techniques; application of conceptual and numerical models; simple kinematic and dynamic constraints; applications to prediction of wind, fire, and hydrological processes.

Prerequisite: MATH 163 and PHYC 160.

***439. Paleoclimatology. (3) Fawcett**

History of the Earth's climate. Examination of methods in climatic reconstruction and mechanisms of climatic change. Emphasis on Pleistocene and Holocene climatic records.

Prerequisite: 101 or ENVS 101.

443./543. Aquifers and Reservoirs. (3)

Approaches of describing, evaluating, and modeling aquifer and reservoir character, focusing primarily on sedimentary systems. Techniques include well log analysis, cross-section construction, structure and isopach map contouring, and geostatistical simulation.

Prerequisite: 101 or ENVS 101.

445./545. Topics in Sedimentology and Stratigraphy. (1-4 may be repeated 5 times) Δ

Variable course content depending on student interest. Topics may include physical sedimentology, sequence stratigraphy, basin analysis, cycle stratigraphy and chemostratigraphy.

450L./550L. Volcanology. (4) Fischer

Characteristics and mechanism of volcanic systems, volcanism in various continental and marine tectonic settings. Laboratory to include field and laboratory examination of volcanic rocks and structures and models of volcanic processes.

Prerequisite: 303L.

453L./553L. Field Studies in Volcanology. (4) Fischer,

Goff, Smith

Field interpretations of volcanic and pyroclastic rocks; applications to petrology, economic geology, geothermal energy. Base: Young Ranch, Jemez volcanic field.

Prerequisite: 319L. (Three summer weeks)

455L./555L. Computational and GIS Applications in

Geomorphology. (3) Scuderi

Techniques in acquisition, processing, analysis and display of digital, aerial photo and remote-sensing data; regional quantitative morphometry; use of topography and geology with GIS in landscape evolution and analysis.

Prerequisite: (101 or ENVS 101) and 433 and 481L.

457L./557L. Mathematical Modeling in the Geosciences. (3) Fawcett

Introduction to basic numerical modeling techniques with broad application to dynamic systems in the geosciences including sedimentology, geochemistry, hydrology, climatology and paleoclimatology.

Prerequisite: MATH 163 and PHYC 160.

462./562. Hydrogeology. (3) Weissmann

Hydrologic and geologic factors controlling groundwater flow, including flow to wells. The hydrologic cycle; interactions between surface and subsurface hydrologic systems; regional flow systems. Groundwater geochemistry and contaminant transport.

Prerequisite: (105L or ENVS 102L) and MATH 162 and CHEM 121 and PHYS 160.

465./565. Mars Evolution. (3) Agee

Formation, evolution, and composition of Mars Atmosphere, surface, and interior processes. Martian meteorites. The search for life on Mars. Mars missions past and present and NASA's plans for future exploration of Mars.

472./572. Subsurface Fate and Transport Processes. (3)

Physicochemical, hydrogeological, biological and mathematical aspects of chemical fate and transport in subsurface porous and fractured media. Introduction to multiphase and nonaqueous phase flow.

Prerequisite: (462 or CE 441) and (MATH 163 or 181). (Spring)

476./576. Physical Hydrology. (3)

Quantitative treatment of the hydrologic cycle—precipitation, evapotranspiration, runoff and subsurface flow; global change and hydrology; catchment and hillslope hydrology; hydrologic system—ecosystem interactions; hydrology and water resources management.

Prerequisite: MATH 163 and PHYC 160. Restriction: junior or senior standing. (Fall)

481L./581L. Geomorphology and Surficial Geology. (4) Meyer

Origin and development of landforms with emphasis on weathering, soils, hillslope processes, fluvial systems and surficial geology; occasional field trips.

Prerequisite: (101 and 105L) or (ENVS 101 and 102L).

482L./582L. Geoaerchaeology. (3) Smith

(Also offered as ANTH 482L.) Application of geological concepts to archaeological site formation with emphasis on pre-ceramic prehistory of the southwestern United States. Quaternary dating methods, paleoenvironment, landscape evolution, depositional environments. Quaternary stratigraphy, soil genesis, sourcing of lithic materials, site formation processes. Required field trip.

Prerequisite: 101 and 105L and ANTH 121L and ANTH 220. Restriction: junior or senior standing. {Alternate years}

485L./585L. Soil Stratigraphy and Morphology. (3) McFadden

Application of soils studies to stratigraphic analysis and mapping of Quaternary deposits and geomorphic surfaces; survey of soil classifications; field description of soil profiles; development of soil chronosequences and catenas.

Prerequisite: 101 or ENVS 101.

***488L. Scanning Electron Microscopy. (3) Spilde**

Introduction to the theory and operation of the scanning electron microscope. Topics covered: basic electron optics, electron-specimen interaction, image formation and interpretation, digital image analysis, X-ray spectroscopy and introductory energy dispersive analysis.

Prerequisite: PHYC 161.

***490. Geologic Presentation. (1)**

Student review of geologic literature; preparation and critique of oral presentations.

Prerequisite: 301 or ENVS 330. Corequisite: EPS 401.

491–492. Problems. (1-3, 1-3)**493. Independent Study. (3)**

Independent study for departmental honors.

Prerequisite: 303L or ENVS 330.

495. Senior Thesis. (3)

Candidacy for honors in Earth and Planetary Sciences.

Prerequisite: 493.

501./401. Colloquium. (1 to a maximum of 3) Δ

Current topics in geology. For graduate students, may be repeated once for credit towards degree. See description for 490. Offered on CR/NC basis only.

503. Organic Geochemistry. (3) Crossey

Fundamentals of organic geochemistry; global carbon cycle; formation of hydrocarbons; environmental fate of organic compounds in the surface environment.

- 505L./405L. Stable Isotope Geochemistry. (3)** Sharp
Examinations of principles governing the distribution of stable isotopes in geological materials and their applications in understanding geochemical processes.
Prerequisite: CHEM 121 and 123L and MATH 163.
- 507L./407L. Thermodynamics and Physical Foundations of Geochemistry. (4)** Sharp
Thermodynamics and application to geologic systems, phase equilibria, phase rule, ideal and nonideal solutions.
Prerequisite: 303L and CHEM 121 and 123L and MATH 163.
- 508L. Paleomagnetism and Applications to Geological Problems. (3)** Geissman
Discussion of the source, origin and application of geologically important magnetizations in rocks. Experience in field sampling and data collection and analysis.
Prerequisite: 307L, and PHYC 152L.
- 510./410. Fundamentals of Geochemistry. (3)** Asmerom
Geochemistry of igneous, metamorphic and sedimentary rocks. Geochemical methodology.
- 511. Sedimentary Geochemistry. (3)** Crossey
The application of geochemical principles to surface and subsurface processes in sedimentary systems.
- 512L. High-temperature Geochemistry. (3)**
Applications of thermodynamics to the study of metamorphic and igneous processes and of high-temperature gases.
Pre- or corequisite: 304L, 407L.
- 513. Planetary Materials and the Evolution of the Solar System. (3)**
Discussion of the origin and evolution of the planets, including planet Earth, based on study of lunar samples, terrestrial samples and meteorites; theory; earth based observations; and space missions.
- 515./415. Geochemistry of Natural Waters. (3)** Crossey
Principles of aqueous chemistry and processes controlling the composition of natural waters: streams, lakes, groundwater, and the oceans.
- 516. Selected Topics in Geomorphology. (3, may be repeated 5 times)** Δ McFadden, Meyer
- 518L. Electron Microprobe Analysis. (3)**
Theory and practice of electron microprobe analysis emphasizing geological materials.
Restriction: permission of instructor and a demonstrated need for the use of instrument.
- 519L. Selected Topics in Geochemistry. (2-4, may be repeated 5 times)** Δ
Restriction: permission of instructor. (Offered upon demand)
- 520L./420L. Advanced Field Geology. (4)** Karlstrom
Advanced geological field techniques; special field problems concentrating on the tectonic evolution of the Rocky Mountain region.
Prerequisite: 319L. Offered as a 3-week course (20 consecutive days). (Summer)
- 521L./421L. Metamorphism. (4)** Selverstone
Metamorphic petrology and its applications to interpretation of tectonics processes. Discussions include thermochemistry, phase equilibria, thermobarometry, P-T paths and behavior of metamorphic fluid phase.
- 522. Selected Topics in Geophysics. (3, may be repeated 5 times)** Δ Geissman, Roy
Restriction: permission of instructor.
- 523. Topics in Tectonics. (3, may be repeated 5 times)** Δ
Restriction: permission of instructor.
- 526L. Advanced Structural Geology. (4)** Karlstrom
Study of the processes and products of rock deformation at all scales: lithosphere, mountain belts and microstructures.
Prerequisite: 307L.
- 527./427. Geophysics. (3)** Geissman, Roy
(Also offered as PHYC 327.) Applications of gravity, magnetism, seismology, heat flow to the structure, constitution and deformation of earth. Related aspects of plate tectonics and resource exploration.
Prerequisite: (101 or ENVS 101) and MATH 163 and PHYC 161.
- 528./428. Applied Mathematics for Earth and Environmental Sciences. (3)**
Introduction to linear algebra, differential equations, and vector calculus with applications to hydrology, geophysics, and atmospheric sciences.
Prerequisite: MATH 163.
- 531L. Igneous Petrology. (4)**
Discussion of the properties, generation, emplacement and differentiation of magma; applications of physical/chemical principles to the study of igneous rocks.
Prerequisite: 303L.
- 533./433. Statistics and Data Analysis in Earth Science. (3)**
Selected mathematical methods of geological data analysis, including elementary statistics, matrix algebra, multivariate data analysis and Fourier analysis.
Prerequisite: knowledge of a computing language.
- 534. Radiogenic Isotope Geochemistry. (3)** Asmerom
Examination of principles governing the abundance of naturally occurring radiogenic isotopes and their use in the study of global geochemical processes.
- 535. Freshwater Ecosystems. (3)**
(Also offered as BIOL 535.) Integration of physical and chemical components of drainage basins and groundwater systems with biological metabolism, growth and reproduction along functional gradients of stream, wetland, reservoir, lake and groundwater ecosystems.
Prerequisite: (MATH 162 or 180) and CHEM 122 and 124L and BIOL 495. (Spring)
- 536./436. Climate Dynamics. (3)** Gutzler
A quantitative introduction to the Earth's climate system, emphasizing processes responsible for maintaining the current climate and governing climate change on global and regional scales, including interactions between the atmosphere, ocean and biosphere. MATH 162 and PHYC 160 recommended.
- 537./437. Applied Meteorology. (3)**
Analysis and prediction of weather systems; weather observing techniques; application of conceptual and numerical models; simple kinematic and dynamic constraints; applications to prediction of wind, fire, and hydrological processes.
Prerequisite: MATH 163 and PHYC 160.
- 538L. Analytical Electron Microscopy. (3)**
Principles and practical techniques of transmission and analytical electron microscopy for materials characterization. Topics covered include: diffraction and phase contrast image formation, selected area and convergent beam electron diffraction; energy-dispersive x-ray spectroscopy.
Prerequisite: 587 and 518L.
- 543./443. Aquifers and Reservoirs. (3)**
Approaches of describing, evaluating, and modeling aquifer and reservoir character, focusing primarily on sedimentary systems. Techniques include well log analysis, cross-section construction, structure and isopach map contouring, and geostatistical simulation.
Prerequisite: 101. Recommended: 304L.
- 544L. Sedimentary Petrology. (4)** Crossey
The mineralogy and chemistry of clastic sedimentary rocks. Examination of provenance and diagenesis through field and laboratory exercises.
Prerequisite: 304L.

545/445. Topics in Sedimentology and Stratigraphy.

(1-4 may be repeated 5 times) Δ Smith, Elrick
Variable course content depending on student interest. Topics may include physical sedimentology, sequence stratigraphy, basin analysis, cycle stratigraphy and chemostratigraphy.

547-548. Seminar. (2-3, 2-3, may be repeated 5 times) Δ **550L/450L. Volcanology. (4) Fischer**

Characteristics and mechanism of volcanic systems, volcanism in various continental and marine tectonic settings. Laboratory to include field and laboratory examination of volcanic rocks and structures, models of volcanic processes.
Prerequisite: 303L.

551-552. Problems. (1-3, 1-3)

Maximum of three units of problems can count toward M.S. or Ph.D. course requirements.

553L/453L. Field Studies in Volcanology. (4) Fischer, Goff, Smith

Field interpretations of volcanic and pyroclastic rocks; applications to petrology, economic geology, geothermal energy. Base: Young Ranch, Jemez volcanic field.
Prerequisite: 319L. (Three summer weeks)

555L/455L. Computational and GIS Applications in Geomorphology. (3) Scuderi

Techniques in acquisition, processing, analysis and display of digital, aerial photo and remote-sensing data; regional quantitative morphometry; use of topography and geology with GIS in landscape evolution and analysis. EPS 101 or ENV 101 and EPS 433 and 481 recommended.

557L/457L. Mathematical Modeling in the Geosciences. (3) Fawcett

Introduction to basic numerical modeling techniques with broad application to dynamic systems in the geosciences including sedimentology, geochemistry, hydrology, climatology and paleoclimatology.

558. Geomicrobiology. (3) Dahm, Crossey

(Also offered as BIOL 558.) The role of microbes in mineral precipitation, dissolution and diagenesis; interactions between microbes and geochemistry/mineralogy.

562/462. Hydrogeology. (3) Weissmann

Hydrologic and geologic factors controlling groundwater flow, including flow to wells. The hydrologic cycle; interactions between surface and subsurface hydrologic systems; regional flow systems. Groundwater geochemistry and contaminant transport.
Prerequisite: 105L or ENV 102L, and MATH 162 and CHEM 121 and PHYS 160.

564. Geological Fluid Mechanics. (3)

Examination of fluid behavior within a geological context. Dimensional analysis and similitude; mass, momentum and energy conservation; inviscid and viscous flows; turbulence; and thermally-driven flows. Applications to problems in the earth and environmental sciences.
Prerequisite: MATH 264 and PHYC 161. (Spring)

565/465. Mars Evolution. (3) Agee

Formation, evolution, and composition of Mars Atmosphere, surface, and interior processes. Martian meteorites. The search for life on Mars. Mars missions past and present and NASA's plans for future exploration of Mars.
Recommended: 365

566. Selected Topics in Hydrogeology. (1-3, may be repeated 5 times) Δ Weissmann

Variable course content depending upon student demand and instructor availability.
Restriction: permission of instructor.

570. Physical Climatology. (3) Gutzler

(Also offered as GEOG 570.) Theory and observation of the Earth's climate system. Radiative transfer, conservation of heat and momentum, maintenance of circulation systems, mechanisms of climate change.
Prerequisite: (436 or 536 or GEOG 351) and MATH 163 and PHYC 161.

572/472. Subsurface Fate and Transport Processes. (3)

Physicochemical, hydrogeological, biological and mathematical aspects of chemical fate and transport in subsurface porous and fractured media. Introduction to multiphase and nonaqueous phase flow.
Prerequisite: (462 or CE 441) and (MATH 163 or 181). (Spring)

574L. Hydrogeology Laboratory. (1) Weissmann

Laboratory and field exercises in subsurface hydrology; physical properties of porous media, flow net analysis, groundwater basin storage and recharge, pump and piezometer tests, well design, sampling.
Pre- or corequisite: 462 or C E 441.

575. Advanced Volcanology. (3)

Dynamics of volcanic eruptions, monitoring of volcanic hazards, geothermal energy, epithermal, numerical and analytical research techniques.
Prerequisite: 450L.

576/476. Physical Hydrology. (3)

(Also offered as WR 576.) Quantitative treatment of the hydrologic cycle—precipitation, evapotranspiration, runoff and subsurface flow; global change and hydrology; catchment and hillslope hydrology; hydrologic system—ecosystem interactions; hydrology and water resources management.
Prerequisite: upper-division standing, MATH 163, PHYC 160. (Fall)

580. Advanced Hydrogeology. (3)

Advanced treatment of subsurface fluid flow and other transport phenomena through granular and fractured media.
Prerequisite: (462 or C E 441) and MATH 264.

581L/481L. Geomorphology and Surficial Geology. (4) Meyer

Origin and development of landforms with emphasis on weathering, soils, hillslope processes, fluvial systems and surficial geology; occasional field trips. Intro to Geology or Environmental Science recommended.

582L/482L. Geoarchaeology. (3) Smith

(Also offered as ANTH 582L.) Application of geological concepts to archaeological site formation with emphasis on pre-ceramic prehistory of the southwestern United States. Quaternary dating methods, paleoenvironment, landscape evolution, depositional environments. Quaternary stratigraphy, soil genesis, sourcing of lithic materials, site formation processes. Required field trip.
Prerequisite: 101, 105L, ANTH 121L, ANTH 220 and at least junior standing in EPS or Anth. (Alternate years)

584. Soil Genesis. (3) McFadden

Processes of physical and chemical weathering; influence of soil parent materials, climate topography and time on soil formation; application of soil studies to geologic problems.
Prerequisite: 101 or ENV 101, 481L.

585L/485L. Soil Stratigraphy and Morphology. (3) McFadden

Application of soils studies to stratigraphic analysis and mapping of Quaternary deposits and geomorphic surfaces; survey of soil classifications; field description of soil profiles; development of soil chronosequences and catenas. EPS 481L recommended.
Prerequisite: 101 or ENV 101.

587. Advanced Mineralogy. (3) Brearley

Crystallographic principles; structure, chemistry, physical properties of rock forming minerals.
Prerequisite: 301, 302L, CHEM 122 and 124L.

599. Master's Thesis. (1-6, no limit) Δ Offered on a CR/NC basis only.**699. Dissertation. (3-12, no limit) Δ Offered on a CR/NC basis only.**

Environmental Science

B.S. in Environmental Science

The B.S. in Environmental Science synthesizes quantitative studies of the interactions between the solid earth, oceans, atmosphere and biological processes taking place therein. The degree provides scientific training for environment-related occupations, including environmental sciences per se as well as peripheral fields such as Law and Medicine. Environmental Science covers a vast sweep of applied Earth science. Students, therefore, have considerable flexibility in tailoring the major to their individual interests while pursuing a common core of supporting math and science. By taking courses from four out of seven subdisciplinary groups, a wide variety of approaches to environmental science can be accommodated, including preparation for graduate study in the subdisciplines. Students pursuing this degree are strongly encouraged to consult the Environmental Science undergraduate advisor in the Department of Earth and Planetary Sciences at an early stage in their program in order to design their curriculum in the disciplinary groups. All majors are encouraged to pursue an undergraduate thesis (493 and 495) in collaboration with a faculty advisor.

Required Environmental Science Core Courses:

ENVS 101 or EPS 101, ENVS 102L or EPS 105L, ENVS 330, ENVS 430, EPS 401, EPS 433 or STAT 345 or higher, and EPS 490

Thirty credits, of which at least 26 credits must be above 299, are to be selected from the following seven groups including at least 6 credits each from four of the groups:

- Spatial analysis: EPS 455L; GEOG 381L, 487L, 488L
- Geochemistry: EPS 203, 407L, 410, 415, CE 437L
- Geoscience: EPS 201L, 301, 302L, 310L, 333
- Earth Surface Processes: EPS 304L, 333, 481L, 485L
- Hydroscience: EPS 462 or CE 441, EPS 443, 476
- Climate: EPS 251, 352, 436, 439
- Ecology: BIO 203L, EPS 310L, 405, 451, 461L, 463L, 475, 494, 495, 496L

Supporting Science required courses:

MATH 162, 163; BIOL 123/124L or higher; CHEM 121 and 123L; PHYC 160.

Students can satisfy the requirements for a distributed minor completing CHEM 122 and 124L, PHYC 161, and 7 additional hours from Chemistry (above 122 and 124L), MATH (above 163), Physics (above 161), Biology above 124L (not including courses counted in the Ecology subdisciplinary group) or Astronomy 270 or above or, with permission, from selected Anthropology, Engineering or Geography courses.

A student may also choose to complete a minor outside of the EPS Department. Six credits from courses in subdisciplinary group (g), all of which require additional Biology courses as prerequisites, will satisfy the requirements for a Minor in Biology (if taken separately from requirements for the B.S. in Environmental Science).

Undergraduate Minor in Environmental Science

A total of at least 20 hours distributed as follows:

- ENVS 101 and 102L (or EPS 101 and 105L), and ENVS 330.
- Plus at least 13 additional hours selected from ENVS 430, EPS 433 (or STAT 345 or higher) and from at least two of the Environmental Science subdisciplinary groups. Only one course numbered 299 or below may count toward this requirement.

Environmental Science (ENVS)

101. The Blue Planet. (3)

To understand global change and environmental concerns, this course weaves together an understanding of Earth's lithosphere, atmosphere and oceans and how ecosystems are linked to the physical environment. Students are encouraged, but not required, to enroll concurrently in 102L.

102L. The Blue Planet Laboratory. (1)

Introductory environmental earth science laboratory. Includes minerals, rocks, and rock cycle, topographic maps, local geology and groundwater, weather and climate.

Pre- or corequisite: 101.

330. Environmental Systems. (3)

Study of the human relationship to and impact on the physical environment. Sustainable development and management of resources. Global change and implications for ecosystems. Environmental law, policy, regulations and ethics.

Prerequisite: (101 or EPS 101) and CHEM 121 and CHEM 123L and (MATH 162 or PHYC 160) or (BIOL 123 or BIOL 201). {Fall}

430/530. Advanced Environmental Science. (3)

Application of basic science to the interdisciplinary study of environmental systems. Causes of and solutions to land, air, water and ecosystem degradation.

Prerequisite: 330 and MATH 163 and PHYC 160 and CHEM 121 and 123L and (BIOL 123 or 201). {Spring}

530/430. Advanced Environmental Science. (3)

Application of basic science to the interdisciplinary study of environmental systems. Causes of and solutions to land, air, water and ecosystem degradation.

Natural Science (NTSC)

No major or minor offered.

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261L. Physical Science. (4)

For pre-service K-8 teachers only. A broad, interdisciplinary introduction to the science of geology, chemistry, physics and astronomy, with emphasis on the sciences processes, inquiry and the integration of technology. The course is activity-based, utilizing a problems-and-issues based approach; various teaching methods are modeled and practiced by students; some field trips may be required.

262L. Life Science. (4)

For pre-service K-8 teachers only. An activity-based study of science topics including botany, cell biology, genetics, microbiology and zoology with emphasis on science processes, inquiry and the integration of technology. Various teaching methods are modeled and practiced by students; some field trips may be required.

263L. Environmental Science. (4)

For pre-service K-8 teachers only. An activity-based interdisciplinary study of major issues in environmental science with emphasis on science process, scientific investigations and field-based activities and the integration of technology. Course topics include current issues on population, healthy ecosystems and natural resources. Various teaching methods are modeled and practiced by students.

400*. Science Topics for Educators. (1-4, may be repeated twice) Δ

Topics in specific science content areas with a focus on scientific process and inquiry. Topics vary; lectures are normally supplemented with laboratory exercises.

Restriction: permission of instructor.

ECONOMICS

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Professors

Robert P. Berrens, Ph.D., Oregon State University
Alok K. Bohara, Ph.D., University of Colorado
David S. Brookshire, Ph.D., The University of New Mexico
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Donald Coes, Ph.D., Princeton University
Philip Ganderton, Ph.D., University of California
(Santa Barbara)
Christine Sauer, Ph.D., Brown University
Richard Santos, Ph.D., Michigan State University
Robert O. Valdez, Ph.D., Pardee RAND School of Public
Policy

Associate Professors

Melissa Binder, Ph.D., Columbia University
Kate Krause, Ph.D., University of Wisconsin
Jennifer Thacher, Ph.D., University of Colorado, Boulder

Assistant Professors

Margaret E. Blume-Kohout, Ph.D., Pardee RAND Graduate
School
Matias Fontenla, Ph.D., University of Texas at Austin
Kristine Grimsrud, Ph.D., Washington State University
Brady Horn, Ph.D., Washington State University

Affiliated Faculty

Lawrence Waldman, Ph.D., The University of New Mexico
(Economist III, BBER, UNM)

Professors Emeriti

Shaul Ben-David, Ph.D., Cornell University
F. Lee Brown, Ph.D., Purdue University
H. Stuart Burness, Ph.D., University of Kansas
Albert Church, Ph.D., Claremont Graduate School
Ronald Cummings, Ph.D., University of Kansas
Micha Gisser, Ph.D., University of Chicago
Peter Gregory, Ph.D., Harvard University
David Hamilton, Ph.D., University of Texas
Chung Pham, Ph.D., University of Pennsylvania
Donald Taibly, Ph.D., Rutgers University
Paul Therkildsen, Ph.D., University of Colorado
Nathaniel Wollman, Ph.D., Princeton University

Introduction

Why is there pollution? Why are the rainforests vanishing? Is the federal budget deficit a problem? Will graduating seniors ever collect on Social Security? Will consumers benefit from increased competition in the electricity market? Why and how would people shop on the Internet? Can government policies reduce unemployment? Is crime an economic problem? Why are some countries rich and others poor? Does international trade help or hurt workers in the United States?

Economics provides answers to questions like these by analyzing how scarce resources are used and how goods and services are distributed. Students of economics learn how incentives shape human behavior and why people debate public policies. Majors develop analytical and quantitative skills, including modeling, econometrics and forecasting. They understand macroeconomic relationships that explain economic growth, unemployment and inflation and exchange rate fluctuations. They also study the microeconomics of government policies, work, industrial organization, labor and human resources, health, natural resource use and the environment and trade and development.

The major is an excellent choice for those interested in public policy and market research and students wanting careers in business, government and other organizations. An economics major is also highly desirable for students wanting to go on to study law, business, public administration and international affairs.

Major Study Requirements

A major in economics requires a common core consisting of ECON 105 (Introductory Macroeconomics), 106 (Introductory Microeconomics), 300 (Intermediate Microeconomics I), 303 (Intermediate Macroeconomics I) and 309 (Introductory Statistics and Econometrics) plus 18 credit hours of electives in economics with a maximum of 3 credit hours from 200-level courses, for a total of 33 hours.

All economics majors are encouraged to complete one semester of calculus (MATH 162 or 180). Majors planning to attend graduate school should consult with the economics undergraduate advisor concerning additional requirements.

Students are encouraged to discuss the selection of electives with the economics undergraduate advisor. Most students select courses based on their career plans or interests. Note that the following listings are not intended to limit the student's choice.

Business economics for students planning to pursue a career in the business sector: suggested electives include ECON 315, 320, 332, 333, 350, 408, 424 and 429.

Government economics for students planning to pursue a career with a local, state or federal government agency: suggested electives include ECON 315, 320, 332, 333, 335, 341, 342, 343, 350, 408, 409, 424, 429 and 445.

Pregraduate study preparation for students interested in pursuing a graduate degree in economics, business, public administration or other fields: suggested electives include ECON 315, 320, 342, 350, 400, 403, 407, 409, 424, 429 and 442. A two-semester calculus sequence and a semester of introductory statistics are essential for students planning graduate work in economics.

Pre-law preparation for students interested in attending law school: suggested electives include ECON 320, 330, 332, 333, 335, 342, 350 and 445.

Electives for students who wish to focus their study on specific fields and current economic issues: suggested electives include courses in International and Latin American economies (ECON 321, 421, 423, 424 and 429), natural resources and environmental economics (ECON 342, 343 and 442), labor and human resources (ECON 320, 335, 410 and 427), public finance (ECON 350 and 445) and economic modeling, forecasting and policy analysis (ECON 407, 408, 409 and 445).

Minor for Economics Majors

An interdisciplinary approach is useful in the study of economics. Economics majors are encouraged to seek a minor in disciplines such as Political Science, Sociology, History, Business, Math or Computer Science. Students should discuss the selection of a minor with the economics undergraduate advisor. Students with specialized interests may design a distributed minor and petition the Department Chairperson for approval.

Minor Study Requirements

Economics makes an excellent minor for students pursuing majors such as Management, Political Science, Journalism and Biology and for those building a pre-professional bachelor's degree such as pre-law, pre-M.B.A. or pre-M.P.A. For example, a student with a political science major may consider, in addition to the core economics courses, electives

in international economics, public finance or human resource economics. A student with a business major may consider economics electives in public finance and international economics. Students planning for a law degree might consider an economics minor with emphasis on environmental and natural resource economics.

A minor in economics requires a total of 18 credit hours consisting of 9 hours in required courses (ECON 105, 106 and either 300 or 303) plus 9 hours from elective courses with a maximum of 3 hours at the 200-level.

Departmental Honors

The departmental honors program is open to outstanding economics majors, typically in their junior year. After consulting with a faculty member willing to supervise their research, students must enroll in the department's honors courses, *Reading for Honors* (ECON 497 and/or 498) and *Senior Honors Thesis* (ECON 499). These courses are in addition to those required for the major. University requirements for graduating with departmental honors include an overall grade point average of 3.20 and at least 7 credit hours in departmental honors courses. Interested students should contact the economics undergraduate advisor for further information.

Graduate Program

Application Deadlines for Admission

Spring Semester:	August 1 (only under extreme circumstances)
Fall Semester:	International Students - March 1 Domestic with aid - March 1 Domestic without aid - July 1

Application Deadlines for Financial Aid

Financial aid decisions are made earlier than the application deadlines, so timely receipt of application materials is advisable if you are interested in financial aid.

Degrees Offered

The Department of Economics offers the M.A. degree in economics, with concentrations in environmental/natural resource economics, public finance, labor/human resources economics, international/development economics, econometrics or economic theory. The master's degree is awarded under Plan I or Plan II.

The Department of Economics offers the Ph.D. degree with concentrations in environmental/natural resource economics, public finance, labor/human resources economics and international/development economics. The Ph.D. degree is awarded to students who have met the general requirements specified elsewhere in this catalog and have demonstrated competency in economic theory (micro and macro), econometrics and their concentration (9 hours). See the Economics Graduate Student Handbook for specific requirements.

Applicants to the Department of Economics M.A. and Ph.D. Programs:

Recommended undergraduate course work consists of 12 upper-division economic hours including one semester of intermediate micro theory and macro theory. Students are required to have completed one semester of calculus (preferably the equivalent of UNM's MATH 162 or MATH 180). If you are considering a Ph.D., a course in Linear Algebra or Matrices is also strongly recommended. (e.g. UNM's MATH 314 or MATH 321).

All applicants must submit their current (within the last three years) GRE-General Test Scores (verbal, quantitative, and analytical). All international students are required to submit their TOEFL scores.

Economics (ECON)

105. Introductory Macroeconomics. (3)

Economics on a national scale: determination of national income, employment level, inflation and impact of policies affecting money supply, interest rates and government programs. Current macroeconomic issues and problems. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 2113). (Prerequisite for most upper-division courses).

106. Introductory Microeconomics. (3)

Exploration of individual consumer behavior, production decisions by the firm and supply and demand relationships in the marketplace. Examination of the international dimension of production and consumption choices. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 2123). (Prerequisite for most upper-division courses.)

203. Society and the Environment. (3)

(Also offered as CRP 203.) Introduction to environmental and natural resource issues of both global and local scale. Investigates basic causes and consequences of environmental problems including interrelated physical and social science dimensions.

212. Personal Investing. (3)

Investment options available to the individual will be analyzed in terms of economic theories of capital markets. Risk, value, returns and portfolio analysis.

239. Economics of Race and Gender. (3)

Examines economic situation of women and minorities in the United States. Explores effects of race, gender and ethnicity on the economic performance of workers and evaluates various strategies for social change.

**300. Intermediate Microeconomics I. (3)

Intermediate analysis of microeconomic theory and concepts. Topics include consumer behavior and demand, production and costs, price and output under both perfect competition and pure monopoly.

Prerequisite: 105 and 106.

**303. Intermediate Macroeconomics I. (3)

Theories of national income determination in explaining business cycles; aggregate supply; and the role of expectations. Role of monetary and fiscal policies in stabilizing the economy.

Prerequisite: 105 and 106.

**309. Introductory Statistics and Econometrics. (3)

Introductory statistics, probability, probability distributions and hypothesis testing. Basic econometric techniques emphasizing estimation of economic relationships and the use of econometric models in forecasting.

Prerequisite: 105 and 106 and STAT 145.

**315. Money and Banking. (3)

Principles of money, credit and banking; organization and operation of the banking system; and the relationship between money, banking and the level of economic activity.

Prerequisite: 303.

*320. Labor Economics. (3)

Determinants of labor force, wage levels and structures, and employment; human capital theory and discrimination, economic consequences of trade union and government intervention.

Prerequisite: 300.

*321. Development Economics. (3)

Theories of development and growth. Problems facing developing countries and possible solutions. Historical case studies of some developing countries.

Prerequisite: 300 or 303.

***330. Consumer Economics. (3)**

Introduces the theory of consumer behavior and demand analysis. Empirical applications of consumer theory will be explored. Possible topics include: consumer safety, family budgeting, marketing research and the household production function approach.
Prerequisite: 300.

***331. Economics of Poverty and Discrimination. (3)**

Explores trends in income distribution especially across and within groups and examines theories explaining behavior and outcomes. Public policy concerning poverty and discrimination is studied and discussed.
Prerequisite: 300.

***332. Economics of Regulation. (3)**

Nature of modern firms and markets: relationship of market structure, conduct and performance, including analysis of antitrust policy, public utility regulation and "deregulation" of some industries.
Prerequisite: 300.

***333. Industrial Organization. (3)**

Firms and markets; interactions of firms in markets that are noncompetitive (oligopolistic and monopolistic); various government policies to control the behavior of firms with market power.
Prerequisite: 300.

***335. Health Economics. (3)**

Market concepts and health care issues. Economic assessment of the U.S. health care system. Explores physician supply and demand, hospitals, malpractice, pharmaceuticals, insurance and related topics.
Prerequisite: 105 and 106.

***341. Urban and Regional Economics. (3)**

Spatial nature of economics: housing markets, natural hazard and technological risks, local and regional public finance, transportation issues, environmental problems and the relationship of regional and urban economies to national and international economies.
Prerequisite: 300.

342. Environmental Economics. (3)

Introduction to economics of environmental management problems, conceptual tools and policy applications: resource scarcity and sustainability, efficiency and equity, property rights and externalities, benefit-cost analysis and discounting, provision of public goods and nonmarket valuation.
Prerequisite: 105 and 106.

***343. Natural Resource Economics. (3)**

Use and management of natural resources and systems useful to humans. Issues include: why natural resources are important, economic growth impact, optimal exploitation and identification and management of environmental concerns.
Prerequisite: 300.

***350. Public Finance. (3)**

(Also offered as POLS 350.) Taxation, governmental borrowing, financial administration and public expenditures.
Prerequisite: 300.

***360. History of Economic Thought. (3)**

Development of the principle economic doctrines and schools of economic thought from the Physiocrats to Keynes.
Prerequisite: 105 and 106.

395. Seminar in Current Economic Issues. (1-3, no limit) Δ

Topics will vary. Offered on an occasional basis. For course content, consult the economics department.
Prerequisite: 300 and 303.

***403. Intermediate Macroeconomics II. (3)**

Theories of consumption, investment and money demand. Models of economic growth. Introduction to open economy macroeconomics. Macro modeling and analysis of economic policies, using actual data and computer models.
Prerequisite: 303.

***407. Mathematical Methods in Economics. (3)**

A survey course designed to develop those mathematical results and methods which find frequent use in economic analysis.
Prerequisite: 300 and 303.

***408. Economic Forecasting Methods: A Time Series Approach. (3)**

Computer modeling of economic time series using univariate Box-Jenkins models and multivariate vector autoregressive models. Intervention models to assess policy impacts such as gun control, environmental law, tax changes and social programs.
Prerequisite: 309.

***409. Intermediate Econometrics. (3)**

Intermediate econometric techniques with strong emphasis on computer modeling of applied economic problems. Covers autocorrelation, heteroscedasticity, multicollinearity, dummy variable and distributed lag model and the use of econometric models in forecasting.
Prerequisite: 309.

***410. Topics in Health Economics. (3, no limit) Δ**

Specialized topics in health care economics including medical education, national health insurance, comparative systems, drug industry and other contemporary issues. Emphasis on empirical applications in the study of health care issues. For course content, consult the economics department.
Prerequisite: 300 and 309 and 335.

***421. Latin American Economics. (3)**

Analysis of recent and historical issues in Latin American economies, including inflation, debt, trade, regional integration, privatization, stabilization and structural reform.
Prerequisite: 303 and 309.

***423. Topics in Latin American Development. (3)**

Analysis of economic development and its relation to poverty, schooling, the informal sector, agrarian issues and sustainable development using case studies from Latin America.
Prerequisite: 300 and 309.

***424. International Trade. (3)**

Determinants of patterns of international trade and comparative advantage. Trade restrictions and gains from trade. International factor movements.
Prerequisite: 300 and 309.

***427. Topics in Labor Economics. (3)**

Wage theory, industrial relations, migration, discrimination, comparative labor problems, special groups in the work force and other contemporary topics. Emphasis on economic implications and the role of public policy in these labor topics.
Prerequisite: 309 and 320.

***429. International Finance. (3)**

Foreign exchange markets and the international financial system. Exchange rate determination, balance of payments adjustment and the effectiveness of government policies in the open economy. International monetary system.
Prerequisite: (303 or 315) and 309.

***442. Topics in Environmental and Natural Resource Economics. (3)**

Focus on public policy and regulation. Specialized issues such as development and management of water, mineral, energy, air quality, forest and fishery resources, resource scarcity, sustainability, non-stationary pollution, water quality and global resource distribution.
Prerequisite: 300 and 309.

***445. Topics in Public Finance. (3)**

Intermediate public finance. Public economics topics: taxation, expenditure, welfare and distribution. Concentration on selected topics such as crime, education, health, regulations (EPA Acts), agreements (NAFTA) and the courts (Takings Clause).
Prerequisite: 300 and 309 and 350.

190 ARTS AND SCIENCES

451/551–452/552. Independent Study. (1-3, 1-3)

For senior students wishing to study topics not covered in an existing course or in more detail. Requirements will be agreed upon between student and instructor.
Prerequisite: 300 and 303 and 309.

*466. Public Sector Project Analysis. (3)

(Also offered as CRP 466.) Product evaluation, cost-benefit analysis, capital budgeting, financing, federal-state relationships, environmental and public welfare impacts of projects and other related issues.
Prerequisite: 300 and 350.

*478. Seminar in International Studies. (3)

(Also offered as POLS 478.) Designed to provide seniors from any discipline an opportunity to apply an international perspective to their undergraduate training. Each student will present a term paper drawing upon his or her particular background and relating it to international matters. Open only to seniors.
Restriction: senior standing.

497–498. Reading for Honors. (3, 3)

Open to juniors or seniors with an overall grade point average of at least 3.2 and approval of the department.
Prerequisite: 309. Restriction: junior or senior standing and permission of department.

499. Senior Honors Thesis. (4)

Prerequisite: 497 or 498.

501. Microeconomics I. (3)

Topics include producer and consumer theory, duality and welfare measures, competitive markets and monopoly and decision making under uncertainty.

503. Economic Theory. (3)

Macro and micro theory with applications.

504. Mathematical Tools and Economic Models. (3)

Calculus and matrix theory as applied to macro and micro models. Unconstrained and constrained optimization; static and comparative static analysis; introduction to dynamic analysis.

505. Applied Macroeconomics. (3)

Basic macroeconomic theory applied to current economic problems and policy issues.
Prerequisite: 303.

506. Macroeconomics I. (3)

Closed and open economy macroeconomics. Aggregate demand and supply. Different models of business cycles. Micro foundations of macroeconomics.

508. Statistics and Introduction to Econometrics. (3)

Discrete and continuous probability distributions; expectations; joint, conditional marginal distributions; hypothesis testing; least squares estimators; violation of the least squares principle. Econometric software with applications.

509. Econometrics I. (3)

Theory and applications: ordinary and generalized least squares, hypothesis testing, dummy variable and distributed lag models; simultaneous equation and two stage least square models; forecasting. Emphasis on computer modeling.
Prerequisite: 508.

510. Econometrics II. (3)

Simultaneous equation methods, nonlinear least squares, maximum likelihood method, qualitative dependent variable models, asymptotic properties and test statistics. Emphasis on computer modeling.
Prerequisite: 509.

513. Microeconomics II. (3)

Competitive equilibrium and welfare economics. Topics from imperfect competition, decision making under uncertainty, introduction to game theory and distribution theory.
Prerequisite: 501 and 504.

514. Macroeconomics II. (3)

Dynamic macroeconomics. Optimal economic policy. Theories of economic growth.
Prerequisite: 504 and 506.

520. Labor Economics. (3)

Determination of optimal wage and employment. Demand and supply of labor, wage theory, education, migration, unions, labor market discrimination and full employment policies.
Prerequisite: 501.

521. Comparative Labor Problems. (3)

Immigration issues, labor markets in Latin America, and other comparative labor issues.
Prerequisite: 501

522. Selected Groups in the Work Force. (3)

Employment problems of special groups (e.g., African-Americans, Hispanics, women, youth) in the work force. How economic theories explain their economic status. Economic models (education, school quality, occupational choice).
Prerequisite: 501.

533. Seminars in Industrial Organization. (3)

Industrial organization is the study of firms and markets. Course covers firms internal organization and the interactions of firms in markets that are competitive, oligopolistic or monopolistic.
Prerequisite: 501 and 504.

534. Experimental Economics. (3)

Working markets in laboratory setting. Designing market experiments. Experimental investigations of simple market organization. Examination of more complex settings. Applications: theory, environmental, public finance and labor.
Prerequisite: 501 and 504.

535. Evaluation of Public Programs. (3)

Use of benefit-cost analysis as the principal means of evaluating public sector programs such as bridges, dams, roads, reservoirs, consumer product safety regulation and environmental regulations.
Prerequisite: 501 and 504.

538. Topics in Applied Economics. (3)

Special topics in applied economics as they pertain to the major fields and support courses. Available for use by visiting faculty. Restriction: permission of instructor. Prerequisite: 501 and 504.

540. Environmental and Natural Resource Modeling. (3)

Dynamic optimization and optimal control theory applications (deterministic and stochastic). Optimal resource utilization, pollutant stocks, principal agent problems, etc. Computer solution of models. Students will develop and solve a research problem.
Prerequisite: 501 and 504.

541. Sustainable Development. (3)

Seminar of the political economy of sustainable development with emphasis on the management of large natural systems, particularly river basins.

542. Environmental and Natural Resource Economics: Survey. (3)

Overview of environmental and resource concepts, models and issues. Mass balance, property rights, common property, public policy, externality theory, non-market valuation, resource scarcity, renewable and nonrenewable resource management.
Prerequisite: 501.

543. Natural Resource Economics. (3)

Models of natural resource utilization. Fossil fuels, hard rock minerals, fisheries, forest resources, groundwater and surface water.
Prerequisite: 540.

544. Environmental Economics. (3)

Causes and consequences of environmental externalities. Design and implementation of alternative policy instruments. Theory and methods to measure economic value of market and non-market environmental services.
Prerequisite: 501 and 504.

545. Water Resources II—Models. (4)

(Also offered as WR 572.) Use of technical models in water resources management addresses conceptual formulation and practical application of models from administrators perspective. Lab focuses on use of graphic aids to explain technical information. (Spring)

551./451–552./452. Independent Study. (2-3, 2-3)

An independent study course on economic problems or issues. The study is carried out under the supervision of an economics faculty member.
Restriction: permission of instructor.

560. Introduction to Public Finance. (3)

An introduction to the advanced study of public finance. Issues covered include welfare theory, market failure, externalities and public goods, public choice, taxation and government expenditure.
Prerequisite: 501 and 504.

562. Normative Theories of Public Finance. (3)

Welfare theories, general equilibrium, market failure, income distribution, optimal taxation, first best analysis and cost benefit analysis.
Prerequisite: 560.

565. Positive Theories of Public Finance. (3)

The behavior of politicians and bureaucrats, taxpayers, the distribution of tax burdens and government subsidies and the behavior of state and local governments. Additional topics as time allows.
Prerequisite: 560.

570. Institutional Economics. (3)

Overview of institutional thought including comparing historical and evolving traditions (including early American institutionalism and "new" institutional economics) and connections to public policy. Examines institutional approaches relative to economic methodology and philosophy of science.
Restriction: permission of instructor.

580. International Trade. (3)

Causes and patterns of trade; welfare and distributional effects of trade; effects and political economy of trade policies such as tariffs, quotas, export subsidies; regional economic integration; international factor movements. With empirical applications.
Prerequisite: 501 and 506.

581. International Finance. (3)

Balance of payments adjustment; exchange rate determination, international financial flows, economic policies under alternative exchange rate regimes; regional monetary integration and the international monetary system. With empirical applications.
Prerequisite: 501 and 506.

582. Topics in International and Development Economics. (3)

Examines issues in theory and policy in international and development economics. Explores growth, trade policies, exchange rate and international payments problems, public finance, price stability, technology transfer, income distribution or other issues.
Prerequisite: 501 and 506.

583. Development Economics. (3)

Applies economic development theories to country-wide studies, with an emphasis on Latin America and other developing regions.
Prerequisite: 501 and 506.

584. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3)

(Also offered as HIST 689, POLS, SOC 584.)

595. Workshop in Applied Economics. (1-3)

Research problems. Student presentations of methodology and results. Research projects may be student-directed or undertaken in conjunction with regular and/or visiting faculty. Restriction: permission of instructor. **Offered on CR/NC basis only.**

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

ECONOMICS-PHILOSOPHY

Introduction

The combined major in economics and philosophy is an inter-departmental major administered jointly by the two departments. Students interested in this program should consult the Department of Economics or the Department of Philosophy.

This major is directed toward a deeper and fuller understanding of the theoretical phases of economics and toward the extension of philosophy into one of its traditional areas of interest, namely that of value theory and its application.

Major Study Requirements

Students completing an economics-philosophy major are not required to have a minor. The minimum requirement is 45 hours, including ECON 105, 106, 300, 303, 315 and 360, and 3 hours to be selected from 320, 332, 350 or 424; Philosophy—21 hours selected from courses chosen in consultation with advisor; and ECPH 485.

Minor Study Requirements

Not offered.

Economics-Philosophy (ECPH)

***485. Philosophical Foundations of Economic Theory. (3)** (Also offered as PHIL 485.) Philosophical backgrounds of classical and neo-classical, socialist and communist and institutionalist economics.
Prerequisite: ECON 106.

ENGLISH

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Distinguished Professor

Gary Scharnhorst, Ph.D., Purdue University

Endowed Chair

Dana Levin, Ph.D., New York University, Joseph M. Russo
Professor of Creative Writing

192 ARTS AND SCIENCES

Professors

LynnDianne Beene, Ph.D., University of Kansas
Helen Damico, Ph.D., New York University
Reed Way Dasenbrock, Ph.D., Johns Hopkins University
David K. Dunaway, Ph.D., University of California (Berkeley)
Barry J. Gaines, Ph.D., University of Wisconsin
Gary Harrison, Ph.D., Stanford University
Gail T. Houston, Ph.D., University of California (Los Angeles)
David Richard Jones, Ph.D., Princeton University
Feroza Jussawalla, Ph.D., University of Utah
Mary Power, Ph.D., University of Wisconsin
Scott P. Sanders, Ph.D., University of Colorado
Julie Shigekuni, M.F.A., Sarah Lawrence College
Sharon Oard Warner, M.A., University of Kansas
Peter L. White, Ph.D., Pennsylvania State University

Associate Professors

Jesse Alemán, Ph.D., University of Kansas
Lisa D. Chavez, M.F.A., Arizona State University
Finnie D. Coleman, Ph.D., University of Virginia
Michelle Hall Kells, Ph.D., Texas A&M University
Gregory Martin, M.F.A., University of Arizona
Wanda Martin, Ph.D., University of Louisville
Daniel Mueller, M.F.A., University of Iowa
Anita Obermeier, Ph.D., Arizona State University
Charles Paine, Ph.D., Duke University
Susan Romano, Ph.D., University of Texas
Diane Thiel, M.F.A., Brown University
Carolyn Woodward, Ph.D., University of Washington

Assistant Professors

Marissa Greenberg, Ph.D., University of Pennsylvania
Scarlett Higgins, Ph.D., University of Chicago
Matthew R. Hofer, Ph.D., University of Chicago
Aeron Hunt, Ph.D., University of Chicago
Carmen Nocentelli, Ph.D., Stanford University
Kadesthia Matthews, Ph.D., Johns Hopkins University
Kathleen Washburn, Ph.D., University of California (Los Angeles)

Lecturers

James Burbank, M.A., University of New Mexico
Michael B. Cabot, M.A., New Mexico State University
Marisa P. Clark, Ph.D., Georgia State University
Valerie Thomas, M.A., University of New Mexico
Jack Trujillo, M.F.A., University of Michigan

Professors Emeriti

Rudolfo A. Anaya, M.A., University of New Mexico
James F. Barbour, Ph.D., University of California (Los Angeles)
Paul B. Davis, Ph.D., University of Wisconsin
Michael R. Fischer, Ph.D., Northwestern University
Robert E. Fleming, Ph.D., University of Illinois
Patrick J. Gallacher, Ph.D., University of Illinois
Michael J. Hogan, Ph.D., University of Kansas
David M. Johnson, Ph.D., University of Connecticut
E. A. Mares, Ph.D., University of New Mexico
Antonio Marquez, Ph.D., University of New Mexico
Thomas W. Mayer, Professional Writer
Ivan Melada, Ph.D., University of California (Berkeley)
David C. McPherson, Ph.D., University of Texas
Richard E. Peck, Ph.D., University of Wisconsin
Jerome P. Shea, Ph.D., University of New Mexico
Patricia C. Smith, Ph.D., Yale University
James Thorson, Ph.D., Cornell University
Frederick B. Warner, Ph.D., University of Illinois
Mary Bess Whidden, Ph.D., University of Texas
Hugh Witemeyer, Ph.D., Princeton University

Introduction

Besides teaching and literary research, a major in English can lead to professional careers in archival and curatorial librarianship, publishing, journalism, advertising and the arts; as well as human resources, sales and marketing, management, and government work. Even when additional qualifications are needed, as in law, an undergraduate major in English is often a distinct advantage.

Students with ACT English scores of 29 and higher or SAT Critical Reading scores of 650 or higher have satisfied the University Writing Requirement and should enroll for courses of their choice in the Writing and Speaking Core (see "Core Curriculum"). Students with ACT English scores of 26, 27, 28 or SAT Critical Reading scores between 610 and 640 may enroll directly in English 102 and, upon passing, will have met the University Writing Requirement. Students with ACT English scores between 19 and 25 or SAT Critical Reading scores between 450 and 600 should enroll in English 101. Students who have taken Advanced Placement examinations in English Language or Literature should refer to "Advanced Placement" for placement and credit information.

Writing Proficiency Portfolio

Students who earn a B or better in English 101 or its equivalent transferred to the University of New Mexico from another institution need not take English 102 to satisfy the University of New Mexico's minimum competence in English writing requirement. They may choose instead to complete a Writing Proficiency Portfolio, a collection of three nonfiction writing samples accompanied by a reflective cover letter. The portfolio option does not carry course credit; it allows stronger writers to move quickly into courses of their choice beyond English 102. For more information, call the English Department or consult our Web page at <http://www.unm.edu/~english>

Prerequisites

A student must have credit for English 101 or its equivalent before registering for 102, 221, or 222, and credit for 102 before registering for 219, 220, or any course numbered 250 or above, with the exception of English 292 and 293. For enrollment in English 250 or literature surveys English 264, 265, and 294-297, students must have *successfully completed* either English 102 or the Writing Proficiency Portfolio. There are no prerequisites for English 150, other literature courses numbered under 250, and English 292 and 293. At least one lower-division course in literature is required for admission to a literature course numbered above 300. **All English majors should complete English 250 before enrolling in upper-division courses.** A few courses have special prerequisites listed after the course descriptions.

Major Study Requirements

There are several English major concentrations that offer different emphases or pre-professional preparation. All English major concentrations require work in courses numbered above English 102.

Liberal Arts Concentration (33 hours)

The Liberal Arts concentration offers a broad approach to the study of English, allowing students to elect 18 of the required 33 hours.

ENGL 250; two courses chosen from ENGL 264, 265, 292, 293, 294, 295, 296, 297; one course chosen from 308, 331, 332, 333, 334, 335, 336, 337, 338, 339, 348, 355, 356, 364, 365; 352 or 353; 9 hours at the 400-level; and 9 additional hours, with no more than one course at the 200-level.

Pre-Graduate Concentration (36 hours)

A program for students planning graduate study in English or American Literature.

ENGL 250, 294; one course chosen from 295, 296, 297; 264 or 265; one course chosen from 308, 331, 332, 333, 334, 335, 336, 337, 338, 339, 348, 355, 356, 364, 365; 352 or 353; one course chosen from 351, 354 or 360; one course chosen from 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 470, 486; one course chosen from 410, 441, 442, 443, 445, 487; 6 additional hours at the 300- or 400-level.

Professional Writing Concentration (34 hours)

This concentration prepares students for careers as professional writers and editors in a variety of specific occupations in business, government and industry. The concentration requires courses in writing, language, and literature; an internship; and 9 hours of complementary course work in scientific, technical or professional disciplines.

Professional Writing Sequence. 219 or 220 or 240; 290; 12 hours from 320, 413, 414, 415, 416, 417, 418, 419, 420, 498; 499 (*Internship*, 1 hour minimum), 19 hours total.

Language, Rhetoric, and Literature Sequence. ENGL 250; one survey from 292-297; 9 hours of courses in language, rhetoric or literature numbered 300 or above. 15 hours total.

Pre-Professional Concentration (34 hours)

A program for students planning careers in Law, Business, Medicine, and other professional work that relies heavily on critical, analytical, and communication skills. ENGL 250; 219, 220 or 290; 294 or 295; 296 or 297; 352 or 353; 3 hours from 335, 336, 337, 338, 339, 364, 365, 381; 3 hours from 410, 411, 442, 443; 6 hours from 320, 413, 414, 415, 417, 418, 419, 420; 499 (*Internship*, 1 hour minimum). 6 additional hours at the 300 or 400 level. Outside the department, the following courses are strongly recommended: A course in public speaking, CJ 130; and a course in critical thinking, PHIL 156.

Creative Writing Concentration (33 hours)

Thirty-three hours in English, no more than 12 of which may be lower-division (299 and below). ENGL 250; 3 hours from 292 through 297; 15 hours from 224, 321, 322, 323, 324, 421, 422, 423 and 424 (students must take one course at each level); 12 hours in English Department courses numbered 300 or above, at least two of which must be in literature.

English-Philosophy Major

(See English-Philosophy which follows.)

Minor Study Requirements (18 hours)

The English minor requires 18 hours of English courses numbered above 102. The minor program includes one survey course (294, 295, 296, 297), one course in Shakespeare (352, 353) and at least one 400-level course from the following list: 449, 450, 451, 452, 453, 454, 456, 457, 458, 459, 460, 461, 462, 463, 470, 486; and 9 more hours with no more than 6 below 300.

Professional Writing Minor (18 hours)

Requirements are: 219 or 220 or 240; 290; 320, 416, 417, 418, 419 or 420. Elective courses: 9 hours chosen from ENGL 219, 220, 240, 320, 413, 414, 415, 416, 417, 418, 419, 420, 441, 442, 443 or approved courses offered in other departments. ENGL 499 (*Internship*, 1 hour) is optional. At least 9 hours must be in courses numbered 300 and above.

Minor in Period Studies (21 hours)

A multidisciplinary program comprised of 21 hours: 12 hours in English courses numbered above 102 and 9 hours from at least two other disciplines. Each student's program will focus on a particular historical period and be developed around the student's individual interests after prior consultation with a minor advisor.

English as a Second Language

Students who speak and write English as a Second Language, including international students, recent immigrants, and others who have limited experience with standard American English are encouraged to enroll in any section of English 101 or 102 for which they qualify. Instructors will provide supportive teaching to help all students achieve the course goals. Non-credit English courses are offered in the Center for English Language and American Culture (CELAC) in Mesa Vista Hall. Programs and courses in training to become an ESL teacher are offered by the College of Education.

Departmental Honors

Students who seek Departmental Honors in English should apply to the Director of Undergraduate Studies no later than the last semester of their junior year. Admission to honors requires 1) an overall GPA of 3.2, based on at least 75 hours of college credit, including a minimum of 9 hours of credit in English courses numbered 200 and above; 2) a cumulative GPA of 3.5 in English courses numbered 200 and above; and 3) a letter of recommendation from a regular faculty member from the Department of English. After being admitted to the program, honors candidates must 1) complete English 412 Capstone and Honors Seminar; 2) enroll in English 497, Individual Study, in the first semester of the senior year in order to write a prospectus for submission to the Undergraduate Committee no later than the end of the sixth week of the semester; 3) enroll in English 490, Senior Honors Thesis, in the last semester of the senior year to complete the Honors thesis for submission to the Undergraduate Committee no later than the end of the tenth week of the semester.

The English Department also sponsors a chapter of Sigma Tau Delta, an international honors society for English majors. To be eligible for membership in Sigma Tau Delta applicants must 1) be an English major or minor who has completed three semesters of college work, including 6 hours of English courses beyond English 102; 2) have an overall GPA of 3.0; and 3) a cumulative GPA of 3.2 in all English courses. To apply for membership in Sigma Tau Delta, contact the faculty advisor of the chapter or the Undergraduate Director for an application.

Graduate Degrees

For University requirements for the M.A., M.F.A. and Ph.D. degrees consult the appropriate pages of this catalog. The following are general department requirements for English graduate programs. Consult the English Department's Graduate Studies Handbook and website for details about specific distribution requirements, examination procedures, foreign language requirements, and other regulations for all degree programs listed below.

Application Deadline

Fall semester: January 15

A Bachelor's Degree is required for all applicants to the Master's Programs in English and to the M.F.A. in Creative Writing. A Master's Degree in English or Comparative Literature is required for all applicants to the Ph.D. program.

All applicants must provide full transcripts, a letter of intent, a writing sample, transcripts from all previously attended post-secondary institutions, GRE scores for the General Aptitude Test (and the Advanced Subject Test in English Literature for applicants to the M.A. in Language and Literature and to the Ph.D. program), and three letters of recommendation.

Early application is recommended (all paperwork must be received on or before the listed deadline). Decisions on applications received by January 15 are announced by April 15.

Teaching Assistantships

Applicants must apply for a Teaching Assistantship by completing the T.A. Application form and including a critical, analytical writing sample for evaluation by the Director of Core Writing. The deadline for T.A. Applications is January 15.

First year Teaching Assistants are required to enroll in English 537, *Teaching Composition*, a practicum for teaching in the University of New Mexico's writing program.

Required Enrollment

All graduate students in English must enroll for a minimum of 3 hours in English graduate courses per semester (excluding the summer session).

Degrees Offered

The Department of English offers the Ph.D.; the M.F.A. in Creative Writing; and an M.A. with concentrations in Language and Literature, Medieval Studies and in Rhetoric and Writing. All M.A. concentrations must be taken under Plan II, according to the regulations set forth in earlier pages of this catalog and in accordance with the requirements set forth below.

Graduate Minor

Students who wish to declare a graduate minor in English must notify the Director of English Graduate Studies before completing 6 of the required 15 hours in English graduate work. Students must complete the following requirements for the English Graduate Minor for Plan II.

Requirements (Plan II): 15 hours distributed as follows:

- ENGL 500, which must be taken in the first semester of English graduate course work
- 12 hours of 500 and/or 600-level English Department classes, selected under advisement of the Associate Chair of Graduate Studies.

M.A. Concentration in Language and Literature (32 hours)

The Master of Arts, Concentration in Language and Literature, emphasizes research and writing, innovation and tradition, in order to promote well-rounded scholars in British, Irish, and American literature; literary history, criticism, and theory; and language theory. The combination of coursework and the multi-optioned portfolio enables MA students in Language and Literature to develop areas of special emphasis, while ensuring a broad understanding of a variety of historical fields. Applicants should already possess a Bachelor's degree in English or a closely related discipline.

The degree requires 32 hours of coursework; competency in a language other than English; and a portfolio (ENGL 596). All students work under Plan II (no thesis), as described below.

The 32 hours of coursework are distributed across core and distribution requirements as follows. Nine hours of core requirements: Introduction to the Professional Study of English (ENGL 500); Pedagogy (ENGL 537, 538, 539 or 592); and Theory (ENGL 510, 511, 610 or 541 when taught from a theoretical perspective). Twenty hours of area electives, with at least one course from each of four areas: 1) the Middle Ages, 2) the Early Modern/Contact Period, 3) the Long Nineteenth Century, and 4) Modern and Contemporary. Three hours of Portfolio (ENGL 596). In completing these course requirements, students must take at least two four-hour seminars. Students must form a Committee on Studies (COS) at the beginning of their second semester; the COS advises the students on course selection and on portfolio preparation. First semester MA in Language and Literature students should consult with the Associate Chair of Graduate Studies for advisement on course selection and the appointment of the COS.

In the semester before graduation, students begin preparing a portfolio of work under the direction of their COS. In the semester of graduation, students enroll in ENGL 596, "Portfolio," for 3 hours. In addition to the essays and other works, the portfolio must include a ten- to fifteen-page preface situating the portfolio selections in a critical, theoretical, historical, or professional context. Students will defend their portfolio before the COS no later than the end of the tenth week of the final semester.

M.A. Concentration in Rhetoric and Writing (32 hours)

Optional emphases in Teaching and Professional Writing

A Master of Arts in English with Concentration in Rhetoric and Writing prepares graduates for careers in professional writing and post-secondary teaching. Students interested in teaching study pedagogical theories and develop practical applications in traditional classrooms and in online or tutoring venues. Students interested in professional writing enroll in writing workshops, where they strengthen existing abilities and sharpen technical expertise in a variety of genres; internship placements in workplace professional writing venues are optional.

This degree requires 32 hours of coursework; competency in a foreign language or approved research skill; and a portfolio (ENGL 596). Students may choose emphasis in writing or teaching; all students work under Plan II (no thesis).

9 hours of core required courses: 542 and 543; 537 or 538 or 539.

10 hours of coursework, including one 4-hour seminar, chosen from at least two of the groups A-E listed in the English Department Graduate Studies Handbook.

12 hours of general electives: Four courses from among 538-545, 513-520, 587, or other courses in English as approved by the Committee on Studies (COS) and the Graduate Director; students may offer up to 6 hours of courses from departments outside of English as Electives as approved by their COS and the Graduate Director; students may offer up to 6 hours of ENGL 597 (Problems) for work related to teacher training or professional writing experience, as approved by their COS and the Associate Chair of Graduate Studies.

1 hour of Master's Portfolio, ENGL 596: In the semester before graduation, students prepare a portfolio of work under the direction of their COS which is presented for evaluation in the ninth week of the student's final semester of attendance.

Emphasis in Teaching (12 hours)

Teaching Emphasis students take 537 or 538 or 539 (depending on what they take for the Core Requirement above) plus 9 hours in other pedagogy-based courses offered in English, the College of Education, or other departments as approved by their COS and the Associate Chair of Graduate Studies; up to 6 hours may be offered as Teaching Practicum (ENGL 597, Problems).

Emphasis in Professional Writing (12 hours)

Professional Writing Emphasis students must take 539, either in the Core Requirement or as an elective, plus 9 or 12 hours (depending on where they count 539) from 513-520, 587. Professional Writing Emphasis students may take up to 6 hours of courses in other departments as approved by their COS and the Associate Chair of Graduate Studies; up to 6 hours may be offered as Professional Writing Internship (ENGL 598, Internship, CR/NC) as approved by their COS and the Associate Chair of Graduate Studies.

M.A. Concentration in Medieval Studies

The M.A. concentration in Medieval Studies is designed for students who wish to pursue an interdisciplinary Master's degree in medieval English literature. The course of study offers a multicultural and interdisciplinary foundation for the study of the Middle Ages and hence would appeal to students

who wish to continue their studies in the medieval period above the B.A. level. It will also appeal to secondary school teachers who are seeking a multi-disciplinary content-intensive M.A. degree. Finally, the M.A. concentration prepares the student for the Ph.D. Concentration in Medieval Studies.

This concentration requires 34 hours of interdisciplinary course work, of which 22 hours must be in English. See the department's Web site and Graduate Studies Handbook for specific policy and procedures.

M.F.A. in Creative Writing (55 hours)

The UNM Master of Fine Arts degree in Creative Writing is designed for students committed to pursuing the writing life. This three-year degree combines studio-based workshops in fiction, poetry and creative nonfiction with craft seminars and coursework in literature, teaching pedagogy, and professional writing. Students also spend each of their final two semesters working individually with a faculty mentor towards the development of a book-length manuscript suitable for publication. Our widely published creative writing faculty, along with a distinguished visiting writers series, a faculty and student reading series, the acclaimed Taos Summer Writing Conference, and a national literary magazine, all make for an exciting atmosphere for the study of writing.

Applicants to the M.F.A. program should already hold a Bachelor's degree. The program requires 49 hours of coursework (excluding dissertation hours); a comprehensive exam; and a creative dissertation. There is no foreign language requirement for the completion of the M.F.A.

The M.F.A.'s 49 hours of coursework are distributed over core requirements that include ENGL 501 (Introduction to the Profession for Writers); ENGL 587 (Genre Studies); four writing workshops; one graduate-level seminar; three professional preparation courses; at least three courses distributed across different periods of literary history, theory, or rhetoric studies; and an additional 6 hours of electives. The program also requires 6 hours of dissertation that do not count toward the 49-hour coursework requirement.

The M.F.A. program requires a comprehensive examination that serves also as the introduction to, or preface for, the student's creative dissertation. The M.F.A. degree is conferred when the dissertation is completed, defended, and approved.

Ph.D. (54 hours)

The Ph.D. program is designed for students who wish to pursue intensive study in English. The Ph.D. program offers three areas of study: British and American literatures, including criticism and theory; Rhetoric and Writing; and an interdisciplinary Concentration in Medieval Studies. The Ph.D. in English requires 54 hours of coursework; a foreign language requirement; successful completion of comprehensive exams in 3 fields; and a Ph.D. dissertation.

General requirements for the Ph.D. are set forth in earlier pages of this catalog. Consult the English Department's Graduate Studies handbook and website for details about specific distribution requirements, foreign language regulations, examination procedures, and other policies specific to the English Department. The following are general departmental requirements for the Ph.D. in English.

The Ph.D. in English requires 54 total hours of course work. This number can include work transferred from previous graduate study. At the discretion of the Associate Chair of Graduate Studies, no more than 24 hours of Master's course work can count towards the Ph.D. degree requirements, leaving 30 hours to complete from the time of matriculation.

Ph.D. course work consists of core requirements and electives. Core requirements include: ENGL 500, (which must be taken in the first semester of English graduate course work); a language and theory requirement; a pedagogy requirement;

and at least 12 hours of 600-level seminars, excluding any seminars taken in previous graduate study. The remaining required credit hours are fulfilled by electives distributed across courses listed at 500-level or above (excluding ENGL 699, Dissertation). All Ph.D. students must enroll for a minimum of 18 hours of ENGL 699 after Advancement to Candidacy.

All Ph.D. students must successfully complete the department's foreign language requirement; take and pass comprehensive examinations in 3 areas; complete and successfully defend the dissertation prospectus; and complete and successfully defend a dissertation, as explained in the general requirements for the Ph.D. set forth earlier in this catalog.

Ph.D. Concentration in Medieval Studies

The Ph.D. Concentration in Medieval Studies offers advanced students an alternative means of acquiring bodies of knowledge presently isolated in separate disciplines. The course of study differs from the typical Ph.D. in Medieval English Literature in that it involves diverse departments and presents exciting and provocative points of intersection between literatures and cultures of the Middle Ages and later periods. See the department's Web site and Graduate Studies Handbook for specific policy and procedures.

English (ENGL)

I. Expository and Professional Writing

101. Composition I: Exposition. (3)

Expository writing and reading. Concentrates on organizing and supporting ideas in writing. Meets New Mexico Lower-Division General Education Common Core Curriculum Area I: Communications (NMCCN 1113).

Prerequisite: completion of IS-E 100 or verbal ACT of 19 or verbal SAT of 450 or a Compass English >74.

102. Composition II: Analysis and Argument. (3)

Practice writing analytic and argumentative essays based on expository and literary readings. Some research required. Meets New Mexico Lower-Division General Education Common Core Curriculum Area I: Communications (NMCCN 1123).

Prerequisite: C or better in 101 or verbal ACT of 26-28 or verbal/reading SAT of 610.

219. Technical and Professional Writing. (3)

Practice in writing and editing of workplace documents, including correspondence, reports and proposals.

Prerequisite: 101 with a B or better, or 102 with C or better, or ACT=>26 or SAT=>610, or successful Writing Proficiency Portfolio.

220. Expository Writing. (3 to a maximum of 6) Δ

An intermediate course with emphasis on rhetorical types, structure and style.

Prerequisite: 101 with a B or better, or English 102 with C or better, or ACT=>26 or SAT=>610, or successful Writing Proficiency Portfolio.

290. Introduction to Professional Writing. (3)

Introductory course in the professional writing concentration. Study of technical writing, public information and public relations writing and freelance nonfiction writing.

Prerequisite: 102.

298. Workshop in Literature or Writing. (1-3 to a maximum of 6) Δ

Various topics in literature, language and writing.

320. Advanced Expository Writing. (3 to a maximum of 6) Δ

Advanced study of specific academic, technical and professional genres. Topic varies.

Prerequisite: 219 or 220 or 290.

413/513. Scientific, Environmental and Medical Writing. (3 to a maximum of 9) Δ

Theoretical and practical studies of writing in the sciences. Addresses writing for both popular and professional audiences.

414/514. Documentation. (3)

Theory and practice in developing, editing and producing technical documentation for paper-based and online media.

415/515. Publishing. (3)

Theory and process of publishing, offering successful strategies for working with and within the publishing industry. Course includes the discussion of the cultural function of publishing.

416/516. Biography and Autobiography. (3)

Writing and reading biography and autobiography; researching a life to be rendered in writing.

417/517. Editing. (3)

Theory and practice of copyediting print and on-line documents. Rhetorical, linguistic and historical analyses of style, grammar and usage.

418/518. Proposal and Grant Writing. (3)

Invention and delivery of proposals and grants in the business, scientific, technical and artistic arenas.

419/519. Visual Rhetoric. (3)

Analysis and design of paper-based and on-line documents.

420/520. Topics in Professional Writing. (3, no limit) Δ

Advanced study of professional writing theory and practice. Recent topics have included creative non-fiction, hypertext and advanced technical writing.

***498. Advanced Workshop in Literature or Writing. (1-3 to a maximum of 6) Δ**

Intensive study of various topics in literature, language and writing.

II. Creative Writing**224. Introduction to Creative Writing. (3)**

A beginning course in the writing of fiction, poetry, and creative nonfiction. Emphasis on process over product. Introduces issues of craft, workshop vocabulary, strategies for revision, and the habit of reading as a writer. Prerequisite: 101

321. Intermediate Creative Writing–Fiction. (3 to a maximum of 6) Δ

An intermediate course in fiction, building on basic concepts introduced in 221. Emphasizes writing as a reader and incorporates the workshop critique of student drafts. A \$20.00 workshop fee is required. Prerequisite: 224.

322. Intermediate Creative Writing–Poetry. (3 to a maximum of 6) Δ

An intermediate course in poetry, building on basic concepts introduced in 222. Emphasizes writing as a reader and incorporates the workshop critiques of student drafts. A \$20.00 workshop fee is required. Prerequisite: 224.

323. Intermediate Creative Writing–Creative Nonfiction. (3 to a maximum of 6) Δ

An intermediate course in creative nonfiction, building on basic concepts introduced in 223. Emphasizes writing as a reader and incorporates the workshop critique of student drafts. A \$20.00 workshop fee is required. Prerequisite: 224.

324. Introduction to Screenwriting. (3 to a maximum of 6) Δ

(Also offered as MA 324.) Writing workshop on basics of character structure, scenes, visualization and good old story telling as it applies to the screenplay. Students read scripts, watch film clips and begin writing an original screenplay. Prerequisite: 224. Restriction: permission of instructor.

421/521. Advanced Creative Writing–Fiction. (3 to a maximum of 6) Δ

An advanced course in fiction with a strong emphasis on revision. Combines the workshop experience with classroom study of published authors as well as some theorists on writing. A \$20.00 workshop fee is required. Prerequisite: 321.

422/522. Advanced Creative Writing–Poetry. (3 to a maximum of 6) Δ

An advanced course in poetry with a strong emphasis on revision. Combines the workshop experience with classroom study of published poets as well as some theorists on writing. A \$20.00 workshop fee is required. Prerequisite: 322.

423/523. Advanced Creative Writing: Creative Nonfiction. (3 to a maximum of 6) Δ

An advanced course in creative nonfiction with a strong emphasis on revision. Combines the workshop experience with classroom study of published authors as well as some theorists on writing. A \$20.00 workshop fee is required. Prerequisite: 323.

424. Creative Writing Workshop Script. (3 to a maximum of 6) Δ

Advanced workshop devoted to student preparation of working scripts for film or television. Restriction: permission of instructor.

III. Literature and Language**107. Greek Mythology. (3)**

Introduction to mythology; primary readings in stories about the gods and heroes, usually including Homer, Hesiod, Homeric Hymns and Tragedies. All texts will be in English.

150. The Study of Literature. (3)

An introduction to the study and appreciation of literature for non-English majors. Shows how understanding writers' techniques increases the enjoyment of their works; relates these techniques to literary conventions; teaches recognition, analysis, discussion of important themes.

211. Topics in Literature. (3 to a maximum of 6) Δ

Surveys a specific type or area of literature, e.g., the American novel, the satiric novel, southern fiction, the western novel, American poetry, feminist literature, Chicano literature, Native American literature, African-American literature, Medieval and Viking literature. Primarily for non-majors. Prerequisite: 150.

240. Traditional Grammar. (3)

A study of the basic analysis of English sentences offered by traditional grammar. Presents terminology and methods for identifying parts of speech, functional units of sentences and basic sentence patterns.

248. Topics in Popular Medieval Literature and Studies. (3 to a maximum of 9) Δ

Reading and analysis of popular contemporary literature and film of the medieval period, including Tolkien's works; mystery novels; fantasy; Viking language and saga.

250. The Analysis of Literature. (3)

First course required of all English majors. Concentrates on methods of literary analysis and critical writing. Prerequisite: 102 or its equivalent.

264. Survey of Native Literatures and Rhetorics. (3)

A general overview of the history and diversity of the literatures and rhetorics of Native peoples, including oral tradition, film, autobiography, fiction, poetry, art, drama and ceremony. Focus is on American Indian texts.

265. Introduction to Chicana/o Literature. (3)

A survey of Chicana/o novels, short stories, essays, poetry, and drama from nineteenth century to the present, with emphasis on major themes such as history, culture, identity, language, and region.

281. African-American Literature I. (3)

(Also offered as AFST 251.) The course introduces students to the African-American classics of the slavery era. Daily experiences of the characters in these books become the basis for discussing race, class, gender, revolt, freedom, peace and humanity.

287. Topics in Introductory Studies in Genre. (3 to a maximum of 6) Δ

Introductory study in any one genre, including narrative, comedy, satire, tragedy, fiction, poetics, or stylistic analysis of nonfiction.

292. World Literatures: Ancient World through the 16th Century. (3)

Survey of key texts in world literature from the ancient world through the 16th century.

293. World Literatures: 17th Century through the Present. (3)

Survey of key texts in world literatures from the 17th century through the present.

294. Survey of Earlier English Literature. (3)

From Old English to 1798. A study of the principal literary and intellectual movements and selected writers and literary works from Beowulf through Johnson.

295. Survey of Later English Literature. (3)

From 1798 to present. Study of principal literary and intellectual movements and selected writers and literary works.

296. Earlier American Literature. (3)

A general survey of American Literature to the mid-19th century.

297. Later American Literature. (3)

A general survey of American Literature from the mid-19th century to the present.

304. The Bible as Literature. (3)

Literary aspects of the Old and New Testaments. Examines the literary forms within the Bible: epic, parable, pastoral, allegory, proverb and so on. Stresses the importance of the Bible as a source for English and American literature.

305. Mythology. (3)

An introduction to the major traditions of European and American mythology. Basic themes and motifs: the quest, creation, birth, marriage, heroes, heroines and death. Provides background for the study of later literature.

306. Arthurian Legend and Romance. (3 to a maximum of 6) Δ

(Also offered as COMP 306.) Comprehensive study of the Arthurian Legend from its Celtic origins, to its medieval French romance continuators, and its English apex in Malory. May also trace post-medieval versions in art, print, and film.

308. The Jewish Experience in American Literature and Culture. (3)

(Also offered as RELG 308.) A comprehensive survey of the cultural and historic relationship between Jews and American culture and character as a whole.

315. Interdisciplinary Approaches to Literature. (3 to a maximum of 6) Δ

Combines the study of literature with the study of outside materials from history, sociology or other disciplines. Examples include Religion and Literature, Law and Literature, Literature of the Depression and Medieval Literature and Culture.

330. Topics in Comparative and World Literature. (3 to a maximum of 6) Δ

(Also offered as COMP 330.) Study of special topics in Comparative and World Literatures, including studies of genre, period, literary movements and themes.

331. Topics in Asian Literature and Culture in

Translation. (3 to a maximum of 6) Δ
(Also offered as COMP 331.) Study of the culture and literatures of India, China, Japan and other Asian traditions. Topics vary.

332. Topics in African Literature and Culture in

Translation. (3 to a maximum of 6) Δ
(Also offered as COMP 332.) Study of the culture and literatures of Africa. Topics vary.

333. Topics in Latin Literature and Culture in

Translation. (3, no limit) [3 to a maximum of 6] Δ
(Also offered as CLST, COMP 333.) Study of individual authors, genres or periods of Latin literature and culture in translation.

***334. Topics in Greek Literature and Culture in**

Translation. (3, no limit) [3 to a maximum of 6] Δ
(Also offered as CLST, COMP 334.) Study of individual authors, genres and periods of Greek literature and culture in translation.

335. Topics in French Literature and Culture in

Translation. (3 to a maximum of 6) Δ
(Also offered as COMP, FREN 335.) Study of individual authors, genres and/or periods of French and Francophone literature and culture.

336. Topics in German Literature and Culture in

Translation. (3 to a maximum of 12) Δ
(Also offered as COMP, GRMN 336.) Study of individual authors, genres, and/or periods of German literature and culture in translation.

337. Topics in Italian Literature and Culture in

Translation. (3 to a maximum of 6) Δ
(Also offered as COMP, ITAL 337.) Study of individual authors, genres, and/or periods of Italian literature and culture in translation.

338. Topics in Russian Literature and Culture in

Translation. (3 to a maximum of 6) Δ
(Also offered as COMP, RUSS 338.) Study of individual authors, genres, and/or periods of Russian literature and culture in translation.

339. Topics in Japanese Literature and Culture in

Translation. (3, no limit) Δ
(Also offered as COMP, JAPN 339.) Study of individual authors, genres and/or periods of Japanese literature and culture in translation.

348. Medieval Culture. (3)

Approaches to reading and analysis of selected major works in literature, history, art and architecture, and philosophy. Emphasis on material culture. Recommended for Medieval Studies students.

349. From Beowulf to Arthur. (3)

Survey of the principal literary genres and approaches to Old and Middle English literature in translation.

350. Medieval Tales of Wonder. (3)

(Also offered as COMP 350.) Study of medieval literature, language, and culture in the context of insular and continental texts.

351. Chaucer. (3 to a maximum of 6) Δ

Comprehensive study of Chaucer's poetry, focusing upon language, versification and literary sources in their historical and cultural contexts. Alternates between focus upon *Canterbury Tales* and upon *Troilus* and *Criseyde* with selected other works.

352. Early Shakespeare. (3)

Survey of Shakespeare's Elizabethan-era drama and poetry, including such works as *A Midsummer Night's Dream*, *Henry IV*, *Hamlet* and *Venus and Adonis*. Examines dramatic structure, characterization, poetics and a variety of themes in their historical context.

353. Later Shakespeare. (3)

Survey of Shakespeare's Jacobean-era drama and poetry, including such works as *Measure for Measure*, *Macbeth*, *The Tempest* and the sonnets. Examines dramatic structure, characterization, poetics and a variety of themes in their historical context.

354. Milton. (3)

Comprehensive study of Milton's poetry and prose with the context of 17th-century history and of Milton criticism. Alternates between focus upon *Paradise Lost* and shorter poems, and upon *Paradise Regained*, *Samson Agonistes* and prose.

355. Enlightenment Survey. (3)

Literature and culture of the English Enlightenment (1650-1800), the construction of the modern world: the new science, exploration, empire. Experiments in theatre, satire, fiction: Dryden, Behn, Pope, Defoe, Swift, Fielding, Lennox, Austen.

356. The Nineteenth Century. (3)

A survey of 19th Century literature and culture, primarily focused on British and Irish literature, covering a wide range of authors and a variety of genres from the Romantic through the Victorian periods.

360. Individual Authors. (3 to a maximum of 6) Δ

Study of one or more authors. Titles of individual sections vary as content varies.

364. Native Literatures and Rhetorics. (3 to a maximum of 6) Δ

A focused examination of the oral traditions, literatures, rhetorics, criticism, film, art, drama, and ceremonies specific to individual American Indian and indigenous nations, periods, genders, classes and/or regions.

365. Chicana/o Cultural Studies. (3 to a maximum of 6) Δ

An examination of contemporary Chicana/o literature, criticism, murals, film, and other forms of popular culture, with an emphasis on the construction and representation of Chicana/o cultural identity.

381. African-American Literature II. (3)

(Also offered as AFST 381.) This is the second phase of a three part journey through the African-American experience in search of humanity and peace. The vehicle is post-slavery books written by and about books written by and about African-American people. Issues raised and the characters in the books provide the occasion for in-depth discussion of inhumanity, protests, self definition, race relationships, liberalism, etc.

387. Studies in Genre Criticism. (3 to a maximum of 9) Δ

Study of the formal criticism associated with any genre of literature, including narrative, poetry, fiction, drama, and others.

388. Topics in Film and Literature. (3, to a maximum of 6) Δ

Examination of formal, thematic, and/or historical relationships between literary and cinematic forms including study of adaptations and/or interrelations between film and literature as a means of cultural expressions.

397. Regional Literature. (3)

The study of a limited body of writers whose work is identified with a particular geographical region. Authors covered will differ but representative examples are Frank Waters, Willa Cather, Rudolfo Anaya and Walter Van Tilburg Clark.

410/510. Criticism and Theory. (3 to a maximum of 6) Δ

A historical survey of literary criticism and theory; alternates between criticism from the classical period through the early 19th century, and criticism and theory from the late 19th century through the present.

411/511. Special Topics: Criticism and Theory, Literary and Cultural Movements. (3 to a maximum of 12) Δ

Advanced study of various topics in literary and cultural studies, literary criticism and theory. Recent topics have included Linguistics and Literary Criticism, Cultural Theory, Literature and National Identity.

412. Capstone and Honors Seminar. (3)

Seminar bringing together literary, rhetorical, and/or theoretical works from different times or cultural moments. Students do in-depth research with a clear theoretical base and give oral presentations of their work.

432. Topics in Literature and Culture. (3 to a maximum of 9) Δ

(Also offered as COMP and FREN 432.) Varying topics in the practice and theory of literatures and cultures.

440/540. Topics in Language or Rhetoric. (3 to a maximum of 12) Δ

An overview of a defined theme or issue in language or rhetorical theory. Recent topics have included Discourse Analysis/Text Linguistics, Survey of American English, Narrative Theory and Literature, Epistemic Rhetoric and Language Studies, such as Old Norse.

441/541. English Grammars. (3)

(Also offered as LING 441.) A survey of various grammar models and their applications to analysis of the English language. Prerequisite: 240.

442/542. Major Texts in Rhetoric. (3)

A survey of rhetorical and language theories from the classical period through the 18th century.

443/543. Contemporary Texts in Rhetoric. (3)

A survey of rhetorical and language theories from the 19th and 20th centuries that shape contemporary approaches to discourse, text and persuasion.

445/545. History of the English Language. (3)

A historical survey of the etymology, morphology, phonetics and semantics of English, as well as the relation between the English language and cultural change.

447/547. Old English. (3 to a maximum of 6) Δ

(Also offered as LING 447/547.) An introduction to the grammar, syntax, and phonology of Old English. Prepares students for more advanced studies in this and later periods.

448/548. Beowulf and Other Topics. (3 to a maximum of 6) Δ

Alternates between Beowulf and Advanced Old English, Anglo-Saxon Prose and special topics in Old English. Prerequisite: 447.

449/549. Middle English Language. (3)

(Also offered as LING 449/549.) Comprehensive study of Middle English dialects and the development of Middle English from Old English. Prepares students for Middle English literature.

450/550. Middle English Literature. (3 to a maximum of 6) Δ

Middle English literature in the original, excluding Chaucer; alternates with special topics in Middle English Literature.

451/551. Topics in Medieval Studies. (3 to a maximum of 9) Δ

Advanced study of specialized aspects in medieval studies, such as manuscripts; paleography; research methods; Old Norse studies; medieval Latin sources; cultural, feminist, and historical theoretical approaches to literature; medievalism in Britain and America; history of scholarship.

452/552. The Renaissance. (3 to a maximum of 6) Δ

Survey of prose, poetry and/or drama of the 16th century. Emphasis varies.

453/553. The Seventeenth Century. (3 to a maximum of 6) Δ

Survey of prose, poetry and/or drama of the 17th century. Emphasis varies.

454/554. Restoration and Early Eighteenth Century. (3 to a maximum of 12) Δ

Studies in literature and culture on topics such as Restoration comedy and heroic tragedy, early eighteenth-century satire and major authors such as John Dryden, Aphra Behn, Alexander Pope, Daniel Defoe and Jonathan Swift.

455/555. Middle and Late Eighteenth Century. (3 to a maximum of 12) Δ

Studies in literature and culture 1735–1800 on topics such as eighteenth-century theater, the development of fiction, the construction of difference and the representations of the relationship between England and the rest of the world.

456/556. British Romanticism. (3 to a maximum of 12) Δ

Studies in the literature and culture of early 19th-century Britain; the Wordsworth circle, the Keats-Shelley circle, Romantic women writers and special topics such as British Culture in the 1790s and Romantic Theory.

457/557. Victorian Studies. (3 to a maximum of 12) Δ

Studies in the literature and culture of the Victorian era; recent offerings have included Dickens, the Brontë's; and special topics such as Sensation' Detection and the Detective Novel; Victorian Sexualities; and Race, Class and Gender.

458/558. Modern British Literature. (3 to maximum 12) Δ

Survey of the poetry, fiction, drama and nonfiction prose of early 20th-century Britain and Ireland, including the works of Conrad, Yeats, Eliot, Forster, Joyce, Shaw and Woolf.

459/559. Irish Literature. (3 to a maximum of 6) Δ

Survey of the prose, poetry and drama of Ireland. Alternates between surveys of modern and postmodern Irish literature and special topics or single author courses such as on Yeats or Joyce.

460/560. Early American Literature. (3 to a maximum of 6) Δ

Taught alternately as the literature of European Exploration of America or Colonial and Revolutionary America.

461/561. American Romanticism. (3 to a maximum of 12) Δ

Survey of the prose and poetry of mid-19th-century America, including writings by the Transcendentalists, Hawthorne, Poe, Melville, Stowe, Whitman and Dickinson.

462/562. American Realism and Naturalism. (3 to a maximum of 6) Δ

Survey of the prose and poetry of turn-of-the-century America, including writings by Mark Twain, Henry James, Crane, Wharton, Norris and Gilman.

463/563. Modern American Literature. (3 to a maximum of 6) Δ

Survey of the poetry, fiction, drama and non-fiction prose of American literature from 1900–1945, including works by writers such as Cather, Faulkner, Fitzgerald, Hemingway, O'Neill, Frost, H.D., Hughes and Stevens.

464/564. Advanced Studies in Native Literatures and Rhetorics. (3 to a maximum of 9) Δ

In-depth investigation of specific topics in Native literatures and rhetorics. Special attention paid to the range of criticism, critical theory, research opportunities, methodologies and pedagogical problems inherent in American Indian and indigenous textual production.

465/565. Chicana/o Literature. (3 to a maximum of 6) Δ

Advanced study of Chicana/o literature, literary history, criticism, theory, novels, short stories, poetry, and film, with emphasis on ethnic, regional, gender, and linguistic identity from nineteenth century to the present.

466. African-American Literature. (3 to a maximum of 6) Δ

An introduction to traditional and/or contemporary African-American texts. Topics have included Survey of the African-American Novel and Toni Morrison.

468/568. Topics in American Literature. (3 to a maximum of 12) Δ

Intensive study of special topics in American Literature. Offerings have included Literature of the Civil War, 19th-Century American Literature and the Visual Arts, Southern American Literature and American Women Writers.

470/570. Modernist Literature. (3 to a maximum of 6) Δ

Survey of the poetry, fiction, drama and non-fiction prose of the early 20th century in the United States, Britain and Ireland, with some consideration of the international influence of and upon these literatures. Course content varies from semester to semester.

471/571. Twentieth-Century Drama. (3 to a maximum of 6) Δ

The study of drama and dramatic form from 1880 to the present. Most often taught as Modern Drama (1880–1950, Ibsen and Strindberg to Beckett and Williams) or Contemporary Drama (1950 to present, Beckett and Williams to new plays of recent years).

472/572. Contemporary Literature. (3 to a maximum of 6) Δ

Survey of the poetry, fiction, drama and non-fiction prose of the post-1945 era in the United States and Britain, with some consideration of the international influence of and upon these literatures. Course content varies from semester to semester.

473/573. Postmodernism. (3 to a maximum of 6) Δ

Studies in experimental literary works and theories from World War II to the present.

474/574. Contemporary Southwestern Literature. (3 to a maximum of 6) Δ

This course presents and analyzes major texts in post-war literature of the southwestern U.S., emphasizing the cultural exchanges among Native, Hispanic and Anglo literature and culture.

479/579. Postcolonial Literatures. (3 to a maximum of 6) Δ

Survey of Postcolonial literatures and theories emanating from the Indian subcontinent, Africa and other countries recently independent from the British Empire.

480/580. Topics in British Literature. (3 to a maximum of 9) Δ

Intensive study of special issues and themes, literary movements and single authors in British Literature.

486/586. British Fiction. (3 to a maximum of 6) Δ

Studies in the literary and cultural emergence and formation of fiction as a genre in English. Course content varies; recent topics include The Early English Novel; The 18th-Century Comic Novel; and Race, Class and Gender in the 19th-Century Novel.

487. Advanced Studies in Genre. [Studies in Genre.] (3 to a maximum of 12) Δ

Study any one genre, including narrative, comedy, satire, tragedy, poetics or stylistic analysis of nonfiction.

490. Senior Honors Thesis. (3)

Open only to students admitted to honors in English. To be taken in the semester when the senior thesis is completed.

497. Individual Study. (1-3 to a maximum of 6) Δ

Permission of the instructor is required before registering. The student should present a plan of study to the instructor.

499. Internship. (1-3)

Permission of the Professional Writing Director is required before registering. Offered on a CR/NC basis only.

200 ARTS AND SCIENCES

IV. Graduate Courses

500. Introduction to the Professional Study of English. (3)

This course prepares students for advanced graduate work in English. Topics include research methods and bibliography; literary criticism and theory; and the history of English as a profession.

501. Introduction to the Profession for Writers. (3)

Introduction to graduate studies for professional and creative writers. A survey of writing for different occasions, the world of publishing, the means of getting published and the technology writers need to know.

510/410. Criticism and Theory. (3)

A one-semester course that focuses on contemporary criticism and theory in the context of classical through 19th-century criticism and theory.

511/411. Special Topics: Criticism and Theory, Literacy and Cultural Movements. (3 to a maximum of 12) Δ

Advanced study of various topics in literary and cultural studies, literary criticism and theory. Recent topics have included Linguistics and Literary Criticism, Cultural Theory, Literature and National Identity.

513/413. Scientific, Environmental and Medical Writing. (3 to a maximum of 9) Δ

Theoretical and practical studies of writing in the sciences. Addresses writing for both popular and professional audiences.

514/414. Documentation. (3)

Theory and practice in developing, editing and producing technical documentation for paper-based and online media.

515/415. Publishing. (3)

Theory and process of publishing, offering successful strategies for working with and within the publishing industry. Course includes the discussion of the cultural function of publishing.

516/416. Biography and Autobiography. (3)

Writing and reading biography and autobiography; researching a life to be rendered in writing.

517/417. Editing. (3)

Theory and practice of copyediting print and on-line documents. Rhetorical, linguistic and historical analyses of style, grammar, and usage.

518/418. Proposal and Grant Writing. (3)

Invention and delivery of proposals and grants in the business, scientific, technical and artistic arenas.

519/419. Visual Rhetoric. (3)

Analysis and design of paper-based and on-line documents.

520/420. Topics in Professional Writing. (3 to a maximum of 12) Δ

Advanced study of professional writing theory and practice. Recent topics have included creative non-fiction, hypertext and advanced technical writing.

521/421. Creative Writing Workshop: Prose Fiction. (3, no limit) Δ

Prerequisite: 421.

522/422. Creative Writing Workshop: Poetry. (3, no limit) Δ

Prerequisite: 422.

523/423. Creative Writing Workshop: Creative Nonfiction. (3, no limit) Δ

Prerequisite: 423.

528. Studies in Reading and Literature for Teachers. (3)
(Also offered as LLSS 528.)

535. Teaching Creative Writing. (3)

Provides theory and practice in teaching creative writing at the university level.

537. Teaching Composition. (3)

Taught by the Director of Core Writing, this course provides practical help in teaching English 101. (Required of all new Teaching Assistants in their first semester of teaching.)

538. Writing Theory for Teachers. (3)

Includes major theories of teaching writing from first-year composition through advanced and technical writing. Considers how theoretical approaches to writing, reading and teaching can be usefully applied to classroom practice.

539. Teaching Professional Writing. (3)

Provides theory and practice in teaching professional writing at the university level and in training situations.

540/440. Topics in Language or Rhetoric. (3 to a maximum of 12) Δ

An overview of a defined theme or issue in language or rhetorical theory. Recent topics have included Discourse Analysis/Text Linguistics, Survey of American English, Narrative Theory and Literature, Epistemic Rhetoric and Language Studies, such as Old Norse.

541/441. English Grammars. (3)

(Also offered as LING 541.) A survey of various grammar models and their applications to analysis of the English language.

542/442. Major Texts in Rhetoric. (3)

A survey of rhetorical and language theories from the classical period through the 18th century.

543/443. Contemporary Texts in Rhetoric. (3)

A survey of rhetorical and language theories from the 19th and 20th centuries that shape contemporary approaches to discourse, text and persuasion.

545/445. History of the English Language. (3)

An historical survey of the etymology, morphology, phonetics and semantics of English, as well as the relation between the English language and cultural change.

547/447. Old English (3 to a maximum of 6) Δ

(Also offered as LING 547/447.) An introduction to the grammar, syntax, and phonology of Old English. Prepares students for more advanced studies in this and later periods.

548/448. Beowulf and Other Topics. (3 to a maximum of 12) Δ

Alternates between Beowulf and Advanced Old English, Anglo-Saxon Prose and special topics in Old English. Prerequisite: 547.

549/449. Middle English Language. (3)

(Also offered as LING 549/449.) Comprehensive study of Middle English dialects and the development of Middle English from Old English. Prepares students for Middle English literature.

550/450. Middle English Literature. (3 to a maximum of 6) Δ

Middle English literature in the original, excluding Chaucer; alternates with special topics in Middle English Literature.

551/451. Topics in Medieval Studies. (3 to a maximum of 9) Δ

Advanced study of specialized aspects in medieval studies, such as manuscripts; paleography; research methods; Old Norse studies; medieval Latin sources; cultural, feminist, and historical theoretical approaches to literature; medievalism in Britain and America; history of scholarship.

552/452. The Renaissance. (3 to a maximum of 12) Δ

Survey of prose, poetry and/or drama of the 16th century. Emphasis varies.

553/453. The Seventeenth Century. (3 to a maximum of 12) Δ

Survey of prose, poetry and/or drama of the 17th century. Emphasis varies.

554./454. Restoration and Early Eighteenth Century. (3 to a maximum of 12) Δ

Studies in literature and culture on topics such as Restoration comedy and heroic tragedy, early eighteenth-century satire and major authors such as John Dryden, Aphra Behn, Alexander Pope, Daniel Defoe and Jonathan Swift.

555./455. Middle and Late Eighteenth Century. (3 to a maximum of 12) Δ

Studies in literature and culture 1735–1800 on topics such as eighteenth-century theater, the development of fiction, the construction of difference and the representations of the relationship between England and the rest of the world.

556./456. British Romanticism. (3 to a maximum of 12) Δ

Studies in the literature and culture of early 19th-century Britain; the Wordsworth circle, the Keats-Shelley circle, Romantic women writers and special topics such as British Culture in the 1790s and Romantic Theory.

557./457. Victorian Studies. (3 to a maximum of 12) Δ

Studies in the literature and culture of the Victorian era; recent offerings have included Dickens, the Brontës; and special topics such as Sensation; Detection and the Detective Novel; Victorian Sexualities; and Race, Class and Gender.

558./458. Modern British Literature. (3 to a maximum of 12) Δ

Survey of the poetry, fiction, drama and nonfiction prose of early 20th-century Britain and Ireland, including the works of Conrad, Yeats, Eliot, Forster, Joyce, Shaw and Woolf.

559./459. Irish Literature. (3 to a maximum of 12) Δ

Survey of the prose, poetry and drama of Ireland. Alternates between surveys of modern and postmodern Irish literature and special topics or single author courses such as on Yeats or Joyce.

560./460. Early American Literature. (3 to a maximum of 6) Δ

Taught alternately as the literature of European Exploration of America or Colonial and Revolutionary America.

561./461. American Romanticism. (3 to a maximum of 12) Δ

Survey of the prose and poetry of mid-19th-century America, including writings by the Transcendentalists, Hawthorne, Poe, Melville, Stowe, Whitman and Dickinson.

562./462. American Realism and Naturalism. (3 to a maximum of 12) Δ

Survey of the prose and poetry of turn-of-the-century America, including writings by Mark Twain, Henry James, Crane, Wharton, Norris and Gilman.

563./463. Modern American Literature. (3 to a maximum of 12) Δ

Survey of the poetry, fiction, drama and non-fiction prose of American literature from 1900–1945, including works by writers such as Cather, Faulkner, Fitzgerald, Hemingway, O'Neill, Frost, H.D., Hughes and Stevens.

564./464. Advanced Studies in Native Literatures and Rhetorics. (3 to a maximum of 9) Δ

In-depth investigation of specific topics in Native literatures and rhetorics. Special attention paid to the range of criticism, critical theory, research opportunities, methodologies and pedagogical problems inherent in American Indian and indigenous textual production.

565./465. Chicana/o Literature. (3 to a maximum of 12) Δ

Advanced study of Chicana/o literature, literary history, criticism, theory, novels, short stories, poetry, and film, with emphasis on ethnic, regional, gender, and linguistic identity from nineteenth century to the present.

568./468. Topics in American Literature. (3 to a maximum of 12) Δ

Intensive study of special topics in American Literature. Offerings have included Literature of the Civil War, 19th-

Century American Literature and the Visual Arts, Southern American Literature and American Women Writers.

570./470. Modernist Literature. (3 to a maximum of 12) Δ

Survey of the poetry, fiction, drama and non-fiction prose of the early 20th century in the United States, Britain and Ireland, with some consideration of the international influence of and upon these literatures. Course content varies from semester to semester.

571./471. Twentieth-Century Drama. (3 to a maximum of 12) Δ

The study of drama and dramatic form from 1880 to the present. Most often taught as Modern Drama (1880–1950, Ibsen and Strindberg to Beckett and Williams) or Contemporary Drama (1950 to present, Beckett and Williams to new plays of recent years).

572./472. Contemporary Literature. (3 to a maximum of 12) Δ

Survey of the poetry, fiction, drama, and non-fiction prose of the post-1945 era in the United States and Britain, with some consideration of the international influence of and upon these literatures. Course content varies from semester to semester.

573./473. Postmodernism. (3 to a maximum of 12) Δ

Studies in experimental literary works and theories from World War II to the present. May be repeated for credit as emphasis varies.

574./474. Contemporary Southwestern Literature. (3 to a maximum of 12) Δ

This course presents and analyzes major texts in post-war literature of the southwestern U.S., emphasizing the cultural exchanges among Native, Hispanic and Anglo literature and culture.

579./479. Postcolonial Literatures. (3 to a maximum of 12) Δ

Survey of Postcolonial literatures and theories emanating from the Indian subcontinent, Africa and other countries recently independent from the British Empire.

580./480. Topics in British Literature. (3 to a maximum of 9) Δ

Intensive study of special issues and themes, literary movements and single authors in British Literature.

581. Chaucer. (3)

Studies in the *Canterbury Tales*, *Parliament of Fowls*, *House of Fame* and other Chaucerian poems, together with a study of the history, philosophy and theology of the time. There will also be discussions of relevant contemporary critical theory. Emphasis varies.

582. Shakespeare. (3 to a maximum of 12) Δ

Intensive study of the major dramatic and non-dramatic works of William Shakespeare. Emphasis varies.

586./486. British Fiction. (3 to a maximum of 12) Δ

Studies in the literary and cultural emergence and formation of fiction as a genre in English. Course content varies; recent topics include *The Early English Novel*; *The 18th-Century Comic Novel*; and *Race, Class and Gender in the 19th-Century Novel*.

587. Genre Studies. (3 to a maximum of 12) Δ

Studies in one or more of the major genres of literature, including narrative fiction, poetics, comedy, epic, satire and tragedy.

592. Teaching Literature and Literary Studies. (3)

Practicum on teaching literature and literary studies. Study of theoretical discourses about teaching also included. Topics vary.

593. Scholarly Publishing. (3)

Workshop requiring peer review, journal research and rhetorical analysis, and extensive revision of a previously written paper to be submitted for publication in the field of literary studies.

595. Master's Colloquium. (3)

A capstone course for Master's students that takes a broad view of British and American literature. Using topical, thematic, generic and other critical approaches, the colloquium focuses upon issues that overlap British and American literature such as The Gothic, Themes of Exile, The Formation of the Subject, etc.

596. Portfolio. (1 to maximum of 3) Δ

Directed preparation of the Master's Portfolio; students enroll with the Graduate Director. **Offered on a CR/NC basis only.**

597. Problems for the Master's Degree. (1-3 to a maximum of 3) Δ

Intensive, directed study at the Master's level of particular topics and issues pertaining to the various fields in English. Permission of the Departmental Graduate Director required prior to registration.

598. Graduate Internship. (1-6 to a maximum of 12) Δ

Internships in professional and technical writing supervised by individual faculty members. **Offered on a CR/NC basis only.**

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

610. Seminar: Studies in Criticism and Theory. (4 to a maximum of 12) Δ

An in-depth investigation of a defined theme or issue in Literary Criticism and Theory; topics vary.

640. Seminar: Studies in Language or Rhetoric. (4 to a maximum of 12) Δ

An in-depth investigation of a defined theme or issue in language theory or rhetoric. Recent topics have included Metaphor and Stylistics, ESL Grammar for Adults and Epistemic Rhetoric.

650. Seminar: Studies in British Literature. (4 to a maximum of 12) Δ

An in-depth investigation of a defined theme or issue in British Literature; topics vary.

660. Seminar: Studies in American Literature. (4 to a maximum of 12) Δ

An in-depth investigation of a defined theme or issue in American Literature; topics vary.

664. Seminar: Studies in American Indian and Indigenous Literatures. (4 to a maximum of 12) Δ

An in-depth investigation of a defined theme or issue in American Indian and Indigenous literatures; topics vary.

670. Seminar: Studies in Creative Writing (4 to a maximum of 12) Δ

An in-depth investigation of a defined theme or issue in Creative Writing. Topics vary. Restriction: permission of instructor.

680. Seminar: Studies in Genre, Backgrounds, Forces. (4 to a maximum of 12) Δ

An in-depth investigation of special topics pertaining to the study of British and American Literature and related fields of study.

697. Problems for the Doctor's Degree. (1-3, no limit) Δ

Intensive, directed study at the Doctoral level of particular topics and issues pertaining to the various fields in English. Permission of the Departmental Graduate Director required prior to registration.

698. Independent Study. (1-3, may be repeated once) Δ

Permission of the Departmental Graduate Director required prior to registration.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

ENGLISH-PHILOSOPHY

Introduction

The combined major in English and philosophy is an inter-departmental major administered jointly by the two departments. Students interested in this program should consult the Philosophy Department office. The purpose of the inter-departmental major is to develop an understanding of the history of ideas, ideals, and values; their expression in literature and philosophy; and the relation of these fields. The major will serve the interests of general education and will also be useful to many pre-professional students.

Major Study Requirements

Students completing the English-philosophy major are not required to have a minor. It is recommended that courses in literature and philosophy in related periods be taken concurrently where possible. Students should consult regularly with faculty advisors in each department, and must obtain approval from a faculty advisor should they wish to substitute other classes for any of the recommended courses.

The minimum requirement is 45 hours including:

1. Eighteen hours in English courses, 12 of which are to be numbered 300 or above. Recommended courses: 250, *The Analysis of Literature*, 410, *Criticism and Theory*.
2. Eighteen hours in Philosophy courses, 12 of which are to be numbered 300 or above. Recommended courses are PHIL 156, at least one of 201 or 202, at least one of 352, 354 or 358.
3. Six hours additional of English or Philosophy numbered 300 or above.
4. ENGP 480.

Minor Study Requirements

Not offered.

English-Philosophy (ENGP)

***480. Philosophy and Literature. (3 to a maximum of 12) Δ** English and Philosophy Staffs (Also offered as PHIL *480.) Selected philosophical movements and their relationships to literary masterpieces. Prerequisite: one course in Philosophy.

ENVIRONMENTAL SCIENCE

See *Earth & Planetary Sciences*.

EUROPEAN STUDIES

See *International Studies*

FAMILY STUDIES

Deborah Riftenbary, Department Chairperson
Department of Individual, Family and Community Education
Family Studies, Simpson Hall
MSC05 3040

1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4535

See *College of Education, Family Studies, for faculty list.*

Students may enroll in the College of Arts and Sciences and earn a 36 hour Family Studies Major and pair it with an A&S

minor (or 2nd Major). Students must choose the second component from an A&S Department.

Although a student receives a degree from Arts and Sciences, authority and advisement for Major specific information is housed in the College of Education. Please refer to the College of Education section of the catalog for course description.

Family Studies Core 18 Credits

FS 213	Marriage and Family Relationship	3
FS 281	Introduction to Family Studies	3
FS 312	Parent-Child Interactions	3
FS 343	Family Management Theories	3
FS 395	Field Experience	3
FS 481	Family and Public Policy	3

Family Resource Management 9 Credits

FS 341	Ecological Aspects of Housing	3
FS 344	Consumer Decisions	3
FS 444	Family Finance	3
FS 445	Application of Family Management Theories	3

Human Development and Family Relations 9 Credits

FS 202	Infant Growth and Development	3
FS 207L	Infant Lab	1
FS 284	Familias de Nuevo Mexico	3
FS 304	Growth and Development in Middle Childhood	3
FS 310	Friends and Intimate Relationships	3
FS 313	Family Theories	3
FS 315	Adolescence Development in the Family	3
FS 403	Growth and Development in the Preschool Child	3
FS 407L	Preschool Child Lab	1
FS 411	Marriage and Family Life Education	3
FS 412	Fathering	3
FS 416	Adult Development in the Family	3
FS 484	Ethnic Minority Families	3
Total Required Hours		36

Tanya Ivanova-Sullivan, Ph.D., Ohio State University–Russian
 Carmen Nocentelli, Ph.D., Stanford University–CLCS
 Raji Vallury, Ph.D., University of Pittsburgh–French

Adjunct Professor

George F. Peters, Professor of German, Michigan State University

Lecturers

Mohamed Ali, Ph.D., University of New Mexico–Arabic
 Machiko Bomberger, M.A., Columbia University
 Rachele Duke, Ph.D., University of California (Los Angeles)–Italian
 Joachim Oberst, Ph.D., McGill University–Greek
 Marina Peters–Newell, Ph.D., University of Washington–French, Lower–Division Coordinator
 Lisha Xu, M.A., University of Iowa–Chinese

Faculty Emeriti

Bruno Hannemann, Ph.D., University of California (Berkeley)–German
 Robert Holzapfel, Ph.D., University of Iowa–German
 Robert Jespersen, Ph.D., Stanford University–German
 Byron Lindsey, Ph.D., Cornell University–Russian
 Peter K. Pabisch, Ph.D., University of Illinois (Urbana-Champaign)–German
 Diana Robin, Ph.D., University of Iowa–Classics
 Claude M. Senninger, Ph.D., University of Paris–French
 Warren S. Smith, Ph.D., Yale University–Classics
 Julian White, Ph.D., University of North Carolina–French

ARTS AND SCIENCES

FOREIGN LANGUAGES AND LITERATURES

Natasha Kolchevska, Chairperson
 Ortega Hall 229
 MSC03 2080
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 277-4771
 nakol@unm.edu

Programs: Arabic, Chinese, Classical Studies, Comparative Literature and Cultural Studies, French, German, Greek (Ancient), Italian, Japanese, Languages, Latin, Russian

Affiliated Programs: Biblical Hebrew, Sanskrit

Professors

Monica S. Cyrino, Ph.D., Yale University–Classics
 Natasha Kolchevska, Ph.D., University of California (Berkeley)–Russian
 Walter Putnam, Ph.D., University of Paris–French

Associate Professors

Susanne Baackmann, Ph.D., University of California (Berkeley)–German
 Stephen Bishop, Ph.D., University of Michigan–French
 Lorna Brau, Ph.D., New York University–Japanese
 Pamela Cheek, Ph.D., Stanford University–French
 Katrin Schroeter, Ph.D., Brown University–German

Assistant Professors

Lorenzo F. Garcia Jr., Ph.D., University of California (Los Angeles)–Classics

Undergraduate Programs

Majors

The Department of Foreign Languages and Literatures undergraduate degrees in the following fields of study:

- B.A. in Classical Studies
- B.A. in Comparative Literature and Cultural Studies
- B.A. in French
- B.A. in German
- B.A. in Languages
- B.A. in Russian

Minors

Minors are also available in the following:

- Classical Studies
- Comparative Literature and Cultural Studies
- French
- German
- Greek
- Italian
- Japanese
- Languages
- Latin
- Russian

Courses in Chinese and Arabic are also offered. For Biblical Hebrew, see “Foreign Languages” or the Department of Religious Studies. For Sanskrit, see Philosophy.

For Swahili, see the Department of African Studies. For Navajo (Diné) or other Native American languages, see the Department of Linguistics. For Quechua (QUEC), see the Latin American and Iberian Institute.

Undergraduate Advisors

Director of Undergraduate Studies: Stephen Bishop
 Classical Studies: Monica S. Cyrino, Lorenzo F. Garcia Jr.
 Chinese: Lisha Xu
 Comparative Literature and Cultural Studies: Susanne Baackmann
 French: Stephen Bishop
 German: Katrin Schroeter
 Greek: Monica S. Cyrino, Lorenzo F. Garcia Jr.
 Italian: Rachele Duke
 Japanese: Lorie Brau

Languages: Stephen Bishop
 Latin: Monica S. Cyrino, Lorenzo F. Garcia Jr.
 Russian: Natasha Kolchevska

Placement

101 courses are reserved for students who have not previously studied the language in which they plan to enroll. Students who have had previous exposure to a language and plan to continue the study of the same language must consult the appropriate advisor. Students who enroll in advanced courses may obtain credit by the challenge procedure for any courses below the level of the one in which they enroll.

To Challenge a Course

Students can earn hours for language courses numbered 101, 102, 201, and 202 without taking an examination by earning a grade of A or B in a course numbered higher than the course(s) challenged. A grade of Pass/Fail (CR/NC) is assigned to all challenged course(s). Note that the student is responsible for fees associated with earned hours.

Graduate Programs

The Department of Foreign Languages and Literatures (FLL) offers the following graduate degrees:

- M.A. in Comparative Literatures and Cultural Studies
- M.A. in French
- M.A. in German Studies
- Ph.D. in French Studies

All graduate programs are administered by a Graduate Committee composed of three members of the FLL graduate faculty, the Director of Graduate Studies and the Chairperson of FLL. Except for the internal regulations and requirements outlined below, all degree programs are subject to the terms of *The University of New Mexico Catalog* in effect at the time a student is admitted into a specific program.

All graduate students must demonstrate proficiency in another language either through a four-semester sequence of course work, a proficiency exam, or proof of equivalent knowledge acquired elsewhere.

Graduate Advisors

Director of Graduate Studies: Katrin Schroeter
 Classics: Lorenzo F. Garcia, Jr.
 Comparative Literature and Cultural Studies: Susanne Baackmann
 German Studies: Katrin Schroeter
 French and French Studies: Pamela Cheek

Application and Admission

For information about admission to our graduate programs, contact the Director of Graduate Studies or visit our website <http://www.unm.edu/~fll/>.

Application procedure for US citizens:

Applicants who are US citizens should go to the Office of Graduate Studies website at <http://www.unm.edu/~grad/admissions/admissions.html> to submit the Application for Admission form, Residency form and application fee. Send official transcripts to:

The University of New Mexico
 Office of Admissions
 Attn: Graduate Admissions
 P.O. Box 4849
 Albuquerque NM 87196

Send 3 letters of recommendation, a writing sample in the language of study and a letter of intent (see <http://www.unm.edu/~grad/admissions/onlineapps.html>) or contact the

Director of Graduate Studies for information about these documents) to:

The Department of Foreign Languages & Literatures
 The University of New Mexico
 1 University of New Mexico
 MSC 03 2080 Ortega Hall 229
 Albuquerque NM 87131-0001
 Tel (505) 277-4771
 Fax (505) 277 3599
www.unm.edu/~fll/

Application procedure for non-US citizens:

Applicants who are citizens of a country other than the U.S. should visit the International Admissions web site at http://www.unm.edu/preview/na_intlgrad.htm for information and forms. Send Application form, TOEFL or IELTS results, certified translated copies of official academic records, financial guarantee and application fee to:

Office of International Admissions
 MSC 06 3720
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 USA

Send 3 letters of recommendation, a writing sample in the language of study and a letter of intent (see <http://www.unm.edu/~grad/admissions/onlineapps.html>) or contact the Director of Graduate Studies for information about these documents) to:

The Department of Foreign Languages & Literatures
 The University of New Mexico
 1 University of New Mexico
 MSC 03 2080 Ortega Hall 229
 Albuquerque NM 87131-0001
 Tel (505) 277-4771
 Fax (505) 277 3599
www.unm.edu/~fll/

Deadline for Applications:

	With financial aid:	Without financial aid:
For matriculation in the:		
Fall semester	February 1	June 15
Spring semester	October 1	November 15
Summer session	May 10	May 10

Applicants are normally expected to have an undergraduate degree in the subject matter with a grade point average of 3.2 or better; applicants not presenting these minimum requirements may apply for acceptance with deficiencies as determined by the Graduate Committee.

Assistantships

The Department awards a limited number of assistantships, either as a Teaching Assistant or as a Graduate Assistant. Contact the Director of Graduate Studies for more information.

Arabic (ARAB)

No major or minor study offered. See major in Languages.

101. Elementary Arabic I. (3)

(Also offered as AFST 106.) A course in elementary modern Arabic.

102. Elementary Arabic II. (3)

(Also offered as AFST 107.) A course for those with very minimum exposure to modern Arabic language.

201. Intermediate Arabic I. (3)

(Also offered as AFST 206.) The course covers the writing system, phonology, vocabulary, morphology, and syntax structures of the Arabic language. Students will attend language laboratory to enhance their listening, comprehension and pronunciation skills.

Prerequisite: 102.

202. Intermediate Arabic II. (3)

(Also offered as AFST 207.) The course increases student's reading, writing and speaking skills in Arabic including students' knowledge of the writing system, the phonology, the vocabulary, the morphology and the syntax structures of the language. Language laboratory use is optional. Prerequisite: 201.

301. Advanced Arabic I. (3)

(Also offered as AFST 301.) Improves functional use of Arabic language and culture. Class is for students with four years of Arabic study or for heritage speakers. Students will attend language laboratory to enhance their listening, comprehension, and pronunciation skills.

320. Arabic Study Abroad. (1-6 to a maximum of 6) Δ

(Also offered as AFST 320.) An introduction to Arabic cultures and language through study abroad. Course locations vary according to course content.

Chinese (CHIN)

No major or minor study offered. See Asian Studies for possible options.

101. Elementary Chinese I. (3)

102. Elementary Chinese II. (3)

201. Intermediate Chinese I. (3)

202. Intermediate Chinese II. (3)

Prerequisite: 201 or equivalent.

297. Intermediate Chinese. (3)

For 4th semester students of Chinese and more advanced students who want to continue their language skills in Chinese.

301-302. Advanced Chinese I-Advanced Chinese II. (3,3)

Emphasizes reading and techniques of translating, especially in modern Chinese writing.

Classical Studies

Monica S. Cyrino
Ortega Hall 347B, 277-1181
pandora@unm.edu

Lorenzo F. Garcia Jr.
Ortega Hall 351C, 277-3617
lfgarci@unm.edu

Major Study Requirements

The student majoring in Classical Studies will choose one of two concentrations, depending on the wish to take a broader spectrum of courses relating to the ancient world (Civilization Concentration) or concentrate in Greek and Latin (Language Concentration). Those students wishing to pursue graduate study in the Classics are advised to choose the Language Concentration.

Civilization Concentration:

Requirements: 30 hours:

1. Six hours Latin or Greek above 200
2. Three hours Classics 204 or 205
3. Three hours Classics 333 or 334
4. Three hours Art History above 200 in a course including the ancient world
5. Six hours History above 200 in a course which includes the ancient world
6. Nine hours from the following:
 - Classics 107
 - Art History 201, 261, 315
 - Philosophy 201, 307, 360, 402, 403, 404
 - Religious Studies 232, 360, 404, 463

Any other Classics course above 200
Any other History course above 200 which includes the ancient world
A Comparative Literature course above 200 which includes the ancient world
Substitutes must be approved in advance by the major advisor.

Language Concentration:

Requirements: 30 hours:

1. A. Latin Emphasis
 - i. Twelve hours Latin above 200
 - ii. Nine hours Greek above 200
- or-
- B. Greek Emphasis
 - i. Twelve hours Greek above 200
 - ii. Nine hours Latin above 200
2. Three hours History above 200 in a course which includes the ancient world
3. Three hours Classics above 200
4. Three hours from the courses named in number 6 of the Civilization Concentration above.

Substitutes must be approved in advance by the major advisor.

Minor Study Requirements

Requirements: 18 hours:

1. Six hours LATN 201-202 or GREK 201-202
2. Six hours Classics course above 200
3. Six hours from the following:
 - Classics 107
 - Classics courses above 300
 - Art History courses above 200 which include the ancient world
 - Philosophy courses above 200 which include the ancient world

Classics (CLST)

107. Greek Mythology. (3)

Introduction to mythology; primary readings in stories about the gods and heroes, usually including Homer, Hesiod, Homeric Hymns and Tragedies. All texts will be in English.

204. Greek Civilization. (3)

An interdisciplinary introduction to ancient Greece. Lectures on Greek art, history, literature and philosophy.

205. Roman Civilization. (3)

An interdisciplinary introduction to ancient Rome. Lectures on Roman literature, history, art and philosophy.

214. The Classical Tradition I. (3)

A survey of the classical tradition and its influence on western civilization from the perspective of ancient Greek culture and literature.

215. The Classical Tradition II. (3)

A survey of the classical tradition and its influence on western civilization from the perspective of ancient Roman culture and literature.

***333. Topics in Latin Literature and Culture in Translation. (3, no limit) [3 to a maximum of 6] Δ**

(Also offered as COMP, ENGL 333.) Study of individual authors, genres or periods of Latin literature and culture in translation.

***334. Topics in Greek Literature and Culture in Translation. (3, no limit) [3 to a maximum of 6] Δ**

(Also offered as COMP, ENGL 334.) Study of individual authors, genres and periods of Greek literature and culture in translation.



497. Undergraduate Problems. (1-6 to a maximum of 9) Δ

498. Reading and Research for Honors. (3)
Open only to juniors and seniors approved for departmental honors. Senior thesis based on independent research.

499. Honors Essay. (3)
Open only to seniors enrolled in departmental honors. Restriction: permission of instructor.

Comparative Literature and Cultural Studies

Susanne Baackmann, Coordinator
Ortega Hall 349C, 277-3206, theodor@unm.edu

Advisory Committee:
Gary Harrison, English
Kimberle López, Spanish and Portuguese
Carmen Nocentelli, English and Foreign Languages and Literatures

Additional Participating Faculty:
Eleni Bastea, Architecture and Planning
Stephen Bishop, Foreign Languages and Literatures
Lorna Brau, Foreign Languages and Literatures
Beverly Burris, Sociology
Pamela Cheek, Foreign Languages and Literatures
Monica S. Cyrino, Foreign Languages and Literatures
Susan Dever, Media Arts
Les Field, Anthropology
Lorenzo F. Garcia, Jr., Foreign Languages and Literatures
Elizabeth Hutchison, History
Natasha Kolchevska, Foreign Languages and Literatures
Alex Lubin, American Studies
Walter Putnam, Foreign Languages and Literatures
Katrin Schroeter, Foreign Languages and Literatures
Hector Torres, English
Carolyn Woodward, English

Major Study Requirements

Comparative Literature and Cultural Studies is an interdisciplinary major with concentrations in Cultural Studies and Comparative Literature. Students complete 30 credits of course work. The Introduction to World Cultures and Critical Theory (9 credits) provides students with a survey of world literatures and cultures and introduces them to analyzing cultural productions through critical and cultural theory. The Cultures and Literatures (9 credits) component of the major broadens a student's awareness of the diversity of cultural productions around the world. The Concentration (12 credits) offers the opportunity to pursue an individualized interdisciplinary program of study by taking courses chosen in consultation with the coordinator. Students may choose to write an honors essay as the capstone to their work. Because this is an interdisciplinary program offered by the Department of Foreign Languages and Literatures in conjunction with affiliated departments, students will need to work closely with the coordinator in order to construct an appropriate program of study. Courses not listed below may sometimes be taken, subject to approval of program coordinator.

I. The Introduction to World Cultures and Critical Theory—9 credits

ENGL 250 and 6 credits from the following courses: COMP 223, COMP 224, ENGL 292, and ENGL 293

II. Cultures and Literatures—9 credits

Literature, culture and theory courses at the 300-level or above offered by the Department of Foreign Languages and Literatures and programs and departments affiliated with the Program in Comparative Literature and Cultural Studies.

These courses must broaden a student's knowledge of the forms of representation and cultural production that emerge from specific historical periods and places.

III. The Concentration—12 credits

Students choose a concentration in either Cultural Studies or Comparative Literature.

- A. The Cultural Studies Concentration:
Courses chosen in this concentration normally focus on critical and cultural theory and provide students with tools for analyzing literary and cultural problems while broadening their knowledge of world cultures and forms of representation in different media.
- OR—
- B. The Comparative Literature Concentration: Courses chosen in this concentration are divided between literatures in two different languages (one of which may be English or American Literature). Courses may include studies in theory, history, film and the arts, as well as in literary texts.

Second Major Study Requirements

Students complete 27 credits of course work, as described below. For specific courses in categories II and III, see corresponding categories in the major.

- I. 9 credits from the following courses: COMP 223, COMP 224, ENGL 292, and ENGL 293.
- II. 6 credits in literature, culture and theory courses.
- III. 12 credits in cultural studies or comparative literature.

Minor Study Requirements

Students complete 21 credits of course work, as described below. For specific courses in category III, see category III in the major.

- I. 6 credits from the following courses: COMP 223, COMP 224, ENGL 292, and ENGL 293.
- II. 6 credits taken in the following courses: COMP 330 – 340, 432, 480.
- III. 9 credits in cultural studies or comparative literature, as described above.

Graduate M.A. Program

Comparative Literature and Cultural Studies is an interdisciplinary M.A. program administered by the coordinator and the Advisory Committee (see above).

The Master of Arts is offered as an interdepartmental program that may be completed by fulfilling requirements under Plan I or Plan II. Students following Plan I will take 25 credits of graduate course work and additional 6 credits of thesis work. Students following Plan II will take 34 credits of graduate course work. Students following Plan I or Plan II will complete Foreign Languages and Literatures examination requirements for the degree by their final semester of study. The requirement for second-language proficiency for students in the Cultural Studies Concentration may be satisfied after a student has been admitted to the program by taking a four-semester language sequence, or by passing a proficiency examination or proof of equivalent knowledge acquired elsewhere. Students in the Comparative Literature Concentration are expected to be proficient in two languages, one of which can be English. In addition, M.A. candidates must demonstrate proficiency in a third language through a four-semester sequence of course work, a proficiency examination, or proof of equivalent knowledge acquired elsewhere. Because this is an interdisciplinary program offered by the Department of Foreign Languages and Literatures in conjunction with affiliated departments and programs, students must work closely with a CL/CS coordinator to construct an appropriate plan of study. The coordinator will determine which courses outside of Foreign Languages and Literatures may be applied to the M.A. degree in consultation with a student's commit-

tee on studies. Only 3 credits of problems courses may be counted toward the M.A. under Plan I and only 6 credits under Plan II.

I. The Core (7 credits)

COMP 500; MLNG 501 (1 credit); one course in theory and criticism: COMP 580, FREN 520, 580, 582, 610, 611; GRMN 555; ENGL 510, 511, 590; AMST 516, 517, 518, 525, 535, 545, 554, 555; CJ 500, 501; ANTH 536, 547; SOC 500, 512, 513, 514.

—plus—

II. The Concentration:

A. The Comparative Literature Concentration—Plan I (18 credits + 6 thesis credits of COMP 599); Plan II (27 credits)

Students will split these credits evenly between literatures from two different languages (one of which may be a literature in English): FREN 501, 502, 512, 520, 522, 524, 532, 542, 552, 570, 580, 582, 584, 585, 586, 588, 600, 610, 611; GRMN 549, 550, 552, 553, 555, 556, 581, 585; GREK 301, 302; LATN 303, 304, 351, 352, 503; PORT 514, 515, 516, 517, 521, 557, 558; SPAN 504, 515, 519, 520, 522, 523, 525, 526, 529, 629, 531, 532, 536, 631, 633, 639, 578, 579, 679; ENGL 545, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 568, 570, 571, 572, 573, 574, 579, 580, 581, 582, 583, 586, 587; AMST 508, 540, 541, 542, 550, 552, 556, 557, 558, 559, 560, 562, 563, 564, 565.

—or—

B. The Cultural Studies Concentration—Plan I (18 credits + 6 thesis credits of COMP 599); Plan II (27 credits)

Students will take half of these credits in cultural criticism and theory: COMP 580, FREN 520, 580, 582, 610, 611; GRMN 555; ENGL 510, 511, 590; AMST 516, 517, 518, 525, 535, 545, 554, 555; CJ 500, 501; ANTH 536, 547; SOC 500, 512, 513, 514. They will take a second half in an interdisciplinary field defined with advisement from the committee on studies drawing on courses above the 500-level in American Studies, Anthropology, History, Fine Arts, Communications and Journalism, Political Science, Linguistics, Philosophy, Law, Foreign Languages and Literatures, Spanish and Portuguese, English, and Media Arts.

—or—

C. The Classics Concentration—Plan I (18 credits + 6 thesis credits of COMP 599); Plan II (27 credits)

Students under Plan I will take 12 credits in either Greek or Latin above the 300-level. They will take 6 credits in courses about the classical world and its legacy or 6 credits in theory and criticism. Students under Plan II will take 15 credits in either Greek or Latin above the 300-level and 12 credits in courses about the classical world and its legacy or 12 credits in courses on theory and criticism. For Greek and Latin above the 300-level: GREK 301, 302; LATN 303, 304, 352, 503. For the classical world and its legacy: HIST 501, 502, 503, 504, 528, 520, 526; ENGL 551; ARTH 561, 567, ARCH 541; PHIL *402, *403, *431, 504, 564. For theory and criticism: COMP 580, FREN 520, 580, 582, 610, 611; GRMN 555; ENGL 510, 511, 590; AMST 516, 517, 518, 525, 535, 545, 554, 555; CJ 500, 501; ANTH 536, 547; SOC 500, 512, 513, 514.

Graduate Minor

The Program offers a graduate minor in comparative literature and cultural studies. Students may choose to focus their studies in one of three areas: comparative literature, cultural studies or classics. Proficiency in a foreign language must be demonstrated by taking the first two semesters of a language sequence or by passing a proficiency examination.

Requirements: 18 credits

- I. Three hours COMP 500.

II. Fifteen hours of courses in one of the following areas of focus:

- A. **Comparative Literature:** Fifteen credits, 9 of which must be in a literature in a language other than English (see above). No more than 3 of these credits may be in a foreign literature course taught in translation.
- B. **Cultural Studies:** 9 credits of courses in theory and criticism (see above) and 6 credits in an interdisciplinary field defined in consultation with the coordinator (see above).
- C. **Classics:** 9 credits in either Greek or Latin above the 300-level (see above) and 6 credits in courses about the classical world and its legacy or 6 credits in courses on theory and criticism (see above).

Comparative Literature (COMP)

222. Fairy and Folk Tales. (3)

An exploration of fairy and folk tales from a variety of cultures. The course introduces methods of analysis while exploring historical and contemporary roles and interrelationships of the tales.

224. Literary Questions. (3)

Examination of basic questions in comparative literature studies: themes, movements, modes, interaction of literature with other disciplines, etc. Work will be comparative and reading list will represent a cross-section of Western European, American, Russian and Classical literatures. Titles will vary as content varies.

306. Arthurian Legend and Romance. (3 to a maximum of 6) Δ

(Also offered as ENGL 306.) Comprehensive study of the Arthurian Legend from its Celtic origins, to its medieval French romance continuators, and its English apex in Malory. May also trace post-medieval versions in art, print, and film.

330. Topics in Comparative and World Literature. (3 to a maximum of 6) Δ

(Also offered as ENGL 330.) Study of special topics in Comparative and World Literatures, including studies of genre, period, literary movements and themes.

331. Topics in Asian Literature and Culture in Translation. (3 to a maximum of 6) Δ

(Also offered as ENGL 331.) Study of the culture and literatures of India, China, Japan and other Asian traditions. Topics vary.

332. Topics in African Literature and Culture in Translation. (3 to a maximum of 6) Δ

(Also offered as ENGL 332.) Study of the culture and literatures of Africa. Topics vary.

***333. Topics in Latin Literature and Culture in Translation. (3, no limit) [3 to a maximum of 6] Δ**

(Also offered as CLST, ENGL 333.) Study of individual authors, genres or periods of Latin literature and culture in translation.

***334. Topics in Greek Literature and Culture in Translation. (3, no limit) [3 to a maximum of 6] Δ**

(Also offered as CLST, ENGL 334.) Study of individual authors, genres and periods of Greek literature and culture in translation.

335. Topics in French Literature and Culture in Translation. (3 to a maximum of 6) Δ

(Also offered as ENGL, FREN 335.) Study of individual authors, genres and/or periods of French and Francophone literature and culture.

336. Topics in German Literature and Culture in Translation. (3 to a maximum of 12) Δ

(Also offered as ENGL, GRMN 336.) Study of individual authors, genres, and/or periods of German literature and culture in translation.

337. Topics in Italian Literature and Culture in Translation. (3 to a maximum of 6) Δ
(Also offered as ENGL, ITAL 337.) Study of individual authors, genres, and/or periods of Italian literature and culture in translation.

338. Topics in Russian Literature and Culture in Translation. (3 to a maximum of 6) Δ
(Also offered as ENGL, RUSS 338.) Study of individual authors, genres, and/or periods of Russian literature and culture in translation.

339. Topics in Japanese Literature and Culture in Translation. (3, no limit) Δ
(Also offered as ENGL, JAPN 339.) Study of individual authors, genres and/or periods of Japanese literature and culture in translation.

340. Topics in Continuity and Change in Russian Culture. [Topics in Russian Literature in Translation.] (3-6, no limit) Δ
(Also offered as RUSS 340.) Topics will deal with individual authors, genres, periods or themes. All repeated courses require approval from graduate advisor.

350. Medieval Tales of Wonder. (3)
(Also offered as ENGL 350.) Study of medieval literature, language, and culture in the context of insular and continental texts.

432. Topics in Literature and Culture. (3 to a maximum of 9) Δ
(Also offered as ENGL, FREN 432.) Varying topics in the practice and theory of literatures and cultures.

***452. Medieval English Mystics. (3)**
(Also offered as RELG 452.) A study of the literary and religious aspects of the English contributions to Christian mystical theology in the works of the anonymous author of *The Cloud of Unknowing*, etc.

453. Asian Studies Thesis. (3)
(Also offered as HIST, PHIL, POLS, RELG, 453.) Supervised research in one or more disciplines leading to an undergraduate thesis for the major in Asian Studies.

***480. Seminar in Comparative Literature. (1-3 to a maximum of 6) Δ**
Seminar will deal with individual authors, genres or periods in two or more literatures. Reference to other subjects. (Spring)

500. Introduction to Graduate Study in Comparative Literature. (3)

551. Problems. (1-6 to a maximum of 6) Δ
For M.A. candidates. One problems course may be applied to degree. Requires advisor or chairperson approval.

580. Seminar in Modern Languages and Literatures. (1-6, no limit) Δ
(Also offered as MLNG 580.) One problems course may be applied to degree. Requires advisor or chairperson approval.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

Foreign Languages (MLNG)

No major study offered. See major in Languages.

101. Approaches to Languages and Cultures. (3) [Δ]
An interdisciplinary approach to the interplay of languages and cultures in Europe and Asia. Focus on the role of language in comparative cultural practices and cross-cultural encounters.

109. Biblical Hebrew I. (4)
(Also offered as RELG 109.) Introduction to the language of the Hebrew Bible.

***407. Sanskrit I. (3)**
(Also offered as LING, RELG 407.) An introduction to the Sanskrit language in conjunction with readings from classical Sanskrit literature in translation.

***408. Sanskrit II. (3)**
(Also offered as LING, RELG 408.) The continuation of Sanskrit I: the completion of the study of Sanskrit grammar and an introduction to the reading of Sanskrit texts.

457. Topics in Languages Studies. (3, no limit) Δ
Repeated courses require advisor's approval.

***480. Second Language Pedagogy. (3)**

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ
Restriction: permission of instructor.

500. Teaching Practicum. (1-3)
Introduction to Second Language Acquisition Theory and Practice with an emphasis on the communicative methodology.

501. Professional Development Colloquium. (1)
A series of workshops designed to help graduate students of the Department of Foreign Languages and Literatures with aspects of their professional development.

580. Seminar in Modern Languages and Literatures. (1-6, no limit) Δ
(Also offered as COMP 580.) Repeated courses require advisor's approval.

American Indian Languages

See Linguistics.

Navajo

See Linguistics.

Quechua (QUEC)

See Latin American and Iberian Institute.

French

Undergraduate Advisor:

Stephen Bishop, Ortega Hall 323C, (505) 277-6344
sbishop@unm.edu

Major Study Requirements

1. Thirty hours in French courses numbered above 290, including 301, 302, 305, 345, 346, 351, 352, and one 400 level or above French course. One content appropriate Comparative Literature course may be counted.
2. Two years of college work in another foreign language (or reading knowledge).

Second Major Study Requirements

Students who present two majors (French and another field) are required to take 24 hours in French courses numbered above 290, including 301, 302, and 305. One content appropriate Comparative Literature course may be counted. Students wishing to present an honors thesis with their second major must consult the French advisor to ensure an appropriate selection of courses.

Minor Study Requirements

Fifteen hours in French courses numbered above 290, including 301 or 302.

Lower-Division French

All beginning students should enroll in *Elementary French* (101 or 275), which provides a foundation in reading, writing, listening and speaking for all subsequent courses.

Students who have taken French previously should consult with the lower-division coordinator for accurate placement. The department offers an intensive language sequence (FREN 275–276) for 6 credit hours per semester. At the end of two semesters, students have completed the equivalent of FREN 101, 102, 201 and 202 and are prepared to enter third-year courses.

Graduate Program

Graduate Advisor

Pamela Cheek, Ortega Hall 327B, 277-3810
pcheek@unm.edu

M.A. in French

The M.A. in French provides an interdisciplinary foundation designed to prepare students for work in pertinent fields including secondary school teaching, translation and for entrance to doctoral programs in French. A background in French equivalent to that of an undergraduate major is required for entering candidates. M.A. candidates choose between two plans: under Plan I, they complete 24 hours of course work plus 6 hours of thesis; under Plan II, they complete 32 hours of course work without thesis. The comprehensive exams involve a more extensive written component for Plan II. Core requirements are a theory course (3 credit hours) and a professional development colloquium (1 credit hour). Students must demonstrate proficiency in another language through a four-semester sequence of course work, a proficiency examination, or proof of equivalent knowledge acquired elsewhere. Contact the graduate advisor or the department for specific information.

Ph.D. in French Studies

The Department of Foreign Languages & Literatures offers a Ph.D. in French Studies. Students are admitted on the basis of their past records and future promise for scholarship. The admissions committee also takes into consideration the expressed field of research with an eye to suitable faculty guidance and direction. Potential applicants are encouraged to contact the Department for more individual advisement.

Applicants to the Ph.D. program are expected to have completed a Master's Degree in French or its equivalent. The University of New Mexico students who wish to pursue doctoral studies must submit a written plan. All applicants are expected to have taken at least one course in critical theory.

In addition to the general requirements for all Ph.D.s, the department specifies the following:

1. Each student must complete a minimum total of 54 semester hours of course work for the Ph.D. including transfer credit but exclusive of dissertation hours. Normally, a minimum of 24 hours of this total will be taken after the M.A. is completed.
2. A student may declare a minor in another discipline after approval from the committee on studies. Students with a declared minor must complete 48 hours of course work in French Studies and 12 hours in the minor.
3. Each student must demonstrate a reading knowledge of two other languages besides French and English.
4. Each student must assemble a committee on studies composed of three University of New Mexico faculty members before the end of the second semester of the Ph.D. program. The committee will meet regularly with the student to develop a program suited to his or her own needs and interests. The committee holds authority over each student's program and may require specific courses dictated by a student's scholarly interest and goals. The committee on studies will guide the candidate in forming an appropriate committee to administer

comprehensive examinations as well as to plan and carry out the dissertation.

5. All Ph.D. candidates in French Studies are advised to gain teaching experience as well as experience in a French-speaking environment as part of their professional training.

French (FREN)

101–102. Elementary French I-Elementary French II. (3, 3)

Conducted in French. (Fall, Spring)

103. Elementary French Conversation. (1)

Supplementary course to FREN 101–102 for students interested in additional practice in speaking.

108. Elementary French Reading. (1)

Continuation and enrichment of elementary curriculum, conducted entirely in French.

175. [275.] Accelerated Elementary French. (6)

Encompasses the work of 101–102. 101–102 and 175 may not both be counted for credit.

201. Intermediate French I. (3)

Review of grammar and development of communication skills, conducted mostly in French.

202. Intermediate French II. (3)

Review of grammar, development of communication skills, introduction to reading of French literature, conducted entirely in French.

203. Intermediate French Conversation. (3)

Designed primarily to give qualified students of 201–202 extra practice in the oral use of the language; therefore, it is recommended that it be taken concurrently with 201 or 202. Enrollment limited to 20 students.

276. Accelerated Intermediate French. (6)

Encompasses the work of 201–202. 201–202 and 276 may not both be counted for credit.

301. Advanced Essay & Exploration I. (3)

Contextual grammar review and study of stylistics to improve composition skills. Introduction to literature and/or cinema. Taught entirely in French.

302. Advanced Essay & Exploration II. (3)

Advanced grammar and continued stylistic study and discussion of literature and/or film. A stepping stone to the literature and culture classes. Taught entirely in French.

305. French Pronunciation. (3)

Phonetic and phonemic system of French. Required for the undergraduate major. (Offered only once a year)

335. Topics in French Literature and Culture in Translation. (3 to a maximum of 6) Δ

(Also offered as COMP, ENGL 335.) Study of individual authors, genres and/or periods of French and Francophone literature and culture.

345. French Civilization 1000-1789. (3)

Origins to French Revolution. In French.

346. French Civilization 1789-pres. (3)

French Revolution to the present. In French.

351. French Literature 1000-1789. (3)

Origins to 1800. Conducted in French.

352. French Literature 1789-pres. (3)

1800 to present. Conducted in French.

385. Seminars in French Studies. (1-4, no limit) Δ

Titles of individual sections will vary as content varies. Topics will deal with specific aspects of French literature, culture and language.

210 ARTS AND SCIENCES

407. Translation. (3)

Study of principles and techniques of translating through comparative stylistics.

432. Topics in Literature and Culture. (3 to a maximum of 9) Δ

(Also offered as COMP, ENGL 432.) Varying topics in the practice and theory of literatures and cultures.

465. Topics in French Film. (3 to a maximum of 9) Δ

Topics in French film.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ

Restriction: permission of instructor.

498. Reading and Research for Honors. (3)

Open to juniors and seniors approved by the Honors Committee.

499. Honors Essay. (3)

Open only to seniors enrolled for departmental honors.

500. Teaching Practicum. (1-3)

Required of all new teaching assistants in French; others by permission of instructor.

502. Topics in Medieval French Studies. (3 to a maximum of 9) Δ

Study of topics in medieval French literature and culture.

508. Reading French for Graduate Students I. (3)

This is the first of a two-course series for graduate students who need to acquire a reading knowledge of French.

509. Reading French for Graduate Students II. (3)

This is the second of a two-course series, designed for graduate students who need to obtain a reading knowledge of French.

512. Topics in Sixteenth Century French Studies. (3 to a maximum of 9) Δ

Topics in 16th-century French studies.

520. French Thought. (3 to a maximum of 9) Δ

Aspects of French cultural, intellectual and social thought.

524. Seminar in Nineteenth-Century French Literature. (3)

542. Topics in Nineteenth Century French. (3-9 to a maximum of 9) Δ

Topics in 19th-century French studies.

552. Topics in Twentieth Century French Studies. (3 to a maximum of 9) Δ

Topics in 20th-century French studies.

570. Seminar in French Studies. (3 to a maximum of 9) Δ

575. Graduate Problems. (1-6, no limit) Δ

Restriction: permission of instructor.

580. Topics in Cultural Studies. (3 to a maximum of 9) Δ

Topics in cultural studies.

582. Topics in Colonial and Postcolonial Studies. (3 to a maximum of 9) Δ

Topics in cultural studies.

584. Special Topics in Women Writers. (3 to a maximum of 9) Δ

Topics in cultural studies.

585. Graduate Seminars in French Studies. (3 to a maximum of 9) Δ

Each section in this course will focus on a different topic. Titles of individual sections will vary as content varies.

588. Topics in Genre Studies. (3 to a maximum of 9) Δ

Interdisciplinary study of a specific literary genre.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

600. Topics in One Author's Oeuvre. (3 to a maximum of 9) Δ

An in-depth study of one author's oeuvre.

610. Introduction to Theory. (3)

An introduction to the tools and schools of critical theory.

611. Topics in Theory. (3 to a maximum of 9) Δ

Topics in literary and cultural studies.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

German (GRMN)

Undergraduate Advisor

Katrin Schroeter, Ortega Hall 347C, 277-9115
katja@unm.edu

Major Studies Requirements

30 hours of course work, to include the following: GRMN 301, 302 and 307 and two of the following: 305, 308, 370, 401 and 405. GRMN 410, or 470 taken at the German Summer School may substitute for either 301 or 302, but not both. The remaining hours may be selected from German courses above 300. Six of these hours may consist of approved German Studies courses in other programs. No more than 18 hours may be earned in courses offered at the German Summer School.

Second Language Option

Two years, or the equivalent, of college level work in another foreign language. 27 hours of course work, to include the following: GRMN 301, 302, 307, and two of the following: 305, 308, 370, 401 and 405. GRMN 410 or 470 taken at the German Summer School may substitute for either 301 or 302, but not both. The remaining hours may be selected from German courses above 300. Three of these hours may consist of approved German Studies courses in other programs. No more than 15 hours may be earned in courses offered at the German Summer School.

Second Major Option

Students who present two majors (German and another field) are required to complete 24 hours of course work in German, to include the following: 301, 302, 307, and two of the following: 305, 308, 370, 401 and 405. GRMN 410, or 470 taken at the German Summer School may substitute for either 301 or 302, but not both. The remaining hours may be selected from German courses above 300. Three of these hours may consist of approved German Studies courses in other programs. No more than 12 hours may be earned in courses offered at the German Summer School.

No more than 12 hours may be earned in courses offered at the German Summer School.

Minor Study Requirements

Fifteen hours of course work above 300, including 301, 302.

Lower-Division German

All beginning students should enroll in Basic German (101 or 175), which provides a foundation in reading, writing, listening and speaking for all subsequent courses. All students who have never taken a German course at UNM must take a placement exam to determine the adequate course level. Heritage speakers are strongly advised not to enroll in lower-division language courses.

Graduate Program

Graduate Advisor

Katrin Schroeter, Ortega Hall 347C, 277-9115
katja@unm.edu

M.A. in German Studies

The M.A. in German Studies provides an interdisciplinary foundation designed to prepare students for work in pertinent fields including secondary school teaching, translation work, and also for entrance to doctoral programs in German. A background in German equivalent to that of an undergraduate major is required for entering candidates. M.A. candidates may choose between two plans: under Plan I, they are required to complete 24 hours of course work plus 6 thesis hours; under Plan II, they are required to complete 32 hours of course work without thesis. The comprehensive exams involve a more extensive written component for Plan II. Core requirements include a theory course (3 credit hours) and a Professional Development Colloquium (MLNG 501) (1 hour). Teaching assistants are also required to enroll in a Teaching Practicum (MLNG 500) during their first semester of teaching. M.A. candidates must demonstrate proficiency in a language other than English or German through a four-semester sequence of course work, a proficiency examination, or proof of equivalent knowledge acquired elsewhere.

Contact the graduate advisor or the department for specific information.

Undergraduate Program

101–102. Elementary German I–Elementary German II. (3, 3)

Language course sequence for all beginning students, providing a foundation in reading, writing, listening and speaking skills for all subsequent courses. {Fall, Spring}

175–276. [275–276.] Accelerated Elementary German–Accelerated Intermediate German. (6, 6)

Intensive language course sequence that covers the material of 101–102, 201–202. After completing, 276 students are prepared to enroll in third-year courses. Students may not receive credit for both the accelerated sequence and the regular language course sequence (101 through 202).

201–202. Intermediate German I–Intermediate German II. (3, 3)

Continues development of skills in reading, writing, speaking and listening at the second-year level.

203–204. Intermediate German Conversation. (1-3)

Optional course for students of 201–202 providing additional practice in speaking and listening. Students not concurrently enrolled in 201-202 may enroll only with the permission of the instructor. **Offered on CR/NC basis only.**

301–302. Advanced German I–Advanced German II. (3, 3)

Contextual grammar review based on cultural materials from a variety of media and short literary texts.

303. Advanced German Conversation. (1 to a maximum of 3) Δ

Optional course for students of 301–302 providing additional practice in speaking and listening. Students not concurrently enrolled in 301-302 must obtain the permission of the instructor. **Offered on CR/NC basis only.**

304. Theater Workshop. (3)

Production of a dramatic work, emphasizing the performative and creative dimension of German language, culture, and history.

305. Topics: Germany Today. (3)

Study of present-day life and culture in Germany as represented in popular media, including TV and film. Aimed at students who wish to improve their language skills.

307. Introduction to German Literature. (3)

Study of literary texts of varying length from a variety of genres and periods.

308. Introduction to German Culture. (3)

Introduction to cultural and intercultural aspects of life in German-speaking countries. Readings include historical as well as contemporary material.

336. Topics in German Literature and Culture in Translation. (3 to a maximum of 12) Δ

(Also offered as COMP, ENGL 336.) Study of individual authors, genres, and/or periods of German literature and culture in translation.

366. German Reading for Graduate Students. (3)

Accelerated course for graduate reading requirements. Emphasizes readings in sciences and humanities. Will not satisfy A&S language requirement. Undergraduates must have permission of instructor.

401. Contemporary German Cultures. (3)

Study of contemporary social, political, and cultural trends in German-speaking countries based on a variety of current sources.

405. Advanced German Composition. (3)

Intensive practice of writing skills in a variety of genres.

*446. Translation. (3)

Study of theories and methods of translating, and practical work in translation from German into English and English into German.

450. Special Topics in German Studies. (3, no limit) Δ

Topics will deal with specific aspects of German literature and culture and language.

480. Topics: Advanced Seminar in German Studies. (1-3, no limit) Δ

Advanced study of periods and genres in German literature and thought from 1700 to present.

497. Undergraduate Problems. (1-3 to a maximum of 6) Δ

Restriction: permission of instructor.

498. Reading and Research for Honors. (1-3 to a maximum of 6) Δ

Open to juniors and seniors approved by the department.

499. Honors Essay. (3)

Open only to seniors enrolled for departmental honors. Restriction: permission of supervising instructor.

Graduate Program

508. German Reading for Graduate Students. (3)

Accelerated course for graduate reading requirements in other departments. Emphasizes readings in sciences and humanities. Will not satisfy A&S language requirement. Undergraduates must have permission of instructor.

509. German Reading for Graduate Students II. (3)

This is the second of a two-course series, designed for graduate students in Arts & Sciences who need to acquire a reading knowledge of German.

549. Topics in 18th-Century German Literature and Culture. (3, no limit) Δ

Topics in German literature and culture from the Enlightenment to Early Romanticism and Weimar Classicism.

550. Special Topics in German Studies. (3, no limit) Δ

Topics will deal with specific aspects of German literature, culture and language.

551. Graduate Problems. (1-3 to a maximum of 6) Δ

May be repeated per Office of Graduate Studies policy three times.

Restriction: permission of instructor.

552. Topics in 19th-Century German Literature and Culture. (3, no limit) Δ

Topics in German literature and culture from Romanticism to the Fin-de-Siècle.

553. Topics in 20th-Century German Literature and Culture. (3, no limit) Δ

Emphasis on the study of gender, or film, or other media from 1800 to the present.

555. German Critical Thought. (3, no limit) Δ

Aspects of German philosophical, critical, aesthetic, and social thought from the 18th to the 21st century.

556. Topics in Gender, Media, and Literatures in German Contexts. (3, no limit) Δ

Emphasis on the study of gender, or film, or other media from 1800 to the present.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

Courses Offered at the German Summer School Only

German Summer School Office

Ortega Hall 347A, 277-7367, schule@unm.edu

The German Summer School is a total-immersion 4-1/2-week program allowing students to gain near-native fluency or to advance an entire level. The curriculum includes undergraduate and graduate courses, as well as supplementary pedagogy workshops (not a full M.A. in teaching) for teachers of German. Language proficiency certification administered by the *Goethe-Institut* is also available. Summer School courses count toward the undergraduate German major and the M.A. in German Studies. For the undergraduate major, at least 12 hours of the required course work must be completed on the University of New Mexico main campus. For more information contact the Summer School office or visit the FLL website.

370. Intermediate Language Instruction. (1-4, may be repeated 3 times) Δ

Review of grammar topics, conversation, and composition. Prepares students for the *Zertifikat Deutsch* exam administered by the *Goethe-Institut*. May be repeated three times.

380./481./581. Lecture Series in German Studies. (1-4, may be repeated 3 times) Δ

Team-taught interdisciplinary lecture series with an overarching theme followed by discussion sections. May be repeated three times for undergraduate credit. May not be repeated for graduate credit.

385. Seminar in German Studies. (1-2, no limit) Δ

Introductory undergraduate seminar on specific topics in German Literature, culture and language. Multiple sections may be offered in a given year. Titles of individual sections may vary as content varies.

390. Workshop in German Studies. (1 to a maximum of 4) Δ

Introductory workshops on various topics relating to contemporary German Culture. Emphasis on applied language skills. Multiple sections may be offered in a given year. Titles of individual sections will vary as content varies.

410. Advanced Language Instruction. (1-4, may be repeated twice) Δ

Review of more complex grammar topics, advanced conversation and composition. Prepares students for the *Zentrale Mittelstufenprüfung* administered by the *Goethe-Institut*. May be repeated twice for undergraduate credit, and once for graduate credit.

***470. Advanced German Composition. (1-4, may be repeated twice) Δ**

Intensive practice of writing skills in a variety of genres. Prepares students for the *Zentrale Oberstufenprüfung* administered by the *Goethe-Institut*. May be repeated twice for undergraduate credit, and once for graduate credit.

481./380./581. Lecture Series in German Studies. (1-4, may be repeated 3 times) Δ

Team-taught interdisciplinary lecture series with an overarching theme followed by discussion sections. May be repeated three times for undergraduate credit. May not be repeated for graduate credit.

485. Advanced Seminar in German Studies. (1-4, no limit) Δ

Advanced undergraduate seminar on specific topics in German literature, culture and language. Multiple sections may be offered in a given year. Titles of individual sections will vary as content varies.

581./380./481. Lecture Series in German Studies. (1-4, may be repeated 3 times) Δ

Team-taught interdisciplinary lecture series with an overarching theme followed by discussion sections. May be repeated three times for undergraduate credit. May not be repeated for graduate credit.

585. Graduate Seminar in German Studies. (1-4, no limit) Δ

Graduate seminar on specific topics in German Literature, culture, and language. Multiple sections may be offered in a given year. Titles of individual sections will vary as content varies.

Greek (GREK)

Monica S. Cyrino, Ortega Hall 347B, 277-1181
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Lorenzo F. Garcia Jr., Ortega Hall 351C, 277-3617
lfgarci@unm.edu

Major Study Requirements

See *Classical Studies*.

Minor Study Requirements

Twelve hours in courses numbered above 200, including 301 and 302.

101. Elementary Greek I. (3)

Introduction to Classical Greek. (Fall)

102. Elementary Greek II. (3)

Readings from simple prose.

104. Beginning New Testament Greek. (3)

(Also offered as RELG 104.) Introduction to New Testament Greek. Six hours is the equivalent of one year of Greek.

106. Intermediate New Testament Greek. (3)

(Also offered as RELG 106.) A continuation of the introductory course. Recommended is one semester of Greek or some equivalent instruction. Goal of the course is an independent and self-confident dialogue with the Greek language and the rediscovery of biblical texts.

201. Intermediate Greek I. (3, 3)

Systematic review of Greek grammar and syntax; reading of authors such as Plato and Herodotus.

202. Intermediate Greek II. (3, 3)

Systematic review of Greek grammar and syntax; reading of authors such as Plato and Herodotus.

***301. Advanced Greek I. (3, no limit) Δ**

Readings in Homer, Sophocles, Euripides, Plato and the New Testament, depending on the level and interests of the class.

***302. Advanced Greek II. (3, no limit) Δ**

Readings in Homer, Sophocles, Euripides, Plato and the New Testament, depending on the level and interests of the class.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ

551. Graduate Problems. (1-9 to a maximum of 9) Δ

Italian (ITAL)

Rachele Duke, Advisor, Ortega Hall 327C, 277-7371
rduke@unm.edu

Minor Study Requirements

Twenty-four hours of course work distributed as follows: 6 hours above the 175–276 Italian language level; no fewer than 9 hours in the following History courses: 302, 303, 304, 305 (readings courses or seminars subject to approval); no fewer than 9 hours in the following Art History courses: 261, 262, 331, 332, 340, 429 or Media Arts courses: 330, 428 (when content is appropriate); certain courses in Latin may also apply and are subject to approval.

175-276. [275–276.] Accelerated Elementary Italian–Accelerated Intermediate Italian. (6, 6)

Intensive course for serious beginning students. 175 equivalent to 101–102. 276 equivalent to 201–202. {Fall, Spring}

307. Survey of Italian Literature I. (3)

A survey of Italian culture as reflected in literary texts from the Middle Ages to the Renaissance.

308. Survey of Italian Literature II. (3)

A survey of Italian culture as reflected in literary texts from the Renaissance to the present.

337. Topics in Italian Literature and Culture in Translation. (3 to a maximum of 6) Δ

(Also offered as ENGL, COMP 337.) Study of individual authors, genres, and/or periods of Italian literature and culture in translation.

***475. Dante in Translation. (3)**

(Also offered as RELG 475.) Principally the *Vita Nuova* and the *Divine Comedy*.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ

Restriction: permission of instructor.

499. Honors Essay. (3)

Open to Seniors enrolled for departmental honors. Restriction: permission of supervising instructor.

551. Graduate Problems. [Honors Essay.] (3)

Restriction: permission of instructor.

Japanese (JAPN)

Lorna Brau, Advisor, Ortega Hall 353C, 277-3683
lbrau@unm.edu

Minor Study Requirements

Eighteen hours in courses numbered above 200. Of these, six hours are selected from Japanese language courses at the 201 level or above, with the remaining 12 hours of courses selected from 301, 302, 320, 339, 411 and HIST 384. In addition, the 18 hours may include 3 hours of independent study with Japanese studies faculty on a Japan-related topic under JAPN 497.

101. Elementary Japanese I. (3)

Foundation course for all beginning students, with instruction in speaking, listening, reading and writing. {Fall}

102. Elementary Japanese II. (3)

Second half of foundation course 101. {Spring}

201. Intermediate Japanese I. (3)

Continues development of four language skills (speaking, listening, reading and writing) at the third semester level. {Fall}

202. Intermediate Japanese II. (3)

Continuation of 201. {Spring}

301. Advanced Japanese I. (3)

Continues development of four language skills (speaking, listening, reading and writing) at fifth semester level, introducing more complex grammar and spoken and written communicative tasks. {Fall}

302. Advanced Japanese II. (3)

Continuation of 301. {Spring}

320. Japanese Culture. (3 to a maximum of 6) Δ

This course provides a multidisciplinary introduction to Japanese culture, with an emphasis on the anthropology and sociology of contemporary Japan.

339. Topics in Japanese Literature and Culture in Translation. (3, no limit) Δ

(Also offered as COMP, ENGL 339.) Study of individual authors, genres and/or periods of Japanese literature and culture in translation.

***411. Topics in Japanese Culture. (3, no limit) Δ**

Explorations of a variety of topics in Japanese language, literature, arts and social sciences.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ

Restriction: permission of instructor.

Languages

Stephen Bishop, Ortega Hall 323C, (505) 277-6344
sbishop@unm.edu.

This interdisciplinary major offered through the Department of Foreign Languages and Literatures in conjunction with the Department of Spanish and Portuguese can be taken through one of two options.

Option A requires 42 credit hours of course work; students electing to take Option A do not need a minor or a second major. Option B requires 24 credit hours of course work; students electing to take Option B need a minor or a second major.

Option A

Requirements: 42 hours of course work, to be distributed as follows:

1. LATN or GREK 101 (3 hours)
2. MLNG 101 or LING 301 (3 hours)
3. Nine hours of course work above 300 in each of two of the following languages (18 hours): Chinese (200 or above), French, German, Greek, Italian, Japanese, Latin, Portuguese, Russian (200 or above) and Spanish
4. Six hours of lower-division course work in a language other than the two counted under category 3 above (including Navajo, Signed Language or Swahili) (6 hours)
5. Twelve additional hours of course work either in Linguistics, the languages chosen under categories 1 or 3 (upper-division only), or 4 (lower-division possible), or English courses such as History of the English Language, Old English, or COMP 222 or 480 (but not both) (12 hours)

Option B

A minor or a second major is necessary for Option B.

Requirements: 24 hours of course work, to be distributed as follows:

1. LATN or GREK 101 (3 hours)
2. MLNG 101 or LING 301 (3 hours)
3. Nine hours of course work above 300 in each of two of the following languages: Chinese (200 or above), French, German, Greek, Italian, Japanese, Latin, Portuguese, Russian (200 or above) and Spanish. COMP 222 or 480 (but not both) (18 hours)

Minor Study Requirements

Nine hours of courses above 300 in each of two languages (18 hours).

Latin (LATN)

Monica S. Cyrino, Ortega Hall 347B, 277-1181
pandora@unm.edu.

Lorenzo F. Garcia Jr., Ortega Hall 315C, 277-3617
lfgarcia@unm.edu

Major Study Requirements

See *Classical Studies*.

Minor Study Requirements

Twelve hours in courses numbered above 200.

Placement—Elementary and Intermediate Courses

Students who have previously studied Latin should determine their entry level at the University of New Mexico by consulting with the advisor for Latin.

- 101. Elementary Latin I. (3)**
Introduction to the Latin language; grammar, syntax and readings in Roman authors. {Fall, Spring}
- 102. Elementary Latin II. (3)**
Continuation of 101. Introduction to the Latin language; grammar, syntax and readings in Roman authors. {Spring}
- 201–202. Intermediate Latin I–Intermediate Latin II. (3, 3)**
Systematic review of Latin grammar and syntax; readings in simple prose authors such as Cicero and Caesar; introduction to Latin poetry and scansion.
- *303. Advanced Latin I. (3, no limit) Δ**
Readings in Classical authors such as Plautus, Catullus, Vergil, Horace and Ovid. Occasional composition in Latin.
- *304. Advanced Latin II. (3, no limit) Δ**
Readings in Classical authors such as Plautus, Catullus, Vergil, Horace and Ovid. Occasional composition in Latin.
- *352. Accelerated Latin II. (3)**
The evolution from Classical Latin to Medieval Vulgar Latin and its relationship to the Modern Romance Languages and English; the reading of selected Classical and Medieval texts.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ

503. Topics in Latin Language and Literature. (3, no limit) Δ
Graduate readings in Latin authors.
Prerequisite: 303, 304 or the equivalent.

551. Graduate Problems. (1-9 to a maximum of 9) Δ

Russian

Natasha Kolchevska, Advisor, Ortega 229A, 277-4771
nakol@unm.edu

Major Study Requirements

Option A: Regular Option

Thirty hours of courses in Russian language and literature/culture including the following:

RUSS 201–202, RUSS 301–302, RUSS 401, RUSS 402 or equivalent, Twelve hours culture courses in translation.

Option B: Second Major Option

Twenty-four hours of courses in Russian language and literature/culture including the following:

RUSS 201–202, RUSS 301–302, RUSS 401, RUSS 402 or equivalent, and six hours of literature/culture courses in translation.

Minor Study Requirements

Eighteen hours in Russian courses at the 200-level and beyond. One course in Russian literature in translation may be counted toward the minor.

Russian (RUSS)

- 101. Elementary Russian I. (3)**
Elementary Russian for students with no previous exposure to the language. Development of all four language skills: reading, speaking, writing and listening comprehension. Can be taken in conjunction with Russian 103. {Fall}
- 102. Elementary Russian II. (3)**
Elementary Russian for students who have completed Russian 101 or equivalent. Continued development of all four skills. Can be taken in conjunction with Russian 104. {Spring}
- 201–202. Intermediate Russian I–Intermediate Russian II. (3, 3)**
- 290. Workshop on Russian Language and Culture. (1-6 to a maximum of 6) Δ**
Intensive practical training in Russian language and culture.
- 301. Advanced Russian I. (3)**
Vocabulary building, basic grammar review and special attention to idiomatic Russian.
- 302. Advanced Russian II. (3)**
Emphasis on all four language skills, especially reading. The structure of Russian is reviewed in detail.
- 338. Topics in Russian Literature and Culture in Translation. (3 to a maximum of 6) Δ**
(Also offered as COMP, ENGL 338.) Study of individual authors, genres, and/or periods of Russian literature and culture in translation.
- 339. Russian Culture and History through Film. (3)**
(Also offered as HIST 335 and MA 339.) In this course we study films and read secondary sources from the Soviet and post-Soviet eras (with English subtitles) and examine how they comment on current Russian social and cultural issues. Taught in English.
- 340. Topics in Continuity and Change in Russian Culture. [Topics in Russian Literature in Translation.] (3-6, no limit) Δ**
(Also offered as COMP 340.) Topics will deal with individual authors, genres, periods or themes.
- *401–402. Russia Today I–Russia Today II. (3)**
Study of present-day life in Russia as represented in popular media, including TV and film. Aimed at students who wish to improve their Russian language skills.

***490. Seminar in Russian Literature and Culture. (3, no limit) Δ**
 Topic will deal with individual authors, genres or periods. Taught in English and/or Russian.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ
 Restriction: permission of instructor.

498. Reading and Research for Honors. (3)
 Open to juniors and seniors as approved by Russian faculty. Students will study one aspect of the field with a member of the Faculty Committee.

499. Honors Essay. (3)
 Open only to seniors enrolled for departmental honors.

GEOGRAPHY

Richard Santos, Interim Chairperson
 Bandelier West, Room 111
 MSC01 1110
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 277-5041

Professors

Bradley T. Cullen, Ph.D., Michigan State University
 Olen Paul Matthews, Ph.D., University of Washington; J.D., University of Idaho

Associate Professor

Paul A. Zandbergen, Ph.D., University of British Columbia

Assistant Professor

Melinda Harm Benson, J.D., University of Idaho
 John N. Carr, Ph.D., University of Washington; J.D., University of Texas-Austin
 Chris S. Duvall, Ph.D., University of Wisconsin
 K. Maria D. Lane, Ph.D., University of Texas-Austin

Research Assistant Professor

Karl K. Benedict, Ph.D., University of New Mexico

Emeriti Faculty

Elinore M. Barrett, Ph.D., University of California (Berkeley)
 Stanley A. Morain, Ph.D., University of Kansas
 Rodman E. Snead, Ph.D., Louisiana State University
 Jerry L. Williams, Ph.D., University of Oregon

Adjunct Faculty

Deirdre Kann, Ph.D., Purdue University
 William Krausmann, Ph.D. University of Utah
 W. Donald McTaggart, Ph.D., Australian National University
 Paul Neville, M.A., University of New Mexico
 Kim Seidler, M.A., University of New Mexico
 Stuart White, Ph.D., University of Wisconsin

Major Study

Undergraduate Advisor

Olen Paul Matthews, oprmatt@unm.edu

World cultures represent a diverse fabric of socioeconomic endeavors. To sustain human populations in their physical and cultural milieus, environmental managers and geographic information scientists work with resource managers, public policy makers, legal professionals, economists, land planners, and land developers to make more informed decisions about places. Geography has sharpened its traditional stature among core disciplines by leading the development of spatial analytical theory, methods and techniques. Geography is both a physical and a social science because geographers cannot study societies and their technologies without also studying the environments in which they exist. The department's programs focus on environmental management that

is, human / environment interactions; and GI-Science, that is, Geographic Information Systems, remote sensing, Global Positioning System (GPS), and spatial statistics.

Geography offers a Bachelor of Arts and Bachelor of Science degree, and a Master of Science degree. The BA and BS degrees prepare majors for one of two career paths, or for entrance into the MS Program. The BA degree acknowledges general competency in Geography for those seeking careers in either applied geography or environmental management.

The GI-Science curriculum is ideally suited for majors from many A&S departments, as well as from other Schools at UNM. These technologies are finding many practical applications in the social and physical sciences, engineering, health care, architecture and planning, and legal professions.

Major Study Requirements

The major in geography requires 39–40 credit hours of lower and upper-division course work.

The required curriculum for the Bachelor of Arts degree is as follows:

	Credits
GEOG 101 Physical Geography	3
GEOG 105L Physical Geography Lab	1
GEOG 102 Human Geography	3
GEOG 195 Humans Role in Changing the Face of the Earth	3
GEOG 281L Computer Mapping	4
GEOG 350 Physical Landscapes	3
GEOG 381L Introduction to Geographic Information Systems	4
Two courses Environmental Management Group	6
One course Regional Group	3
One course Human Geography Group	3
GEOG 471 Applied Geography Seminar	3
Electives Any 200- 300- or 400-level GEOG Course	<u>3</u>
	39

Courses included in each of the above groups are as follows:

Environmental Management Group: 461, 462, 463, 464.
Regional Group: 140, 302, *445.
Human Geography Group: 360, 363, 365.

Students desiring to focus their plan of study on environmental management should consider additional courses from: American Studies 320, 323, 324; Anthropology 321; Biology 310L, 379, 405; Earth and Planetary Science ENVS 330, EPS 333, ENVS 430; Economics 105, 203, 300, 342, 343, 442; History 433, 464; and Political Science 475.

The required curriculum for the Bachelor of Science degree is as follows:

	Credits
GEOG 101 Physical Geography	3
GEOG 105L Physical Geography Lab	1
GEOG 102 Human Geography	3
GEOG 195 Humans Role in Changing the Face of the Earth	3
GEOG 281L Computer Mapping	4
GEOG 381L Introduction to GIS	4
GEOG 471 Applied Geography Seminar	3
Three courses Geographic Information Science Group	9
One course Environmental Management Group	3
One course Physical Environment Group	3
Electives Any 200-300-400 level GEOG course	<u>3</u>
	39

Courses included in the above groups are:

Physical Environment Group: 251, 350, 352.
Environmental Management Group: 360, 363, 365, 461, 462, 463, 464.
Geographic Information Science Group: 480L, 482L, 483L, 484L, 485L, 486L, 487L, 488L.

ARTS AND SCIENCES

Honors In Geography

Undergraduate students pursuing either the B.A. or B.S. in Geography have the option of seeking Honors in Geography by completing advanced independent work that leads to a Senior Thesis. Students aspiring to Honors in Geography must announce their intention to the Geography Faculty before the end of the junior year. Minimum requirements for graduation with Honors in Geography are as follows: (1) completion of all requirements required for the B.A. or B.S. in Geography; (2) maintenance of an overall grade point average of 3.20; (3) completion of 6 credits of advanced coursework; and (4) submission of a written senior thesis.

Candidates for Honors in Geography are required to take the following courses in their senior year: 3 credits of GEOG 491 (Problems in Geography) in the fall semester, followed by 3 credits of GEOG 471 (Applied Geography Seminar) in the spring semester. The objective of these 6 credits is for the candidate to develop a substantial independent project in Geography research, which leads to submission of a Senior Thesis by the 12th week of the spring term of the student's senior year. The thesis advisor and a second reader selected from the Geography Faculty will together determine if the quality of the thesis is sufficient for honors, and at what level.

Minor Study Requirements

GEOG 101, 105L, 102 and 15 additional hours of Geography course work.

Distributed minor not available.

Group Requirements

GEOG 101/105L is accepted as a laboratory science in fulfillment of the Physical and Natural Sciences (Group III) requirement of the College of Arts and Sciences. The following are accepted in fulfillment of the Physical and Natural Sciences (Group III) requirement of the College of Arts and Sciences: 251, 350, 352. Other geography courses are accepted toward fulfillment of the Social and Behavioral Sciences (Group IV) requirements.

Graduate Program

Graduate Advisor
Paul Zandbergen
zandberg@unm.edu

Graduate applicants direct correspondence to Graduate Advisor.

Degree Offered

M.S. Geography

Program Application Deadlines:

For Fall: February 1, with consideration of financial aid
April 15, without consideration of financial aid
For Spring: November 15

Concentrations: a) environmental management (human/environmental interaction) or b) geographic information science (GIS, GPS and remote sensing)

A master's degree is offered under both Plan I and Plan II as described in the earlier pages of this catalog. Any student planning to go on for a Ph.D. is strongly urged to take Plan I and write a thesis. A minor may be taken under either plan with the approval of the Geography Department's Graduate Advisory Committee. In place of a minor, approved courses in related fields may be substituted.

Minimum requirements for the Geography M.S. degree are as follows:

Required of all MS Students	Credits
GEOG 501 History and Methods in Geography	3
GEOG 502 Approaches to Geographic Research	3

Plan I Environmental Management Concentration (Additional courses)

GEOG 514 Natural Resources Management Seminar	
-or-	
GEOG 515 Cultural and Political Ecology	3
Two additional courses from the Environmental Management List	
(514, 515, 561, 562, 563, or 564)	6
One Course from GIScience List	
(525, 580L, 581L, 582L, 583L, 584L, 585L, 586L, 587L, or 588L)	3
Two Elective Courses	6
Thesis	6
Total for Plan I Environmental Concentration	30

Plan I Geographic Information Science Concentration (Additional Courses)

GEOG 525 Seminar: Geographic Information Science	3
Three Courses from the GIScience List	
(580L, 581L, 582L, 583L, 584L, 585L, 586L, 587L, or 588L)	9
One course from the Environmental Management List	
(514, 515, 561, 562, 563, or 564)	3
One Elective Course	3
Thesis	6
Total for Plan I Geographic Information Science Concentration	30

Plan II Environmental Management Concentration (Additional courses)

GEOG 514 Natural Resources Management Seminar	
-or-	
GEOG 515 Cultural and Political Ecology	3
Three additional courses from the Environmental Management List	
(514, 515, 561, 562, 563, or 564)	9
One Course from GIScience List	
(525, 580L, 581L, 582L, 583L, 584L, 585L, 586L, 587L, or 588L)	3
Four Elective Courses	12
Total for Plan II Environmental Concentration	33

Plan II Geographic Information Science Concentration (Additional Courses)

GEOG 525 Seminar: Geographic Information Science	3
Four Courses from the GIScience List	
(580L, 581L, 582L, 583L, 584L, 585L, 586L, 587L, or 588L)	12
Two courses from the Environmental Management List	
(514, 515, 561, 562, 563, or 564)	6
Two Elective Courses	6
Total for Plan II Geographic Information Science Concentration	33

Candidates under Plan I will be examined orally on their thesis. Candidates under Plan II will be tested with both oral and written examinations on a topic selected by his or her graduate committee from the two areas listed below. Part or all of the Plan II exam may be applied and require field work. A regional focus in any of the two topics is acceptable.

1. Environmental Management (Human/Environmental Interaction).
2. Geographic Information Science.

A graduate student who elects to do a master's degree in geography should have either an undergraduate degree in geography (or related field) or be prepared to make up deficiencies as determined by the Geography Department's Graduate Advisory Committee. Students must select an advisor who will help them design their programs and guide them through their tenure in the department. All programs are subject to approval by the Graduate Advisory Committee. Students must earn grades of B (3.0 GPA) or better in all

courses on their plan of study, including those at the undergraduate level. GRE scores are required for application to the M.S. program.

Geography (GEOG)

101. Physical Geography. (3)

World geography; physical elements. Use of maps and globes for a systematic analysis of world climates, vegetation, soils and landforms and their distribution, interrelation and significance to humans.

Corequisite: 105L.

102. Human Geography. (3)

World geography; human elements. A systematic analysis of world population, demographic factors, ethnic groups, predominant economies and political units and their distribution, interrelation and interaction with the physical earth.

105L. Physical Geography Laboratory. (1)

Exercises designed to complement 101. Applied problems in the spatial processes of the physical environment. Map construction and reading, weather and climatic analysis, classification of vegetative and soil associations, landform distribution analysis.

Pre- or corequisite: 101. Two hours lab.

140. World Regional Geography. (3)

The regional geography of the world. Both physical and human aspects are studied along with current economic and political problems.

195. Humans Role in Changing the Face of the Earth. (3)

Survey of environmental issues related to the degradation of land, air and water resources.

251. Meteorology. (3)

(Also offered as EPS 251.) Description of weather phenomena, principles of atmospheric motion, weather map analysis and weather prediction.

281L. Computer Mapping. (4)

Examination of the spatial framework of geographical analysis and mapping tools used in the spatial sciences. Introduction to spatial methodology and concepts in Geographic Information Systems (GIS), Remote Sensing and Image Processing (RS/IP) and Global Positioning Systems (GPS). Fees required. Two hours lab.

302. Regional Geography. (3 to a maximum of 6) Δ

Geography of a selected region of the globe with focii on the national, economic, and social environments that are reflected in settlement systems. Includes analyses of current environmental and cultural issues.

350. Physical Landscapes. (3)

This course examines the biophysical processes that produce distinctive landscapes in polar, temperate, tropical, and alpine environments, by analyzing interactions between climate, vegetation, soils, landforms, geology, and human activities.

Prerequisites: 101 and 105L.

352. Global Climate Change. (3)

(Also offered as EPS 352.) Comparison of natural and anthropogenic causes of large-scale climate change. Factors influencing development of mitigation of adaptation policies.

**360. Land Use Management. (3)

Exercise of legal and political power over land and other resources. Resolution of conflicts between competing land users.

363. Economic Geography. (3)

A systematic analysis of spatial economic patterns. Introduction to models of economic space and theories of spatial economic interaction. Analysis of effects of resource attributes and distributions upon economic activities. Examination of cultural-economic regions.

364. Law and Geography. (3)

This class examines the relationships between law and geography, interrogating how law shapes the human experience of place, and the ways that a variety of spatial categories inform the law.

365. Nature and Society. (3)

This course explores the human dimensions of geographical challenges through the traditions, actions and social organization of contemporary western and global/international human systems.

**381L. Introduction to Geographic Information Systems. (4)

The study of spatial data, spatial processes and an introduction to the computer tools necessary to analyze spatial representations of the real world. Exercises in data acquisition, preprocessing, map analysis and map output. Fees required. Three hours lecture, 2 hours lab.

*445. Geography of New Mexico and the Southwest (3)

This course introduces the geography of the Southwest, focusing on New Mexico. Students will conduct independent research in conjunction with a multi-day field trip.

461./561. Environmental Management. (3)

Examination of critical issues of environmental degradation in global and local system related to: air and water pollution, soil erosion, deforestation, strip mining, over dependence on fossil fuels and improper management of toxic and other wastes. Appraisal of the conservation methods and policies applied to these issues and the outlook for the future.

462./562. Water Resources Management. (3)

An examination of the problems and trends in the use of water resources in the United States, with emphasis on the physical and social aspects related to its management.

463./563. Public Land Management. (3)

Defining public and private rights associated with managing natural resources is the key to many of the current controversies concerning the environment. This course looks at public land policy and policy related to other common property resources such as water, the oceans, and the coastal zone.

464./564. Food and Natural Resources (3)

Students gain an advanced introduction to the social and environmental effects of individual food choices, through the analysis of the sociocultural and biophysical relationships embedded in various agricultural and food production systems.

466./566. The City as Human Environment. (3)

This class examines the vectors of difference - cultural, economic, political, legal and environmental - that animate urban form and life, with an emphasis on the trans-border Southwest.

471. Applied Geography Seminar. (3)

Applications of environmental analysis and geographic information technologies to a selected geographic problem. Field trips required. Recommended during the last semester for majors.

480L./580L. Quantitative Methods in Geography. (3)

Introduces fundamental statistical and quantitative modeling techniques widely used in geography. Emphasizes geographic examples and spatial problems. Includes a lab component that covers the use of statistical software in geographic analysis. Fee required.

482L./582L. Positioning Systems. (3)

Introduces a range of positioning techniques, including surveying, Global Positioning Systems and others and their real-world utilization in a range of applications. Includes a lab component that covers the use of various types of equipment, software and applications. Fee required. Prerequisite: 381L.

218 ARTS AND SCIENCES

483L./583L. Remote Sensing Fundamentals. (3)

Introduces the concepts of remote sensing of the Earth, sensors and photographic systems used, and the basic processing and analysis required to bring the imagery into GIS. Includes a lab component. Fee required. Prerequisite: 381L.

484L./584L. Applications of Remote Sensing. (3)

Explores the utilization of remote sensing imagery through advanced processing and analysis. Covers the integration of imagery into specific research areas, including biological, geological, urban and hydrological analysis. Includes a lab component. Fee required. Prerequisite: 483L.

485L./585L. Internet Mapping. (3)

Current and emerging approaches to internet mapping, including geospatial interoperability standards, technologies, and capabilities. Includes a lab component that covers the use of various types of software and applications. Fee required. Prerequisite: 381L.

486L./586L. Applications of GIS. (3) Selected applications of Geographic Information Systems, including anthropology, business, crime, ecology, engineering, health, planning, water resources and others. Covers analytical techniques specific to selected applications. Fee required. Prerequisite: 381L.

487L./587L. Spatial Analysis and Modeling. (3)

Spatial analysis and modeling techniques using Geographic Information Systems. Includes a lab component that covers the use of GIS and other software to carry out analysis projects. Fee required. Prerequisite: 381L.

488L./588L. GIS Concepts and Techniques. (3)

Selected advanced concepts and techniques in Geographic Information Systems. Includes a lab component that provides students with the opportunity to apply concepts and techniques in a hands-on manner. Fee required. Prerequisite : 381L.

491./591. Problems. (1-3 to a maximum of 3) Δ

Supervised individual study and field work. Must be taken for 6 credit hours in the Honors program.

493./593. Internship in Applied Geography. (1-3 to a maximum of 3) Δ

Written field analysis of a project coordinated between student, faculty and public or private manager. Credits to be determined by supervising faculty.

***499. Topics in Geography. (1-3 to a maximum of 6) Δ**

Specific topics in geography which relate contemporary issues to the discipline. Topics will be noted in the appropriate schedule of classes. Credit can be applied by majors to the appropriate department group requirements for the degree.

501. Geographic History and Methods. (3)

Examines, evaluates, and criticizes the methods geographers have used to analyze the reciprocal relationship between humankind and the environment.

502. Approaches to Geographical Research (3)

This seminar examines recent scholarship on human-environment interaction, focusing on both theory and method. Students are required to complete a literature review and thesis proposal.

514. Natural Resources Management Seminar (3 to a maximum of 6) Δ

This course explores the interdisciplinary nature of natural resource challenges. Topics will vary each semester. Field trips will be included to investigate issues relevant to the class.

515. Cultural and Political Ecology (3)

This seminar examines case studies and recent geographical scholarship in cultural and political ecology, focusing on its relevance for resource managers and institutions.

516. Seminar: Globalization. (3)

This seminar examines the political, cultural, and economic facets of globalization, focusing on contemporary theories of neoliberalism and post-colonialism.

525. Seminar in Geographic Information Science. (3)

Examination of current trends in Geographic Information Science, including technical, social, institutional and legal issues.

Restriction: permission of instructor.

561./461. Environmental Management. (3)

Examination of critical issues of environmental degradation in global and local system related to: air and water pollution, soil erosion, deforestation, strip mining, over dependence on fossil fuels and improper management of toxic and other wastes. Appraisal of the conservation methods and policies applied to these issues and the outlook for the future.

562./462. Water Resources Management. (3)

An examination of the problems and trends in the use of water resources in the United States, with emphasis on the physical and social aspects related to its management.

563./463. Public Land Management. (3)

Defining public and private rights associated with managing natural resources is the key to many of the current controversies concerning the environment. This course looks at public land policy and policy related to other common property resources such as water, the oceans, and the coastal zone.

564./464. Food and Natural Resources (3)

Students gain an advanced introduction to the social and environmental effects of individual food choices, through the analysis of the sociocultural and biophysical relationships embedded in various agricultural and food production systems.

566./466. The City as Human Environment. (3)

This class examines the vectors of difference - cultural, economic, political, legal and environmental - that animate urban form and life, with an emphasis on the trans-border Southwest.

580L./480L. Quantitative Methods in Geography. (3)

Introduces fundamental statistical and quantitative modeling techniques widely used in geography. Emphasizes geographic examples and spatial problems. Includes a lab component that covers the use of statistical software in geographic analysis. Fee required.

581L. Fundamentals of GIS. (3)

Introduces the concepts underlying Geographic Information Systems and its utilization for the input, storage, manipulation, query, display, and analysis of geographical data. Includes a lab component that covers the range of analytical techniques available in current software. Fee required.

582L./482L. Positioning Systems. (3)

Introduces a range of positioning techniques, including surveying, Global Positioning Systems and others and their real-world utilization in a range of applications. Includes a lab component that covers the use of various types of equipment, software and applications. Fee required. Prerequisite: 381L or 581L.

583L./483L. Remote Sensing Fundamentals. (3)

Introduces the concepts of remote sensing of the Earth, sensors and photographic systems used, and the basic processing and analysis required to bring the imagery into GIS. Includes a lab component. Fee required. Prerequisite: 381L or 581L.

584L./484L. Applications of Remote Sensing. (3)

Moran

Explores the utilization of remote sensing imagery through advanced processing and analysis. Covers the integration of imagery into specific research areas, including biological, geological, urban and hydrological analysis. Includes a lab component. Fee required. Prerequisite: GEOG 483L or GEOG 583L.

585L/485L. Internet Mapping. (3)

Current and emerging approaches to internet mapping, including geospatial interoperability standards, technologies, and capabilities. Includes a lab component that covers the use of various types of software and applications. Fee required.

Prerequisite: 381L or 581L.

586L/486L. Applications of GIS. (3)

Selected applications of Geographic Information Systems, including anthropology, business, crime, ecology, engineering, health, planning, water resources and others. Covers analytical techniques specific to selected applications. Fee required.

Prerequisite: 381L or 581L.

587L/487L. Spatial Analysis and Modeling. (3)

Spatial analysis and modeling techniques using Geographic Information Systems. Includes a lab component that covers the use of GIS and other software to carry out analysis projects. Fee required.

Prerequisite: 381L or 581L.

588L/488L. GIS Concepts and Techniques. (3)

Selected advanced concepts and techniques in Geographic Information Systems. Includes a lab component that provides students with the opportunity to apply concepts and techniques in a hands-on manner. Fee required.

Prerequisite : 381L or 581L.

591/491. Problems. (1-3 to a maximum of 3) Δ

Supervised individual study and field work.

593/493. Internship in Applied Geography. (1-3 to a maximum of 3) Δ

Written field analysis of a project coordinated between student, faculty and public or private manager. Credits to be determined by supervising faculty.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

GEOLOGY

See *Earth & Planetary Sciences*.

GERMAN

See *Foreign Languages and Literatures*.

GREEK

See *Foreign Languages and Literatures*.

**HEALTH, MEDICINE AND
HUMAN VALUES
(B.A./M.D. Program)****Directors**

Valerie Romero-Leggott, M.D., School of Medicine, Vice President for Diversity, Health Sciences Center
Philip Ganderton, Ph.D., College of Arts and Sciences, Interim Associate Dean of Research; Professor of Economics

Associate Director

Robert Sapien, M.D., School of Medicine, Department of Emergency Medicine
Greg Martin, M.F.A., College of Arts & Sciences, Department of English

Institutional Address

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School of Medicine Faculty

David Bear, Ph.D., Assistant Dean for SOM Admissions
Amy Clithero, M.B.A., Department of Family Community Medicine
Ellen Cosgrove, M.D., Senior Associate Dean for Education
Kendall Crookston, M.D., Ph.D., FCAP, Department of Pathology
Sheila Hickey, M.D., Department of Pediatrics
Summers Kalishman, Ph.D., Department of Family Community Medicine
Judith Kitzes, M.D., MPH, Department of Internal Medicine
Renee Ornelas, M.D., Department of Pediatrics
Craig Timm, M.D., Associate Dean for Undergraduate Medical Education
Lana Wagner, M.D., Department of Family Community Medicine

College of Arts and Sciences Faculty

William Anderson, Ph.D., Biochemistry
Alok Bohara, Ph.D., Economics
Gary Harrison, Ph.D., English
Greg Martin, M.F.A., English
Charles Paine, Ph.D., English
Richard Santos, Ph.D., Economics
Eric Toolson, Ph.D., Biology
Steve Verney, Ph.D. Psychology
Howard Waitzkin, M.D. / Ph.D., Sociology
Helen Wearing, Ph.D., Biology and Mathematics & Statistics

Introduction

The Health, Medicine and Human Values (HMHV) program, the undergraduate component of UNM's Combined BA/MD Degree Program, presents a unique opportunity for a select group of qualified freshmen who wish to become physicians in New Mexico. The program is open to 28 students each Fall (application and eligibility criteria are described below). Following an integrated curriculum that covers a broad base of interdisciplinary course work in the humanities, social sciences, mathematics, and physical sciences, program participants will complete a Bachelor's degree at the end of four years, after which they will complete their Doctor of Medicine (MD) degree in the School of Medicine at UNM where a seat will have been reserved for them.

The HMHV program offers students flexibility in choosing an Undergraduate major while providing them with a structured pre-medical core of special seminars focusing upon humanities, fine arts, and social/behavioral sciences studies in the context of health science and medicine; with experiential learning practice; and with a suite of mathematics and physical/natural science courses that will prepare them for medical school.

In consultation with the BA/MD advisor, program participants choose one of the following options: 1) an Arts and Sciences major; 2) the Health, Medicine and Human Values major: Health, Humanities and Society concentration, or 3) the Health, Medicine and Human Values major: Biomedical Sciences concentration. Option I is designed for students who wish to receive a BA (or BS) degree in a liberal arts field, such as Anthropology, Biology, English, History, Psychology, or Sociology. Option II is designed for students who prefer a distributed liberal arts and sciences program of study. And Option III is designed for those students who wish to pursue a rigorous program of study in the physical and natural sciences. All three options include a suite of courses in the humanities, social sciences, mathematics, and physical and natural sciences that prepare the student for medical school.

Note: The HMHV program does not require students to elect a minor.

Admissions and Eligibility

For admissions and eligibility information, please visit our applicant website of <http://hsc.unm.edu/som/combinedbamd>.

Undergraduate Continuous Eligibility

Students will meet at least once a year with the BA/MD advisor to review their continuing eligibility status. Those who do not meet continuing eligibility requirements are subject to probation or enrollment cancellation as recommended by the Committee on Continuous Eligibility (CCE). To remain in good standing in the undergraduate portion of the program, students must maintain the standards described in the BA/MD Student Handbook.

Medical School Eligibility

To be eligible to continue into the UNM School of Medicine portion of the program, HMHV students must meet the eligibility criteria described in the BA/MD Student Handbook.

Students who meet all eligibility requirements are reviewed by the School of Medicine Admissions Committee and receive formal, written approval for the transition into the medical curriculum.

HMHV Academic Program Requirements

Joint Requirements: Options I, II, and III.

All students in the HMHV program must fulfill the Core Curriculum and Group Requirements for the College of Arts and Sciences as well as all of the requirements for their selected major and concentration. In addition, all HMHV students must complete 15 hours of special seminars designed specifically for participants in the program, and 6 hours of summer community health practica. The combined 21 hours of special seminars and community health practica promote cohort building among the HMHV students and constitute the interdisciplinary and experiential core of the program.

Health, Medicine and Human Values Seminars (15 hours)

The Health, Medicine and Human Values seminars are interdisciplinary courses that provide opportunities for experiential and problem-based learning, applied writing and speaking, and small-group problem solving. The seminars involve collaborative teaching with faculty from the School of Medicine and the College of Arts and Sciences. The seminar titles are as follows:

- I. Contours of Health in New Mexico
- II. Literature, Fine Arts, and Medicine
- III. Health Economics, Politics, and Policy
- IV. Health and Cultural Diversity
- V. Ethics, Medicine, and Health

Note: A&S Group Requirements – Seminars I, III, and IV each may be counted as 3 hours toward the Social/Behavioral Sciences Group Requirement; Seminars II and V, each as 3 hours toward the Humanities Group Requirement.

Community Health Practica (6 hours, summer program)

The Community Health practica, taken in the summer after the second or third year in the program, are designed to allow students to engage in experiential learning projects involved in community and clinical health. The practica will enable students to put into practice some of the problem-solving skills and information acquired in the seminars and other parts of the HMHV curriculum. Each practica involves a writing and research component, as well as the experiential component.

- Community Health Practicum I (3 hours)
- Community Health Practicum II (3 hours)

Detailed descriptions of the additional requirements for each option are described below.

Option I: Arts and Sciences Major (B.A. or B.S.)

The Arts and Sciences option enables HMHV students to choose a major from one of the College of Arts and Sciences degree-granting programs, while completing the structured set of courses designed for the HMHV program to prepare students for medical school. In addition to completing all departmental requirements for the selected major, students must complete the Health, Medicine and Human Values Seminars; the Community Health Practica; and a 45-hour Pre-Medical Sciences Core, described below.

Option I Requirements: (96 hours, plus Departmental Major Requirements)

1. University of New Mexico Core Requirements (27 hours)

- Writing and Speaking (9 hours)
 - English 101/approved substitution if exempt per ACT/ SAT
 - English 102/approved substitution if exempt per ACT/SAT
 - One from: C&J 130, Phil 156, Engl 219, Engl 220
- Social and Behavioral Science (6 hours)
- Humanities (6 hours)
- Second Language (3 hours)
 - At least one lower-division course in a language other than English. A regional language (e.g., Spanish, Navajo) or American Sign Language is recommended.
- Fine Arts (3 hours)

2. B.A./M.D. Writing and Communication Requirement (3 hours)

- One Writing or Communication course above English 102 (e.g. English 219, 220, 221-23; 320; C & J 130, 221, 225, 332, 333; PHIL 156).

Note: Can only take a minimum of 9 hours from the same department prefix.

3. Arts and Sciences Group Requirements (3-12 hours)

- Completion of fourth semester of a second language (such as Sign 310, Greek 302, Latin, Spanish, Italian, or French 202, 212, or 276 for all other non-English languages. (Native speakers of languages not taught at UNM should talk to their advisor).

OR

- 3 hours of Fine Arts (If studio/participatory course was taken for the Core requirement, this course must be from an appreciation, history, or criticism course from the College of Fine Arts).

4. Health, Medicine and Human Values Seminars (15 hours)

(See "Joint Requirements" above.)

5. Community Health Practica (6 hours)

(See "Joint Requirements" above.)

6. Pre-Medical Sciences Core (45 hours)

- Mathematics (6 hours)
(MATH 180 or above and STAT 145)
- Biology (12 hours)
(BIOL 201, 202 and 204L)
- General Chemistry (8 hours)
(CHEM 121/123L and 122/124L)
- Organic Chemistry (8 hours)
(CHEM 301/303L and 302/304L)
- Physics (8 hours)
(PHYC 151/151L and 152/152L)
- Biochemistry (3 hours)
(BIOC 423)

7. Departmental Major Requirements (32 hours or more)

Option II: Health, Medicine and Human Values Major: Health, Humanities and Society Concentration. (BA) This option offers students a structured set of distributed requirements emphasizing the humanities and social sciences, while providing them with a pre-medicine core in mathematics

and the physical/natural sciences. Students must complete up to 33 hours of distributed course work for the Health, Humanities and Society Concentration (below), and also complete the Health, Medicine and Human Values seminars; the Community Health Practica; and a 45-hour Pre-Medical Sciences Core.

Option II Requirements

1. University of New Mexico Core Requirements (27 hours)

- Writing and Speaking (9 hours)
 - English 101/approved substitution if exempt per ACT/SAT
 - English 102/approved substitution if exempt per ACT/SAT
 - One from: C&J 130, Phil 156, Engl 219, Engl 220
- Social and Behavioral Science (6 hours)
- Humanities (6 hours)
- Second Language (3 hours)
 - At least one lower-division course in a language other than English. A regional language (e.g., Spanish, Navajo) or American Sign Language is recommended.
- Fine Arts (3 hours)

2. B.A./M.D. Writing and Communication Requirement (3 hours)

- One Writing or Communication course above English 102 (e.g. ENGL 219, 220, 221-23; 320; CJ 130, 221, 225, 332, 333; PHIL 156).

Note: Can only take a minimum of 9 hours from the same department prefix.

3. Arts and Sciences Group Requirements (3-12 hours)

- Completion of fourth semester of a second language (such as Sign 310, Greek 302, Latin, Spanish, Italian, or French 202, 212, or 276 for all other non-English languages. (Native speakers of languages not taught at UNM should talk to their advisor)

-OR-

- 3 hours of Fine Arts (If studio/participatory course was taken for the Core requirement, this course must be from an appreciation, history, or criticism course from the College of Fine Arts).

4. Health, Medicine and Human Values Seminars (15 hours)

(See "Joint Requirements" above.)

5. Community Health Practica (6 hours)

(See "Joint Requirements" above.)

6. Pre-Medical Sciences Core (45 hours)

- Mathematics (6 hours)
(MATH 180 or above and STAT 145)
- Biology (12 hours)
(BIOL 201, 202 and 204L)
- General Chemistry (8 hours)
(CHEM 121/123L and 122/124L)
- Organic Chemistry (8 hours)
(CHEM 301/303L and 302/304L)
- Physics (8 hours)
(PHYC 151/151L and 152/152L)
- Biochemistry (3 hours)
(BIOC 423)

7. Health, Humanities, and Society Distribution Requirements (33 hours)

The Health, Humanities, and Society concentration requires 33 hours of distributed course work across the arts and sciences, at least 18 of which must be in 300 to 400 level upper-division courses. (Note: In consultation with the HMHV advisor, students may choose electives within each distribution area other than the recommended courses below.)

- Mathematics / Physical & Natural Sciences (9 hours, at least 3 of which are 300 level or above). Recommended: MATH 180 & 181; BIOL 237, 238; ANTH 150, 151L; ANTH 251, 350, 365; BIOC 463, 464; CHEM 315, 421.
- Humanities/Fine Arts (9 hours, at least 6 of which are 300 level or above). Recommended: HIST 416, 417; RELG 447; ENGL 413; PHIL 245.

- Social/Behavioral Sciences (9 hours, at least 6 of which are 300 level or above) Recommended: POLS 376,377; SOC 300, 321; ECON 335, 410; PSY 220, 240, 332, 342.

- Electives (6 hours).

Option III: Health, Medicine and Human Values Major: Biomedical Sciences Concentration. (BA) This option emphasizes intensive study in the mathematics and physical/ natural sciences. Students in Option III must complete the Health, Medicine and Human Values seminars; the Community Health Practica; a 61-hour Pre-Medical Sciences Core; and 18 upper-division hours of distributed group requirements and electives, as described below.

Option III Requirements

1. University of New Mexico Core Requirements (27 hours)

- Writing and Speaking (9 hours)
 - English 101/approved substitution if exempt per ACT/SAT
 - English 102/approved substitution if exempt per ACT/SAT
 - One from: C&J 130, Phil 156, Engl 219, Engl 220
- Social and Behavioral Science (6 hours)
- Humanities (6 hours)
- Second Language (3 hours)
 - At least one lower-division course in a language other than English. A regional language (e.g., Spanish, Navajo) or American Sign Language is recommended.
- Fine Arts (3 hours)

2. B.A./M.D. Writing and Communication Requirement (3 hours)

- One Writing or Communication course above English 102 (e.g. English 219, 220, 221-23; 320; C & J 130, 221, 225, 332, 333; PHIL 156).

Note: Can only take a minimum of 9 hours from the same department prefix.

3. Arts and Sciences Group Requirements (3-12 hours)

- Completion of fourth semester of a second language (such as Sign 310, Greek 302, Latin, Spanish, Italian, or French 202, 212, or 276 for all other non-English languages. (Native speakers of languages not taught at UNM should talk to their advisor)

OR

- 3 hours of Fine Arts (If studio/participatory course was taken for the Core requirement, this course must be from an appreciation, history, or criticism course from the College of Fine Arts).

4. Health, Medicine and Human Values Seminars (15 hours)

(See "Joint Requirements" above.)

5. Community Health Practica (6 hours)

(See "Joint Requirements" above.)

6. Pre-Medical Sciences Core (61 hours)

- Calculus (6 hours)
(MATH 180 and 181)
- General Biology (16 hours)
(BIOL 201, 202, 203L & 204L)
- General Chemistry (8 hours)
(CHEM 121/123L and 122/124L)
- Organic Chemistry (8 hours)
(CHEM 301/303L and 302/ 304L)
- Physics (8 hours)
(PHYC 151/151L and 152/152L)
- Biochemistry (3 hours)
(BIOC 423)
- Anatomy & Physiology (8 hours)
(BIOL 237/247L and 238/ 248L)
- Microbiology for Health Sciences and Non-Majors (4 hours)
(BIOL 239L)

7. Group Requirements and Electives (18 hours)

The Biomedical Sciences concentration requires an additional 18 hours of course work in 300 to 400-level upper division courses distributed across the Arts and Sciences Group categories.

Health, Medicine and Human Values (HMHV)

Seminars

101. Contours of Health in New Mexico. (3)

Seminar exploring ethnic, economic, demographic, and geographic variables impacting public health in New Mexico and the Southwest. Topics include access to health care; local alternatives to medical treatment; cultural definitions of health, illness, and death.

Restriction: Students enrolled in the HMHV program.

201. Literature, Fine Arts, and Medicine. (3)

Seminar exploring links among health, illness, literature and the arts, encompassing a diverse range of forms and genres. Topics include representations of health, illness, and medicine; arts as therapy; medical history in literature and art.

Restriction: Students enrolled in the HMHV program.

298. Health, Medicine and Human Values Workshop.

(1-3, may be repeated twice) Δ

Various topics in preprofessional development, portfolio management, study, and career skills for HMHV students.

Restriction: must be enrolled in HMHV program. Offered on a CR/NC basis only.

398. Community Service/Public Health Workshop. (1-3, may be repeated twice) Δ

Various topics in community service and public health as preparation for summer practicum/preceptorship.

Restriction: must be enrolled in HMHV program. Offered on a CR/NC basis only.

301. Health Economics, Politics, and Policy. (3)

Seminar exploring political and economic forces that impact health care policies and practices. Topics include political and economic forces impacting health care; health care reform; the institutional and political organization of medicine.

Restriction: Students enrolled in the HMHV program.

310. Health and Cultural Diversity. (3)

Seminar exploring cultural variables that affect the experience and practice of health and health care: how culture, ethnicity, race, and gender inform ideas of health and illness, death and dying, and the patient-physician relationship.

Restriction: Students enrolled in the HMHV program. Offered on a CR/NC basis only.

401. Ethics, Medicine, and Health. (3)

Seminar exploring ethical and legal considerations that influence medical practices and decision-making. Topics include contemporary ethical and moral issues in medicine; and a comparative and critical analysis of relationship between professional ethics and personal beliefs.

Restriction: Students enrolled in the HMHV program.

Community Health Practica

350. Community Health Practicum I. (3)

Experiential learning project conducted in a variety of rural or underserved healthcare settings. Emphasis upon the roles of health professionals and teams, community health issues, and health care practices, processes and systems.

Restriction: Students enrolled in the HMHV program.

450. Community Health Practicum II. (3)

Experiential and research project conducted in a variety of rural or underserved healthcare settings. Emphasis upon the roles of health professionals and teams, community health issues, and health care practices, processes and systems.

Restriction: Students enrolled in the HMHV program.

HISTORY

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Enrique Semo, Humboldt University

Donald Skabelund, Ph.D., University of Utah

Jake W. Spidle, Ph.D., Stanford University

Donald D. Sullivan, Ph.D., University of Colorado

Richard W. Etulain, Ph.D., University of Oregon

Undergraduate Major

A history major is especially well suited to prepare a student for graduate study or work in the professions. The Department encourages those students who have a firm idea of their career goals to specialize at the undergraduate level, taking courses which will support their career objectives. Others study history because it gives a general background which will prepare them intellectually for advanced study in business, law, theology, archival management, editing, public administration or similar careers that require a liberal arts background with a research emphasis. The Department encourages such students to take a broad range of courses covering the history of the various regions of the world.

Undergraduate Major Requirements

The history program for general majors, as outlined below, is designed to provide some of the cultural background necessary for intelligent and responsible living and lifelong intellectual growth. It also helps to prepare students for a variety of professions and careers. The lower-division requirement

includes HIST 101L and 102L, and one of the following pairs: 161L–162L, 181–182, 251–252, for a total of 12 hours. The upper-division requirement includes a minimum of eight 300-400 level semester courses (24 hours), including HIST 491 (*Historiography*) or 492 (*Senior Seminar*). A minimum of two courses in each of three fields is necessary, i.e., two in U.S., two in Latin American, two in European, etc. Consult the undergraduate advisor for variations possible in this program.

The Department will accept a grade of C- as counting toward graduation but requires that the student achieve a minimum grade point average of 2.25 in major or minor studies.

Undergraduate Minor Requirements

The planned program outlined below is designed to supplement a student's work in his or her major field. In total it requires a minimum of seven semester courses (21 hours). The lower-division requirement includes a minimum of two semester courses (6 hours) from the following: HIST 101L, 102L, 161L, 162L, 181, 182, 251, 252.

The upper-division requirement includes a minimum of five semester courses (15 hours), at least three of which must be concentrated in one field, e.g., U.S., Europe.

The Department will accept the grade of C- as counting toward graduation but requires that the student achieve a minimum grade point average of 2.25 in major or minor studies.

Distributed Minor for History Majors

A major may offer a distributed minor in American Studies, Asian Studies, Comparative Literature or Russian Studies, as well as a minor in a single department. Approval of the Chairperson of the History Department is required for all distributed minors.

Departmental Honors

The Department of History has an honors program which a student may enter with the recommendation of his or her departmental advisor. To complete the program, a student must take 9 hours in honors courses. A student may offer this program in lieu of one of the required fields in history. Details are available in the Department.

Graduate Program

Graduate Director
Judy Bieber

Application Deadlines

Fall semester: January 15
Spring and Summer semesters: October 15
Financial Aid: January 15

Degrees Offered

M.A. in History

Concentrations: The Western World to 1500, Europe 1500–1815, Europe since 1815, United States, American West, Latin America, Asia.

Prerequisites for admission: a Bachelor's degree in History or a related field, which should include general European and American history, some advanced course work, and a senior thesis or course in historiography or historical methodology.

Ph.D. in History

Concentrations: Students select one concentration from each of the regional and thematic tracks listed above, completing four seminars in the regional concentration and two seminars in the thematic concentration; two of these six seminars must be research seminars. Only seminars numbered 666 through 693 apply to these requirements. If insufficient seminars are available, other courses may be substituted with departmental approval.

I. Regional: U.S./American West, Latin America, Europe.

II. Thematic: Gender and Sexuality, Race and Ethnicity, Frontiers and Borderlands, War and Society, Environmental History, Religion, Politics and Economy.

Prerequisite for admission: an M.A. in History or an equivalent degree approved by the departmental admissions committee.

Degree Requirements

General

For University requirements for the M.A. and Ph.D. degrees consult the appropriate pages of this catalog. The following are general department requirements for History graduate programs. For more detailed requirements, consult the *Department of History M.A. Program Requirements* or the *Department of History Ph.D. Program Requirements*.

Course work: all students must take HIST 664 *Advanced Historiography*, normally in the first year of study; Ph.D. students must also take HIST 665 *Historical Research Methods*. At least half of each student's required credit hours (exclusive of thesis or dissertation) should be earned in graduate seminars. No more than 6 hours of "problems" (697–698) courses may count toward either the M.A. or Ph.D. degree.

Foreign language: each student must demonstrate a reading knowledge of one foreign language by passing a written departmental translation examination, or by presenting 12 credit hours of instruction in a single foreign language taken after admission to the graduate program.

M.A.

Program options: students may elect a thesis (Plan I) or non-thesis (Plan II) program as specified under the general M.A. requirements in this catalog. The thesis option must be approved in advance by the supervising professor. All theses must be written in English.

Students must complete 24 hours plus 6 hours of thesis (Plan I) or 32 hours (Plan II) of graduate-level course work, at least half of these after admission to the MA program. This course work must include at least 3 hours of graduate seminar in one (Plan I) or two (Plan II) of the concentrations indicated above.

Concentrations: each student must select a concentration from the M.A. concentrations listed above. Plan II students will also select an additional concentration from History or another discipline. Students must take at least one graduate seminar in each of their concentrations. Student must pass a general written examination in their concentration.

Ph.D.

Students must complete 48 hours of graduate-level course work, at least half of these after admission to the Ph.D. program.

Concentrations: students select one concentration from each of the regional and thematic tracks listed above, completing 15 course hours (including four seminars) in the regional concentration and 9 hours (including two seminars) in the thematic concentration. Only seminars numbered 666 through 693 apply to these requirements. If insufficient seminars are available, other courses may be substituted with departmental approval.

Students must demonstrate competency in their concentrations through a qualifying examination that is based on the student's dossier, an oral examination, and a formal presentation.

Outside field: students must complete 6 graduate-level credit hours in a department or program outside of the History department.

Second foreign language: in addition to the departmental language requirement (see above), students with a concentration in any area of European, Latin American or Asian history must demonstrate competence in a second foreign language appropriate to their course of study.

Dissertation: History dissertations must be written in English.

History (HIST)

I. Survey Courses

101L. Western Civilization to 1648. (3) Bokovoy, Ferguson, Graham, Monahan, Sanabria, Steen, Ancient times to 1648. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1053). {Summer, Fall, Spring}

102L. Western Civilization Post 1648. (3) Bokovoy, Ferguson, Sanabria, Slaughter, Steen 1648 to present. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1063). {Summer, Fall, Spring}

161L. History of the United States to 1877. (3) Cahill, Connell-Szasz, Cornell, Hutton, Sandoval-Strausz, Scharff, Smith, Szasz, Yazawa Survey of the economic, political, intellectual and social development of the United States, including the place of the U.S. in world affairs from 1607 to 1877. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113). {Summer, Fall, Spring}

162L. History of the United States Since 1877. (3) Connell-Szasz, Hutton, Sandoval-Strausz, Scharff, Smith, Szasz, Yazawa Survey of the economic, political, intellectual and social development of the United States, including the place of the U.S. in world affairs from 1877 to the present. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1123). {Summer, Fall, Spring}

181. History of Early Latin America. (3) Gauderman, Bieber An introduction to indigenous, African and Iberian backgrounds. Examines colonial societies through social, economic and political institutions with attention to the contributions of Indians, Africans and Europeans to the creation of Latin America's diverse societies.

182. Modern Latin American History. (3) Bieber, Hall, Hutchison Surveys the nations of Latin America from their independence until the present. Emphasizes the process of nation-building, governance, socioeconomic integration and coping with modernization. Special attention given to great leaders of Latin America. {Spring}

201. The Medieval World. (3) Graham (Also offered as MDVL 201.) A broad survey of the history, literature, and culture of the medieval period, from the Fall of the Roman Empire to the eve of the Renaissance.

204. Greek Civilization. (3) (Also offered as PHIL, ARTH 204.) An interdisciplinary introduction to the ancient world as the foundation of modern civilization. Lectures on classical art, history, literature and philosophy. {Spring}

205. Roman Civilization. (3) (Also offered as PHIL, ARTH 205.) An interdisciplinary introduction to ancient Rome. Lectures on Roman literature, history, art and philosophy.

220. Studies in History. (1-3, no limit) Δ Will vary from instructor to instructor but will offer a review of particular historical issues designed for the nonspecialist. For content of particular courses, see *Schedule of Classes* and contact Department. {Fall, Spring}

251. Traditional Eastern Civilizations. (3) Porter, Risso The origin and development of the traditional societies and cultures of India, Southeast Asia, China, Japan and the Middle East.

252. Modern Eastern Civilizations. (3) Porter, Risso The emergence of modern Asia from the impact of western colonialism and imperialism to nationalism, modernization and revolution.

260. History of New Mexico. (3) Ball, Reyes, Truett Introduction to New Mexico history from earliest human settlement to the present day.

284. African-American History. (3) (Also offered as AFST 284.) The course examines major events and personalities that shaped the history of African Americans in the United States.

285. African-American History II. (3) (Also offered as AFST 285.) This course will explore each of the major historical events, Black leaders of those times and their influence on the social and political advancement of Afro-American from the Civil War to the present.

335. Russian Culture and History through Film. (3) (Also offered as RUSS 339 and MA 339.) In this course we study films and read secondary sources from the Soviet and post-Soviet eras (with English subtitles) and examine how they comment on current Russian social and cultural issues. Taught in English.

II. Foundations of European Civilization

300/500. Studies in History. (1-3, no limit) Δ Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

301/501. Greece. (3) A political and social survey of the Greek people from the Mycenaean world through the long autumn of Hellenistic age and the arrival of the Romans.

302/502. Rome. (3) A political and social survey of the Roman people from their origins on the Tiber through the glories of Empire to the final collapse of classical society in the 6th century.

303/503. Early Middle Ages, 300 to 1050. (3) Graham The emergence of medieval European civilization from the reign of Constantine to the beginnings of the papal monarchy.

304./504. The High Middle Ages, 1050 to 1400. (3)

Graham

The maturing of medieval civilization: Gregorian reform, the Crusades, the rise of the university and the Gothic cathedral.

305./505. Renaissance Era, 1300 to 1520. (3)

The decline of medieval civilization and the transition to a new phase of European history.

314./514. Old Russia from the Ninth to the Seventeenth Century. (3)

Survey of the Kievan, Mongol and Muscovite periods. Emphasis on political and social developments.

320./520. History of Women from Ancient Times to the Enlightenment. (3) Slaughter

(Also offered as WMST 315.) Study of sex roles in primitive societies, classical views of women, the Judeo-Christian treatment of women, medieval social roles and the changes that came with the Renaissance and Reformation. Attention will be paid to the role of women in the family and to their economic function as well as to the less common activities of saint, witch and revolutionary.

401./601. Anglo-Saxon England, 450–1066. (3) Graham

This course will offer an overview of the history and culture of England from the arrival of the Angles and Saxons in the middle of the fifth century until the Battle of Hastings of 1066.

402./602. The Crusades. (3)

This course will examine the phenomenon of the Crusades in the Middle Ages, examining the three (arguably more) distinct cultures involved and addressing issues relevant to social, political, intellectual and military history.

III. Early Modern Europe**300./500. Studies in History. (1-3, no limit) Δ**

Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

306./506. Reformation Era, 1500–1600. (3) Steen

(Also offered as RELG 306.) Religious revolution and concurrent developments in European politics, society and culture.

307./507. Europe in the Seventeenth Century. (3) Steen

Survey of political, cultural, social and economic trends in Europe during Thirty Years War and reign of Louis XIV. Special emphasis on developments in England, France and Hapsburg dominions.

308./508. Europe in the Eighteenth Century, 1700–1788. (3) Steen

Survey of the political, cultural, social and economic situation in Europe at height of Old Regime. Emphasis will be on intellectual and social developments that culminated in French Revolution.

309./509. The French Revolution and Napoleon, 1789–1815. (3) Steen

Survey of the course of the revolution and its impact on France and on European social, political, economic and military life.

315./515. Romanov Russia to 1855. (3) Monahan

From the Time of Troubles to the death of Nicholas I. Stresses the development of political institutions and the origins of the revolutionary movement.

318./518. Spain and Portugal to 1700. (3) Sanabria

The consolidation and expansion of the Christian empires of Aragón, Castile and Portugal across Iberia and the Atlantic, from Muslim times to the War of Spanish Succession.

320./520. History of Women from Ancient Times to the Enlightenment. (3) Slaughter

(Also offered as WMST 320.) Study of sex roles in primitive societies, classical views of women, the Judeo-Christian treatment of women, medieval social roles and the changes

that came with the Renaissance and Reformation. Attention will be paid to the role of women in the family and to their economic function as well as to the less common activities of saint, witch and revolutionary.

328./528. History of Science From Antiquity to the Scientific Revolution. (3)

A history of western science from ancient Mesopotamia through the "Scientific Revolution."

411./611. History of England, 1066–1660. (3)

Survey of medieval foundations, Tudor era and 17th-century social and political revolutions.

IV. Modern Europe**300./500. Studies in History. (1-3, no limit) Δ**

Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

310./510. Modern Europe, 1815–1890. (3) Ferguson

This course examines social, political and economic issues that shaped European society in the 19th century, including revolutions, imperial expansion, the emergence of class society, transformations in urban and rural environments, cultural identity and nationalism.

311./511. World War I, 1914–1918. (3) Bokovoy

A social, cultural, political, diplomatic and military history of World War I.

312./512. Modern Europe, 1890–1939. (3) Bokovoy

The origins of World War I, World War II and the search for peace.

313./513. Europe since 1939. (3) Bokovoy, Slaughter

Study of the transformation of Europe after World War II as experienced on the political, economic, social and cultural levels.

316./516. Russia in the Era of Reform and Revolution, 1855–1924. (3) Monahan

From the "Great Reforms" to the death of Lenin. Surveys the vast political, social and cultural changes which produced and accompanied the Russian revolution.

317./517. Stalinist and Post-Stalinist Russia, 1924 to Present. (3) Monahan

Surveys the attempt to construct a communist society in Russia and the ultimate collapse of this tragic experiment. Briefly treats post-soviet developments. Emphasis on political, social and cultural change.

319./519. Spain and Portugal since 1700. (3) Sanabria

Survey of Spanish and Portuguese history since the war of Spanish Succession through Spain and Portugal's successful democratic transitions, with special emphasis on the second Spanish Republic and Civil War.

321./521. Women in the Modern World. (3) Hutchinson, Scharff, Slaughter

(Also offered as WMST 316.) Study of western women from pre-industrial to contemporary society which will focus on Victorianism, familial roles, changes in work patterns, feminist movements and female participation in fascist and revolutionary politics.

329./529. History of Science Since the Enlightenment. (3)

A history of western science from the Enlightenment to the 20th century.

351./551. History of Sport. (3) Sanabria

This course offers an interdisciplinary exploration of the history of sport and the relationship between sport and societies in Western Europe, the United States and their colonies from Antiquity through modern times.

414/614. Twentieth Century Spanish Culture. (3) Sanabria
A historical approach to Spanish culture since the Spanish/American War (1898), focusing on regionalism, the commercialization of sport and leisure, the construction of gender roles and Spain's entry into the European Community.

416/616. History of Medicine to 1850. (3)
A survey of western medicine's development to mid-19th century, aimed at the nonspecialist. Includes the impact of health factors in general historical development.

417/617. History of Modern Medicine. (3)
Survey of western medicine since mid-19th century, aimed at the nonspecialist. Includes the impact of health factors in general historical development.

418/618. City Life. (3)
A study of the development of urban spaces and urban lives from the 17th century, which considers the impact of political and cultural changes upon physical spaces and their impact upon modern lives.

419/619. Formation of Modern European Culture. (3)
Via a broad variety of media arts, theories and documents, this course introduces students to people and events that have contributed to changing definitions of modern European cultural identity between the 17th and 20th centuries.

420/620. Modern France since 1815. (3) Ferguson, Sanabria
A survey of French history from the Bourbon Restoration through modern times. Particular attention given to the Third Republic, the French colonial empire, French fascism and Vichy France, and France's role in the modern world.

421/621. Britain 1660 to the Present. (3)
Surveys British society and culture from the restoration to the monarchy and emphasizes Britain's influence on world politics and culture.

422/622. Modern European Imperialism. (3) Ferguson
This course examines the expansion of European imperialism since the 17th century, from trading companies to cultural imperialism.

423/623. Germany, 1871 to 1971. (3)
Bismarck to Brandt, a survey of German history from unification to contemporary times, with special emphasis on Weimar and Hitlerian Germany.

424/624. Modern Eastern Europe. (3) Bokovoy
The study of the "other" Europe, examining Eastern Europe during WWI, the interwar years, WWII and the communist and post-communist eras.

425/625. Europe and the Balkans. (3) Bokovoy
This course explores the Balkan peninsula not only as Europe's most diverse and complex cultural crossroad and frontier, but as an "imagined" political and cultural other.

426/626. History of the Holocaust. (3)
(Also offered as RELG 426.) An examination of the motives, methods and execution of the destruction of the Jews by Nazi Germany and the responses of Jews, Western Powers, the Churches and Righteous Gentiles in the context of Jewish and world history.

427. History of Sexuality. (3) Slaughter
(Also offered as WMST 427.) Study of sexual behavior, politics and ideology in Western Society from the pre-modern world to the contemporary era. Background in History of Women Studies is suggested.

428/628. Women, War and Revolution. (3) Slaughter
(Also offered as WMST 428.) Study of women's participation in wars and revolutions, and discussion of the social impact of these events which often alters women's status, experience and expectations. Typical approach using global examples and case studies.

V. United States History

300/500. Studies in History. (1-3, no limit) Δ
Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

330/530. The American Colonies, 1607–1763. (3) Yazawa
The settlement of English America. The transference of institutions and attitudes from Britain, Europe and Africa to North America and what happened to them when they encountered the new environment and the native population.

331/531. The American Revolution, 1763–1789. (3) Yazawa
The separation of British America from the mother country: why it was undertaken, how it was achieved, what its significance was. The effort to gather a scattered and diverse people under one constitutional government.

332/532. Age of Washington and Jefferson. (3) Yazawa
Study of the impact of the American Revolution on the post-war society, the creation of the new nation, crisis of the 1790s, origin of modern political parties, Jeffersonian America, the War of 1812 and the movement westward.

333/533. Age of Jackson. (3)
The United States from 1815 to 1848, emphasizing economic growth, social transformation, westward expansion, political democratization, nationalism and sectionalism, and the rise of the slavery controversy.

334/534. The Civil War Era. (3) Cornell
The United States from 1848 to 1868. Topics covered include slavery, anti-slavery and the coming of the Civil War; social, political and economic aspects of the war; emancipation and Reconstruction.

336/536. Twentieth Century America 1920–1960. (3) Smith
Americans debate the role of government, the meaning of social justice and their role in the world as they forge the New Deal at home and fight fascism and then communism abroad.

337/537. Twentieth Century America, 1960–Present. (3) Smith
From JFK/LBJ liberalism to Reagan/Gingrich conservatism; the civil rights revolution and its backlash; from Vietnam to post-Cold War internationalism; democracy in the information age.

338/538. The United States in the World War II Era. (3) Szasz
The Era of World War II from the mid 1930s to the mid 1950s, with a focus on the social, political, economic, cultural, military and diplomatic aspects of the conflict.

339/539. Vietnam War Era. (3) Hutton
This history of the Vietnam War era covers the origins of the conflict, the nature of the war, the home front reaction and the political, military and social consequences.

340/540. U.S. Foreign Relations to 1900. (3)
Survey and analysis of U.S. foreign relations from independence to 1900.

341/541. U.S. Foreign Relations from 1900. (3)
Survey and analysis of U.S. foreign relations in the 20th century.

342/542. Constitutional History of the United States to 1877. (3) Yazawa
The American Constitution from English origins through the Civil War and Reconstruction. The continuing effort to fashion a frame of government broad enough to embrace diverse peoples of different races, religious, national origins and value systems.

343/543. Constitutional History of the United States since 1877. (3) Yazawa

Sequel to 342. A century-long struggle to resolve the conflicting liberties of the people and requirements of an ordered society. Examination of the occasional collisions of the cherished rights of property and personal freedom.

344/544. U.S. Women to 1865. (3) Scharff
This course introduces students to the history of American women's roles, status and ideas before 1865.**345/545. U.S. Women since 1865. (3)** Scharff
This course introduces students to the history of American women's roles, status and ideas since 1865.**346/546. Native America to 1850. (3)** Connell-Szasz
(Also offered as NATV 346.) This course will cover American Indian/Alaska Native history to 1850.**347/547. Native America, 1850–1940. (3)** Connell-Szasz
(Also offered as NATV 347.) The course will cover American Indian/Alaska Native history from 1850 to 1940.**348/548. Native America Post-1940. (3)** Connell-Szasz
(Also offered as NATV 342.) Course will address issues that Native Americans have dealt with from World War II to the early 21st century, including termination, urbanization, Red Power, gaming and self-determination.**349/549. Military History of the United States to 1900. (3)** Hutton
Survey of U.S. military and naval history from colonial times to 1900, with emphasis upon technological, managerial and political developments that have affected the armed services.**350/550. Modern U.S. Military History, 1900 to Present. (3)** Hutton
A survey of the origins and development of American military institutions, traditions and practices of the 20th century. Attention to WWI, WWII and the Vietnam war, technological advances and institutional history will be given.**351/551. History of Sport. (3)** Sanabria
This course offers an interdisciplinary exploration of the history of sport and the relationship between sport and societies in Western Europe, the United States and their colonies from Antiquity through modern times.**430/630. The Old South. (3)**
The South from the beginning of colonization to the outbreak of the Civil War. Emphasis on slavery and its impact on southern society.**431/631. Political History of the United States. (3)**
Study of American politics from 1787 to the present. Emphasis on national politics with special attention to the presidency and changes in the political systems.**432/632. U.S. Social Life and Leisure. (3)** Sandoval-Strausz, Scharff
An inquiry into sociability in the United States from 1820 to 1960. Leading themes include youth and working-class culture, social policing, identity, social life under capitalism, sexuality, travel, consumer culture and the politicization of leisure.**433/633. U.S. Environmental History. (3)** Scharff, Truett
Examines the environmental transformation of the United States from the colonial era to the present day. Focus on the ecological consequences of colonial encounters; shifting links between cultures, markets and the land; changing ideas and politics of nature; and the environmental impacts and inequalities of urban-industrial life.**434/634. U.S. Business and Labor History. (3)** Sandoval-Strausz
This course traces developments in the structure of profit-making enterprises and the organization of labor in United States history, examining how the imperatives of capitalism and the struggles of working people shaped the American economy.**435/635. U.S. Culture and Society 1860-. (3)** Szasz**437/637. The City in America. (3)** Sandoval-Strausz
This course examines the urban landscapes of America—its physical form as well as the cultural beliefs and practices; economic conditions, material and social technologies; and individual aspirations which shape urban life, function and form.**438/638. American Legal History. (3)** Sandoval-Strausz
Law is all around us: in politics, at work and in the home. This course will help students understand state and private law, which have substantial bearing on their lives and those of other Americans.**439/639. History of Science and Technology in the U.S. (3)**
A history of science and technology in the United States, examining both intellectual developments and the creation of an American scientific community.**440/640. Atomic America. (3)**
The history of atomic America in the 20th century, with focus on the political, social and cultural dimensions of the nuclear arms race; the controversy over nuclear energy; and the specter of nuclear terrorism.**441/641. History of Religion in America. (3)** Szasz
(Also offered as RELG 441.) This class will cover the rise and development of the nation's religious groups, from first contact to the present day. The focus will be on the social impact of the groups and how they influenced the development of American life.**VI. The American West****300/500. Studies in History. (1-3, no limit) Δ**
Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.**360/560. History of the American Frontier. (3)** Connell-Szasz, Hutton
Frontier expansion and conflict from the time of European discovery to the Mexican-American War.**361/561. The Trans-Mississippi West. (3)** Connell-Szasz, Hutton**362/562. The American West in the Twentieth Century. (3)** Cahill, Scharff
Surveys the growth of the trans-Mississippi West in the 20th century, giving attention to social development, economic growth, cultural development, the role of minority groups and the impact of science and technology.**363/563. Early History of Mexican-Americans. (3)** Reyes
This course will review the history of the Southwest from pre-conquest and Spanish colonization to the U.S. invasion and its aftermath.**364/564. Contemporary Chicana/o History. (3)** Reyes
This course examines the historical development of Chicana/o communities in the late 19th and 20th century with a special focus on the different socio-economic experiences of the Chicana/o population of the U.S.**460. Western Films. (3)** Hutton
Intended to complement courses in the history of the American West. It will deal with the role of Westerns in the development of the American film industry. The approach will be interdisciplinary and utilize approaches from the fields of history, literature and film. {Fall}**461/607. The Western Hero. (3)** Hutton
This course examines the evolution of the western hero. In fiction, history and film the western hero has mirrored the development of the nation, always responding to a rapidly changing society—and more often than not defining it.

228 ARTS AND SCIENCES

462/608. Women in the U.S. West. (3) Scharff, Reyes
History of women in the western United States from the colonial period to the present, with attention to women's work and family roles, common stereotypes of western women, sex roles on the frontier and why women's suffrage was first achieved in the West.

463/643. Hispanic Frontiers in North America. (3) Reyes, Truett
History of colonial encounters, Indian-European exchanges and conflicts, environmental transformations and changing identities at the northern frontiers of New Spain and Mexico. From the time of Columbus to 1848.

464/644. U.S.–Mexico Borderlands. (3) Truett
History of the U.S.–Mexico borderlands and its various native and immigrant communities from 1848 to the present. Focus on cultural and economic linkages, ethnic and military struggles, and formation of new identities on the border.

465/645. History of Mexican Immigration. (3) Reyes
This course examines the history of Mexican immigration to the U.S. We review historical interpretations of the broader political economy of colonial, 19th and 20th century America to contextualize past and current Mexican immigration.

466/646. Native American Southwest. (3) Truett
(Also offered as NATV 466.) In this class we will explore the history of Native American groups and their relationships to dominant cultures and nations in the American Southwest and Northern Mexico.

VII. Latin American History

300/500. Studies in History. (1-3, no limit) Δ
Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

370/570. Inca Empire to Spanish Colony: Spanish South America to 1824. (3) Gauderman
The native cultures in pre-Conquest times; the conquest of the Incas and the colonial settlement of the remainder of Spanish South America; economic, social and cultural developments of colonial times, concentrating on the central Andean region, but with accounts of varying development in other areas; the origins and accomplishment of independence in the early 19th century.

371/571. From Aztec to Spanish Domination: The History of Early Mexico. (3) Gauderman
An introduction to the ancient, indigenous cultures of Mesoamerica. Examines Mexico's political, economic and social development under Spanish colonial rule. Attention given to the social and cultural interaction among Mexico's indigenous, European and African populations.

372/572. Mexico Since 1821. (3) Bieber, Hall, Hutchison
The major political, social and economic trends and events in Mexico from the independence movement to 1940.

373/573. The Mexican Revolution. (3) Hall
Study of the events, leadership, social and economic implications, and role of U.S. involvement in the Mexican Revolution of 1910–1920.

374/574. Southern South America. (3) Hutchison
Argentina, Chile, Uruguay and Paraguay from colonization to the present. Most emphasis on late 19th and 20th centuries, when these nations led the region's development. Deals with the rise of the export economies, populist movements, militarism and socio-economic stagnation.

375. Rebellion and Revolution in Modern Andean Nations. (3) Gauderman
Focuses on the history of Bolivia, Colombia, Ecuador and Peru from their independence from Spain to modern times. Explores political and economic themes as well as the socio-economic and political dimensions of class, race, ethnicity and gender.

376/576. Brazil in the Colonial Period, 1500–1822. (3) Bieber
Colonial Brazil from 1500 to 1822. Focus on structures of colonialism and their impact on indigenous, African and European peoples. Plantation society, slavery, mercantile policy, the role of the church, women and family will be discussed.

377/577. Modern Brazil, 1822–Present. (3) Bieber
History of Brazil since independence. Topics include oligarchical politics, the end of slavery, race relations, urbanization, industrialization, authoritarian regimes, labor and peasant movements.

389. Latin American Thought I. (3)
(Also offered as RELG, PHIL 389.) Pre-Columbian thought through independence ideologies.

390. Latin American Thought II. (3)
(Also offered as SOC, RELG, PHIL 390.) Positivism through contemporary thought.

468/648. Society and Development in Latin America, 1492–Present. (3) Bieber
Overview of social and economic trends in Latin America, stressing labor systems, social structure, trade, demography and industrialization.

469/649. Inter-American Relations. (3) Hall
Relations among the American nations since 1810 and with other world powers. Stresses U.S. role in the region after 1900, as well as tendencies to curb that influence. Guerrilla warfare, revolutionary networks and Third World ideology covered.

470/650. Labor and Working Class in Latin America. (3) Hutchison
This course traces the evolution of Latin American labor systems in the modern period.

471/651. Women in Early Latin America. (3) Hall, Gauderman
(Also offered as WMST 418.) A historical exploration of the place of women within the social systems of pre-Columbian and colonial Latin America. Will explore the gendered dimensions of the economy, politics and culture in indigenous and Spanish societies.

472/652. Women in Modern Latin America. (3) Hall, Hutchison
(Also offered as WMST 472.) Course will focus on women in Latin America, 1821–present, through various historical developments. Will explore political themes, such as suffrage, revolution and military regimes and social dimensions of class, race, ethnicity, work and family.

473/653. Indigenous Peoples of Latin America. (3) Bieber, Gauderman
Historical overview of indigenous peoples of Spanish and Portuguese America from pre-colonial times to the present. Emphasis on cultural history, contact and change and policies impacting native American groups.

474/654. Slavery and Race Relations. (3) Bieber
Overview of slavery, the slave trade and post-emancipation race relations in the U.S., the Caribbean and Latin America.

475/655. The Cuban Revolution, 1959 to Present. (3)
(Also offered as SOC 484.) Background to revolution since 1898; emphasis on period since 1959.

476/656. Latin American Religions. (3) Hutchison
Religious experience, movements and communities in Latin America, from conquest to the present. Examines the cultural interactions that have shaped belief and practice, and politics—particularly the influence of Catholicism and of native and African religions.

478/678. History of Latin America through Film. (3)
Explores key topics in Latin American history through film, including documentary and feature-length films produced in Latin America. Examines the historical context as well as the the political and social context of each film's production.

VIII. Asian History

300./500. Studies in History. (1-3, no limit) Δ

Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

380./580. The Ancient Near East. (3)

A political and social survey of civilization in Egypt and Mesopotamia from its birth in Sumer in the fourth millennium to the destruction of the Achaemenid Persian empire by Alexander.

381./581. Traditional China. (3) Porter

Emergence and development of Chinese civilization to its height in the 13th century, including cultural, political, social and economic themes.

382./582. Imperial China. (3) Porter

The development of early modern society and the impact of the West from the 13th to the 20th century.

383./583. Revolutionary China. (3) Porter

Political, social economic and cultural history of China in the revolutionary period from 1911 to the present.

384./584. History of Japan. (3) Porter

Social, political, and economic institutions from historical beginnings to modern times.

386./586. The Islamic Middle East to 1800. (3) Risso

The political, social and economic development of the Islamic world through the Ottoman and Safavid eras. Arab, Persian and Turkish elements of Islamic civilization will be included.

387./587. The Modern Middle East from 1800. (3) Risso

Topics include 19th-century reform attempts, the transition from empire to nation-states, the gap between ideology and practice, the Arab-Israeli conflict and revolutionary Iran.

388. India. (3) Risso

History of South Asia with emphasis on cultural development, social groups and religious communities and the establishment of the modern nation-state of India.

453. Asian Studies Senior Thesis. (3)

(Also offered as COMP, PHIL, POLS, RELG 453.) Supervised research in one or more disciplines leading to an undergraduate thesis for the major in Asian Studies.

480./660. Christians and Spices: The Western Impact on Asia. (3) Porter

The era of European expansion in Asia from Vasco da Gama to circa 1900; sources of European expansion, the early struggles and conquests, colonial systems and imperialism.

481./661. Islam. (3) Risso

(Also offered as RELG 481.) Topics include the development of Islamic law and theory; philosophy and mysticism; ritual and art. The political, social and economic ramifications of Islam will be emphasized.

482./662. Raj: India During British Rule. (3) Risso

Covering the two centuries from 1756 through 1947, this course includes inter-cultural contacts, economic issues and the developments of both Indian and Muslim nationalisms.

IX. Women and Gender

300./500. Studies in History. (1-3, no limit) Δ

Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

320./520. History of Women from Ancient Times to the Enlightenment. (3) Slaughter

(Also offered as WMST 320.) Study of sex roles in primitive societies, classical views of women, the Judeo-Christian treatment of women, medieval social roles and the changes that came with the Renaissance and Reformation. Attention will be paid to the role of women in the family and to their

economic function as well as to the less common activities of saint, witch and revolutionary.

321./521. Women in the Modern World. (3) Hutchison, Scharff, Slaughter

(Also offered as WMST 316.) Study of western women from pre-industrial to contemporary society which will focus on Victorianism, familial roles, changes in work patterns, feminist movements and female participation in fascist and revolutionary politics.

322./522. History of the Women's Rights Movement. (3) Hutchison, Slaughter

(Also offered as WMST 330.) A detailed study of the movements for women's rights in the U.S., Europe and Latin America in the 19th and 20th centuries. The topic's approach will emphasize the movement's relation to and impact on broader historical questions.

344./544. U.S. Women to 1865. (3) Scharff

This course introduces students to the history of American women's roles, status and ideas before 1865.

345./545. U.S. Women since 1865. (3) Scharff

This course introduces students to the history of American women's roles, status and ideas since 1865.

427. History of Sexuality. (3) Slaughter

(Also offered as WMST 427.) Study of sexual behavior, politics and ideology in Western Society from the pre-modern world to the contemporary era. Background in History of Women Studies is suggested.

428./628. Women, War and Revolution. (3) Slaughter

(Also offered as WMST 428.) Study of women's participation in wars and revolutions, and discussion of the social impact of these events which often alters women's status, experience and expectations. Typical approach using global example and case studies.

429./629. History of Beauty, Body, and Power. (3)

A historical exploration of female and male beauty and body in relation to questions of power in comparative historical context, drawing from U.S., European, and Latin American examples, using both theoretical works and case studies.

462./608. Women in the U.S. West. (3) Scharff, Reyes

History of women in the western United States from the colonial period to the present, with attention to women's work and family roles, common stereotypes of western women, sex roles on the frontier and why women's suffrage was first achieved in the West.

471./651. Women in Early Latin America. (3)

Gauderman, Hall
(Also offered as WMST 418.) A historical exploration of the place of women within the social systems of pre-Columbian and colonial Latin America. Will explore the gendered dimensions of the economy, politics and culture in indigenous and Spanish societies.

472./652. Women in Modern Latin America. (3) Bieber, Hall, Hutchison

(Also offered as WMST 472.) Course will focus on women in Latin America, 1821–present, through various historical developments. Will explore political themes, such as suffrage, revolution and military regimes and social dimensions of class, race, ethnicity, work and family.

X. Race and Ethnicity

300./500. Studies in History. (1-3, no limit) Δ

Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

346./546. Native America to 1850. (3) Connell-Szasz

(Also offered as NATV 346.) This course will cover American Indian/Alaska Native history to 1850.

230 ARTS AND SCIENCES

347/547. Native America, 1850–1940. (3) Connell-Szasz (Also offered as NATV 347.) The course will cover American Indian/Alaska Native history from 1850 to 1940.

348/548. Native America Post-1940. (3) Connell-Szasz (Also offered as NATV 342.) Course will address issues that Native Americans have dealt with from World War II to the early 21st century, including termination, urbanization, Red Power, gaming and self-determination.

363/563. Early History of Mexican-Americans. (3) Reyes This course will review the history of the Southwest from pre-conquest and Spanish colonization to the U.S. invasion and its aftermath.

364/564. Contemporary Chicana/o History. (3) Reyes This course examines the historical development of Chicana/o communities in the late 19th and 20th century with a special focus on the different socio-economic experiences of the Chicana/o population of the U.S.

444/612. Native American and Celtic History Since 1700. (3) Connell-Szasz Course will have a cross-cultural focus and look at how major trends of the modern era have played out among various American Indian/Alaska Native Nations and the Celtic people of *Eire* (Ireland), *Alba* (Scotland) and *Cymru* (Wales).

463/643. Hispanic Frontiers in North America. (3) Reyes, Truett History of colonial encounters, Indian-European exchanges and conflicts, environmental transformations and changing identities at the northern frontiers of New Spain and Mexico. From the time of Columbus to 1848.

464/644. U.S.–Mexico Borderlands. (3) Truett History of the U.S.–Mexico borderlands and its various native and immigrant communities from 1848 to the present. Focus on cultural and economic linkages, ethnic and military struggles, and formation of new identities on the border.

465/645. History of Mexican Immigration. (3) Reyes This course examines the history of Mexican immigration to the U.S. We review historical interpretations of the broader political economy of colonial, 19th and 20th century America to contextualize past and current Mexican immigration.

466/646. Native American Southwest. (3) Truett (Also offered as NATV 466.) In this class we will explore the history of Native American groups and their relationships to dominant cultures and nations in the American Southwest and Northern Mexico.

473/653. Indigenous Peoples of Latin America. (3) Bieber, Gauderman Historical overview of indigenous peoples of Spanish and Portuguese America from pre-colonial times to the present. Emphasis on cultural history, contact and change and policies impacting native American Groups.

474/654. Slavery and Race Relations. (3) Bieber Overview of slavery, the slave trade and post-emancipation race relations in the U.S., the Caribbean and Latin America.

XI. Religion, Science and Ideas

300/500. Studies in History. (1-3, no limit) Δ Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

323/523. History of the Jewish People to 1492. (3) (Also offered as RELG 323.) Survey of Jewish history in Ancient and Medieval times, stressing major religious, intellectual, political and social developments. Traces the transformation of the Hebrews into the Jews and Israelite religion into Judaism, Highlights the Rabbinic era and the diaspora experience in the Islamic and Christian worlds. {Fall and alternate years}

324/524. Modern History of the Jewish People. (3) (Also offered as RELG 324.) Survey in ethnic history stressing political, religious and social developments from the expulsion from Spain (1492) to the present. Concentrates on European Jewry but will include consideration of American Jewish community, modern anti-semitism and rise of the state of Israel. {Spring and alternate years}

325/525. History of World Communism. (3) From Marx to the present.

326/526. History of Christianity to 1517. (3) Graham (Also offered as RELG 326.) The history of Christianity from its beginnings in Palestine to the eve of the Protestant Reformation. Primary focus will be on the rich variety of forms—doctrinal, liturgical and institutional—that Christianity assumed through the Medieval centuries. Also of concern will be its contributions and significance as a civilizing force. {Fall}

327/527. History of Christianity, 1517 to Present. (3) (Also offered as RELG 327.) The development of Christianity from the Protestant Reformation into the modern world, including biography, doctrine, liturgy, institutions and religious practice, together with the interaction of Christianity with society at large. {Spring}

328/528. History of Science From Antiquity to the Scientific Revolution. (3) A history of western science from ancient Mesopotamia through the "Scientific Revolution".

329/529. History of Science Since the Enlightenment. (3) A history of western science from the Enlightenment to the 20th century.

416/616. History of Medicine to 1850. (3) A survey of western medicine's development to mid-19th century, aimed at the nonspecialist. Includes the impact of health factors in general historical development.

417/617. History of Modern Medicine. (3) Survey of western medicine since mid-19th century, aimed at the nonspecialist. Includes the impact of health factors in general historical development.

439/639. History of Science and Technology in the U.S. (3) A history of science and technology in the United States, examining both intellectual developments and the creation of an American scientific community.

440/640. Atomic America. (3) The history of atomic America in the 20th century, with focus on the political, social and cultural dimensions of the nuclear arms race; the controversy over nuclear energy; and the specter of nuclear terrorism.

441/641. History of Religion in America. (3) Szasz (Also offered as RELG 441.) This class will cover the rise and development of the nation's religious groups, from first contact to the present day. The focus will be on the social impact of the groups and how they influenced the development of American life.

481/661. Islam. (3) Risso (Also offered as RELG 481.) Topics include the development of Islamic law and theory; philosophy and mysticism; ritual and art. The political, social and economic ramifications of Islam will be emphasized.

XII. Special Courses, Undergraduate Colloquia and Seminars

490/590. World History: Comparative Themes. (3) Skipping through time and space, this course investigates a series of themes common to human existence, and stresses interaction among different societies and civilizations. Team taught by three members of the History Department.

491. Historiography. (3) Bieber, Bokovoy, Cahill, Cornell, Sandoval-Strausz, Slaughter
Development of historical thought and writing.
Prerequisite: 101L–102L and a minimum of two upper-division courses in history. Restriction: permission from department. {Summer, Fall}

492. Senior Seminar. (3, no limit) Δ
Restriction: permission from department.

493. Reading and Research in Honors. (3)
Restriction: permission of instructor.

494. Senior Thesis. (3)
Prerequisite: 493.

495/595. Introduction to Public History. (3) Ball
The object of this class is to introduce students to the field of Public History. The course will embrace the theory, method and practice of public history.

496. Undergraduate Readings in History. (1-3, no limit) Δ
Restriction: permission of instructor.

***499. Internship. (3-9, no limit) Δ**
Provides a supervised work experience in the practical application of historical skills. Training for interns is provided in various fields such as museum work, archival management and historical editing. It does not give credit toward minimum requirements for the Ph.D. Course may be repeated without limit provided the topics vary.

XIII. Graduate Seminars

664. Advanced Historiography. (3) Bieber, Smith
This seminar familiarizes beginning graduate students with many of the fundamental paradigms, analytical models, and theories of causation that have been used within the field of history.
Restriction: permission of instructor.

665. Seminar in Historical Research Methods. (3, no limit) Δ
Restriction: permission of department graduate advisor.

666. Seminar and Studies in History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

668. Seminar and Studies in Medieval History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

669. Seminar and Studies in Early Modern European History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

670. Seminar and Studies in European Cultural and Intellectual History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

671. Seminar and Studies in Modern European History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

672. Seminar and Studies in British History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

673. Seminar and Studies in Iberian History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

674. Seminar and Studies in Modern Russian History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

675. Seminar and Studies in Early American History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

676. Seminar and Studies in American Intellectual and Social History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

677. Seminar and Studies in Civil War Period. (3, no limit) Δ
Restriction: permission of department graduate advisor.

678. Seminar and Studies in Recent American History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

679. Seminar and Studies in United States Military History. (3 to a maximum of 6) Δ
Restriction: permission of department graduate advisor.

680. Seminar and Studies in U.S. Social History and Theory. (3, no limit) Δ
Restriction: permission of department graduate advisor.

681. Seminar and Studies in United States Diplomatic History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

682. Seminar in American Western History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

683. Seminar in American Indian History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

684. Seminar and Studies in Chicana/o History. (3 to a maximum of 6) Δ
Restriction: permission of department graduate advisor.

685. Seminar in Borderlands History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

686. Seminar in Early Latin America. (3, no limit) Δ
Restriction: permission of department graduate advisor.

687. Seminar in Recent Latin American History. (3, no limit) Δ
Restriction: permission of department graduate advisor.

688. Seminar and Studies in Brazilian History. (3, no limit) Δ
(Also offered as LTAM 504.) Format varies from research seminar to reading colloquium and covers the whole history of Brazil. Reading knowledge of Portuguese recommended.
Restriction: permission of department graduate advisor.

689. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3, no limit) Δ
(Also offered as ECON, POLS, SOC 584.)
Restriction: permission of department graduate advisor.

690. Seminar in Latin-American Studies. (3, no limit) Δ
(Also offered as LTAM 504.)
Restriction: permission of department graduate advisor.

692. Seminar in the History of Women and Gender. (3, no limit) Δ
Restriction: permission of department graduate advisor.

696. Dissertation/Professionalization Workshop. (3, to a maximum of 15) Δ
This workshop allows advanced doctoral students to circulate dissertation chapters to peers and faculty, and discuss readings preparing them for careers in history. **Offered on a CR/NC basis only.**

697–698. Problems. (1-9, 1-9, no limit) Δ
Restriction: permission of department graduate advisor.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

699. Dissertation. (3-12, no limit) Δ
Offered on a CR/NC basis only.
Restriction: permission of department graduate advisor.

XIV. Graduate Courses

500/300. Studies in History. (1-3, no limit) Δ

Will vary from instructor to instructor, but will be an in-depth analysis of specific historical problems. For course content, consult *Schedule of Classes*.

501/301. Greece. (3)

A political and social survey of the Greek people from the Mycenaean world through the long autumn of Hellenistic age and the arrival of the Romans.

502/302. Rome. (3)

A political and social survey of the Roman people from their origins on the Tiber through the glories of Empire to the final collapse of classical society in the 6th century.

503/303. Early Middle Ages, 300 to 1050. (3) Graham

The emergence of medieval European civilization from the reign of Constantine to the beginnings of the papal monarchy.

Prerequisite: 101L.

504/304. The High Middle Ages, 1050 to 1400. (3)

Graham

The maturing of medieval civilization: Gregorian reform, the Crusades, the rise of the university and the Gothic cathedral.

505/305. Renaissance Era, 1300 to 1520. (3)

The decline of medieval civilization and the transition to a new phase of European history.

506/306. Reformation Era, 1500–1600. (3) Steen

(Also offered as RELG 506.) Religious revolution and concurrent developments in European politics, society and culture.

507/307. Europe in the Seventeenth Century. (3) Steen

Survey of political, cultural, social and economic trends in Europe during Thirty Years War and reign of Louis XIV. Special emphasis on developments in England, France and Hapsburg dominions.

508/308. Europe in the Eighteenth Century, 1700–1788. (3) Steen

Survey of the political, cultural, social and economic situation in Europe at height of Old Regime. Emphasis will be on intellectual and social developments that culminated in French Revolution.

509/309. The French Revolution and Napoleon, 1789–1815. (3) Steen

Survey of the course of the revolution and its impact on France and on European social, political, economic and military life.

510/310. Modern Europe, 1815–1890. (3) Ferguson

This course examines social, political and economic issues that shaped European society in the 19th century, including revolutions, imperial expansion, the emergence of class society, transformations in urban and rural environments, cultural identity and nationalism.

511/311. World War I, 1914–1918. (3) Bokovoy

A social, cultural, political, diplomatic and military history of World War I.

512/312. Modern Europe, 1890–1939. (3) Bokovoy

The origins of World War I, World War II and the search for peace.

513/313. Europe since 1939. (3) Bokovoy, Slaughter

Study of the transformation of Europe after World War II as experienced on the political, economic, social and cultural levels.

514/314. Old Russia from the Ninth to the Seventeenth Century. (3) Monahan

Survey of the Kievan, Mongol and Muscovite periods. Emphasis on political and social developments.

515/315. Romanov Russia to 1855. (3) Monahan

From the Time of Troubles to the death of Nicholas I. Stresses the development of political institutions and the origins of the revolutionary movement.

516/316. Russia in the Era of Reform and Revolution, 1855–1924. (3) Monahan

From the "Great Reforms" to the death of Lenin. Surveys the vast political, social and cultural changes which produced and accompanied the Russian revolution.

517/317. Stalinist and Post Stalinist Russia, 1924 to Present. (3) Monahan

Surveys the attempt to construct a communist society in Russia and the ultimate collapse of this tragic experiment. Briefly treats post-soviet developments. Emphasis on political, social and cultural change.

518/318. Spain and Portugal to 1700. (3) Sanabria

The consolidation and expansion of the Christian empires of Aragón, Castile and Portugal across Iberia and the Atlantic, from Muslim times to the War of Spanish Succession.

519/319. Spain and Portugal since 1700. (3) Sanabria

Survey of Spanish and Portuguese history since the war of Spanish Succession through Spain and Portugal's successful democratic transitions, with special emphasis on the second Spanish Republic and Civil War.

520/320. History of Women from Ancient Times to the Enlightenment. (3) Slaughter

(Also offered as WMST 520.) Study of sex roles in primitive societies, classical views of women, the Judeo-Christian treatment of women, medieval social roles and the changes that came with the Renaissance and Reformation. Attention will be paid to the role of women in the family and to their economic function as well as to the less common activities of saint, witch and revolutionary.

521/321. Women in the Modern World. (3) Hutchison, Scharff, Slaughter

Study of western women from pre-industrial to contemporary society which will focus on Victorianism, familial roles, changes in work patterns, feminist movements and female participation in fascist and revolutionary politics.

522/322. History of the Women's Rights Movement. (3) Hutchison, Slaughter

A detailed study of the movements for women's rights in the U.S., Europe and Latin America in the 19th and 20th centuries. The topic's approach will emphasize the movement's relation to and impact on broader historical questions.

523/323. History of the Jewish People to 1492. (3)

Survey of Jewish history in Ancient and Medieval times, stressing major religious, intellectual, political and social developments. Traces the transformation of the Hebrews into the Jews and Israelite religion into Judaism. Highlights the Rabbinic era and the diaspora experience in the Islamic and Christian worlds. {Fall and alternate years}

524/324. Modern History of the Jewish People. (3)

(Also offered as RELG 524.) Survey in ethnic history stressing political, religious and social developments from the expulsion from Spain (1492) to the present. Concentrates on European Jewry but will include consideration of American Jewish community, modern anti-semitism and rise of the state of Israel. {Spring 2004 and alternate years}

525/325. History of World Communism. (3)

From Marx to the present.

526/326. History of Christianity to 1517. (3) Graham

The history of Christianity from its beginnings in Palestine to the eve of the Protestant Reformation. Primary focus will be on the rich variety of forms—doctrinal, liturgical and institutional—that Christianity assumed through the Medieval centuries. Also of concern will be its contributions and significance as a civilizing force. {Fall}

527/327. History of Christianity, 1517 to Present. (3)
The development of Christianity from the Protestant Reformation into the modern world, including biography, doctrine, liturgy, institutions and religious practice, together with the interaction of Christianity with society at large. (Spring)

528/328. History of Science From Antiquity to the Scientific Revolution. (3)
A history of western science from ancient Mesopotamia through the "Scientific Revolution."

529/329. History of Science Since the Enlightenment. (3)
A history of western science from the Enlightenment to the 20th century.

530/330. The American Colonies, 1607–1763. (3)
Yazawa
The settlement of English America. The transference of institutions and attitudes from Britain, Europe and Africa to North America and what happened to them when they encountered the new environment and the native population.

531/331. The American Revolution, 1763–1789. (3)
Yazawa
The separation of British America from the mother country; why it was undertaken, how it was achieved, what its significance was. The effort to gather a scattered and diverse people under one constitutional government.

532/332. Age of Washington and Jefferson. (3) Yazawa
Study of the impact of the American Revolution on the post-war society, the creation of the new nation, crisis of the 1790s, origin of modern political parties, Jeffersonian America, the War of 1812 and the movement westward.

533/333. Age of Jackson. (3)
The United States from 1815 to 1848, emphasizing economic growth, social transformation, westward expansion, political democratization, nationalism and sectionalism, and the rise of the slavery controversy.

534/334. The Civil War Era. (3) Cornell
The United States from 1848 to 1868. Topics covered include slavery, anti-slavery and the coming of the Civil War; social, political and economic aspects of the war; emancipation and Reconstruction.

536/336. Twentieth Century America 1920–1960. (3)
Smith
Americans debate the role of government, the meaning of social justice and their role in the world as they forge the New Deal at home and fight fascism and then communism abroad.

537/337. Twentieth Century America, 1960–Present. (3) Smith
From JFK/LBJ liberalism to Reagan/Gingrich conservatism; the civil rights revolution and its backlash; from Vietnam to post-Cold War internationalism; democracy in the information age.

538/338. The United States in the World War II Era. (3)
Szasz
The Era of World War II from the mid 1930s to the mid 1950s, with a focus on the social, political, economic, cultural, military and diplomatic aspects of the conflict.

539/339. Vietnam War Era. (3) Hutton
This history of the Vietnam War era covers the origins of the conflict, the nature of the war, the home front reaction and the political, military and social consequences.

540/340. U.S. Foreign Relations to 1900. (3)
Survey and analysis of U.S. foreign relations from independence to 1900.

541/341. U.S. Foreign Relations from 1900. (3)
Survey and analysis of U.S. foreign relations in the 20th century.

542/342. Constitutional History of the United States to 1877. (3) Yazawa
The American Constitution from English origins through the Civil War and Reconstruction. The continuing effort to fashion a frame of government broad enough to embrace diverse peoples of different races, religious, national origins and value systems.

543/343. Constitutional History of the United States since 1877. (3) Yazawa
Sequel to 342. A century-long struggle to resolve the conflicting liberties of the people and requirements of an ordered society. Examination of the occasional collisions of the cherished rights of property and personal freedom.

544/344. U.S. Women to 1865. (3) Scharff
This course introduces students to the history of American women's roles, status and ideas before 1865.

545/345. U.S. Women Since 1865. (3) Scharff
This course introduces students to the history of American women's roles, status and ideas since 1865.

546/346. Native America to 1850. (3) Connell-Szasz
This course will cover American Indian/Alaska Native history to 1850.

547/347. Native America, 1850–1940. (3) Connell-Szasz
(Also offered as NATV 347.) The course will cover American Indian/Alaska Native history from 1850 to 1940.

548/348. Native America Post-1940. (3) Connell-Szasz
Course will address issues that Native Americans have dealt with from World War II to the early 21st century, including termination, urbanization, Red Power, gaming and self-determination.

549/349. Military History of the United States to 1900. (3) Hutton
Survey of U.S. military and naval history from colonial times to 1900, with emphasis upon technological, managerial and political developments that have affected the armed services.

550/350. Modern U.S. Military History, 1900 to Present. (3) Hutton
A survey of the origins and development of American military institutions, traditions and practices of the 20th century. Attention to WWI, WWII and the Vietnam war, technological advances and institutional history will be given.

551/351. History of Sport. (3) Sanabria
This course offers an interdisciplinary exploration of the history of sport and the relationship between sport and societies in Western Europe, the United States and their colonies from Antiquity through modern times.

560/360. History of the American Frontier. (3) Connell-Szasz, Hutton
Frontier expansion and conflict from the time of European discovery to the Mexican-American War.

561/361. The Trans-Mississippi West. (3) Connell-Szasz, Hutton

562/362. The American West in the Twentieth Century. (3) Scharff
Surveys the growth of the trans-Mississippi West in the 20th century, giving attention to social development, economic growth, cultural development, the role of minority groups and the impact of science and technology.

563/363. Early History of Mexican-Americans. (3) Reyes
This course will review the history of the Southwest from pre-conquest and Spanish colonization to the U.S. invasion and its aftermath.

564/364. Contemporary Chicana/o History. (3) Reyes
This course examines the historical development of Chicana/o communities in the late 19th and 20th century with a special focus on the different socio-economic experiences of the Chicana/o population of the U.S.

570./370. Inca Empire to Spanish Colony: Spanish South America to 1824. (3) Gauderman

The native cultures in pre-Conquest times; the conquest of the Incas and the colonial settlement of the remainder of Spanish South America; economic, social and cultural developments of colonial times, concentrating on the central Andean region, but with accounts of varying development in other areas; the origins and accomplishment of independence in the early 19th century.

571./371. From Aztec to Spanish Domination: The History of Early Mexico. (3) Gauderman

An introduction to the ancient, indigenous cultures of Mesoamerica. Examines Mexico's political, economic and social development under Spanish colonial rule. Attention given to the social and cultural interaction among Mexico's indigenous, European and African populations.

572./372. Mexico Since 1821. (3) Bieber, Hall, Hutchison

The major political, social and economic trends and events in Mexico from the independence movement to 1940.

573./373. The Mexican Revolution. (3) Hall

Study of the events, leadership, social and economic implications, and role of U.S. involvement in the Mexican Revolution of 1910–1920.

574./374. Southern South America. (3) Hutchison

Argentina, Chile, Uruguay and Paraguay from colonization to the present. Most emphasis on late 19th and 20th centuries, when these nations led the region's development. Deals with the rise of the export economies, populist movements, militarism and socio-economic stagnation.

576./376. Brazil in the Colonial Period, 1500–1822. (3)

Bieber

Colonial Brazil from 1500 to 1822. Focus on structures of colonialism and their impact on indigenous, African and European peoples. Plantation society, slavery, mercantile policy, the role of the church, women and family will be discussed.

577./377. Modern Brazil, 1822–Present. (3) Bieber

History of Brazil since independence. Topics include oligarchical politics, the end of slavery, race relations, urbanization, industrialization, authoritarian regimes, labor and peasant movements.

580./380. The Ancient Near East. (3)

A political and social survey of civilization in Egypt and Mesopotamia from its birth in Sumer in the fourth millennium to the destruction of the Achaemenid Persian empire by Alexander.

581./381. Traditional China. (3) Porter

Emergence and development of Chinese civilization to its height in the 13th century, including cultural, political, social and economic themes.

582./382. Imperial China. (3) Porter

The development of early modern society and the impact of the West from the 13th to the 20th century.

583./383. Revolutionary China. (3) Porter

Political, social economic and cultural history of China in the revolutionary period from 1911 to the present.

584./384. History of Japan. (3) Porter

Social, political, and economic institutions from historical beginnings to modern times.

586./386. The Islamic Middle East to 1800. (3) Risso

The political, social and economic development of the Islamic world through the Ottoman and Safavid eras. Arab, Persian and Turkish elements of Islamic civilization will be included.

587./387. The Modern Middle East from 1800. (3) Risso

Topics include 19th-century reform attempts, the transition from empire to nation-states, the gap between ideology and practice, the Arab-Israeli conflict and revolutionary Iran.

590./490. World History: Comparative Themes. (3)

Skipping through time and space, this course investigates a series of themes common to human existence, and stresses interaction among different societies and civilizations. Team taught by three members of the History Department.

595./495. Introduction to Public History. (3) Ball

The object of this class is to introduce students to the field of Public History. The course will embrace the theory, method and practice of public history.

601./401. Anglo-Saxon England, 450–1066. (3) Graham

This course will offer an overview of the history and culture of England from the arrival of the Angles and Saxons in the middle of the fifth century until the Battle of Hastings of 1066.

602./402. The Crusades. (3)

This course will examine the phenomenon of the Crusades in the Middle Ages, examining the three (arguably more) distinct cultures involved and addressing issues relevant to social, political, intellectual and military history.

611./411. History of England, 1066–1660. (3)

Survey of medieval foundations, Tudor era and 17th-century social and political revolutions.

612./444. Native American and Celtic History Since 1700. (3) Connell-Szasz

Course will have a cross-cultural focus and look at how major trends of the modern era have played out among various American Indian/Alaska Native Nations and the Celtic people of *Eire* (Ireland), *Alba* (Scotland) and *Cymru* (Wales).

614./414. Twentieth Century Spanish Culture. (3) Sanabria

An historical approach to Spanish culture since the Spanish/American War (1898), focusing on regionalism, the commercialization of sport and leisure, the construction of gender roles and Spain's entry into the European Community.

616./416. History of Medicine to 1850. (3)

A survey of western medicine's development to mid-19th century, aimed at the nonspecialist. Includes the impact of health factors in general historical development.

617./417. History of Modern Medicine. (3)

Survey of western medicine since mid-19th century, aimed at the nonspecialist. Includes the impact of health factors in general historical development.

618./418. City Life. (3)

A study of the development of urban spaces and urban lives from the 17th century, which considers the impact of political and cultural changes upon physical spaces and their impact upon modern lives.

619./419. Formation of Modern European Culture. (3)

Via a broad variety of media arts, theories and documents, this course introduces students to people and events that have contributed to changing definitions of modern European cultural identity between the 17th and 20th centuries.

620./420. Modern France since 1815. (3) Ferguson, Sanabria

A survey of French history from the Bourbon Restoration through modern times. Particular attention given to the Third Republic, the French colonial empire, French fascism and Vichy France, and France's role in the modern world.

621./421. Britain 1660 to the Present. (3)

Surveys British society and culture from the restoration to the monarchy and emphasizes Britain's influence on world politics and culture.

622./422. Modern European Imperialism. (3) Ferguson

This course examines the expansion of European imperialism since the 17th century, from trading companies to cultural imperialism.

623./423. Germany, 1871 to 1971. (3)

Bismarck to Brandt, a survey of German history from unification to contemporary times, with special emphasis on Weimar and Hitlerian Germany.

624./424. Modern Eastern Europe. (3) Bokovoy
The study of the "other" Europe, examining Eastern Europe during WWI, the interwar years, WWII and the communist and post-communist eras.

625./425. Europe and the Balkans. (3) Bokovoy
This course explores- the Balkans peninsula not only as Europe's most diverse and complex cultural crossroad and frontier, but as an "imagined" political and cultural other.

626./426. History of the Holocaust. (3)
(Also offered as RELG 626.) An examination of the motives, methods and execution of the destruction of the Jews by Nazi Germany and the responses of Jews, Western Powers, the Churches and Righteous Gentiles in the context of Jewish and world history.

628./428. Women, War and Revolution. (3) Slaughter
Study of women's participation in wars and revolutions, and discussion of the social impact of these events which often alters women's status, experience and expectations. Typical approach using global examples and case studies.

629./429. History of Beauty, Body, and Power. (3)
A historical exploration of female and male beauty and body in relation to questions of power in comparative historical context, drawing from U.S., European, and Latin American examples, using both theoretical works and case studies.

630./430. The Old South. (3)
The South from the beginning of colonization to the outbreak of the Civil War. Emphasis on slavery and its impact on southern society.

631./431. Political History of the United States. (3)
Study of American politics from 1787 to the present. Emphasis on national politics with special attention to the presidency and changes in the political systems.

632./432. U.S. Social Life and Leisure. (3) Sandoval-Strausz, Scharff
An inquiry into sociability in the United States from 1820 to 1960. Leading themes include youth and working-class culture, social policing, identity, social life under capitalism, sexuality, travel, consumer culture and the politicization of leisure.

633./433. U.S. Environmental History. (3) Scharff, Truett
Examines the environmental transformation of the United States from the colonial era to the present day. Focus on the ecological consequences of colonial encounters; shifting links between cultures, markets and the land; changing ideas and politics of nature; and the environmental impacts and inequalities of urban-industrial life.

634./434. U.S. Business and Labor History. (3) Sandoval-Strausz
This course traces developments in the structure of profit-making enterprises and the organization of labor in United States history, examining how the imperatives of capitalism and the struggles of working people shaped the American economy.

635./435. U.S. Culture and Society 1860-. (3) Szasz

637./437. The City in America. (3) Sandoval-Strausz
This course examines the urban landscapes of America—its physical form as well as the cultural beliefs and practices; economic conditions, material and social technologies; and individual aspirations which shape urban life, function and form.

638./438. American Legal History. (3) Sandoval-Strausz
Law is all around us: in politics, at work and in the home. This course will help students understand state and private law, which have substantial bearing on their lives and those of other Americans.

639./439. History of Science and Technology in the U.S. (3)
A history of science and technology in the United States, examining both intellectual developments and the creation of an American scientific community.

640./440. Atomic America. (3)
The history of atomic America in the 20th century, with focus on the political, social and cultural dimensions of the nuclear arms race; the controversy over nuclear energy; and the specter of nuclear terrorism.

641./441. History of Religion in America. (3) Szasz
(Also offered as RELG 641.) This class will cover the rise and development of the nation's religious groups, from first contact to the present day. The focus will be on the social impact of the groups and how they influenced the development of American life.

607./461. The Western Hero. (3) Hutton
This course examines the evolution of the western hero. In fiction, history and film the western hero has mirrored the development of the nation, always responding to a rapidly changing society—and more often than not defining it.

608./462. Women in the U.S. West. (3) Scharff, Reyes
History of women in the western United States from the colonial period to the present, with attention to women's work and family roles, common stereotypes of western women, sex roles on the frontier and why women's suffrage was first achieved in the West.

643./463. Hispanic Frontiers in North America. (3) Reyes, Truett
History of colonial encounters, Indian-European exchanges and conflicts, environmental transformations and changing identities at the northern frontiers of New Spain and Mexico. From the time of Columbus to 1848.

644./464. U.S.—Mexico Borderlands. (3) Truett
History of the U.S.—Mexico borderlands and its various native and immigrant communities from 1848 to the present. Focus on cultural and economic linkages, ethnic and military struggles, and formation of new identities on the border.

645./465. History of Mexican Immigration. (3) Reyes
This course examines the history of Mexican immigration to the U.S. We review historical interpretations of the broader political economy of colonial, 19th and 20th century America to contextualize past and current Mexican immigration.

646./466. Native American Southwest. (3) Truett
In this class we will explore the history of Native American groups and their relationships to dominant cultures and nations in the American Southwest and Northern Mexico.

648./468. Society and Development in Latin America, 1492—Present. (3) Bieber
Overview of social and economic trends in Latin America, stressing labor systems, social structure, trade, demography and industrialization.

649./469. Inter-American Relations. (3) Hall
Relations among the American nations since 1810 and with other world powers. Stresses U.S. role in the region after 1900, as well as tendencies to curb that influence. Guerrilla warfare, revolutionary networks and Third World ideology covered.

650./470. Labor and Working Class in Latin America. (3) Hutchison
This course traces the evolution of Latin American labor systems in the modern period.

651./471. Women in Early Latin America. (3) Gauderman, Hall
A historical exploration of the place of women within the social systems of pre-Columbian and colonial Latin America. Will explore the gendered dimensions of the economy, politics and culture in indigenous and Spanish societies.

652./472. Women in Modern Latin America. (3) Bieber, Hall, Hutchison
Course will focus on women in Latin America, 1821—present, through various historical developments. Will explore political themes, such as suffrage, revolution and military regimes and social dimensions of class, race, ethnicity, work and family.

653./473. Indigenous Peoples of Latin America. (3)

Bieber, Gauderman

Historical overview of indigenous peoples of Spanish and Portuguese America from pre-colonial times to the present. Emphasis on cultural history, contact and change and policies impacting native American Groups.

654./474. Slavery and Race Relations. (3)

Bieber

Overview of slavery, the slave trade and post-emancipation race relations in the U.S., the Caribbean and Latin America.

655./475. The Cuban Revolution, 1959 to Present. (3)

(Also offered as SOC 484.) Background to revolution since 1898; emphasis on period since 1959.

656./476. Latin American Religions. (3)

Hutchison
Religious experience, movements and communities in Latin America, from conquest to the present. Examines the cultural interactions that have shaped belief and practice, and politics—particularly the influence of Catholicism and of native and African religions.

660./480. Christians and Spices: The Western Impact on Asia. (3)

Porter

The era of European expansion in Asia from Vasco da Gama to circa 1900; sources of European expansion, the early struggles and conquests, colonial systems and imperialism.

661./481. Islam. (3)

Risso
(Also offered as RELG 661.) Topics include the development of Islamic law and theory; philosophy and mysticism; ritual and art. The political, social and economic ramifications of Islam will be emphasized.

662./482. Raj: India During British Rule. (3)

Risso
Covering the two centuries from 1756 through 1947, this course includes inter-cultural contacts, economic issues and the developments of both Indian and Muslim nationalisms.

678./478. History of Latin America through Film. (3)

Explores key topics in Latin American history through film, including documentary and feature-length films produced in Latin America. Examines the historical context as well as the political and social context of each film's production.

ITALIAN

See *Foreign Languages and Literatures*.

INTERNATIONAL STUDIES

Asian Studies

Lorie Brau, Chairperson
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Advisory Committee

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Andrew Burgess, Religious Studies
Jonathan Porter, History
Patricia Risso, History
Richard Hayes, Philosophy

Undergraduate Major

The interdepartmental major requires 36 hours from the approved Asian Studies course list (below). Of these, 21 must be 300-level or above. Thirty-six credit hours total: 3 hours Senior Thesis (COMP, HIST, PHIL, POLS, RELG 453); 6 hours History; 6 hours Philosophy or Religious Studies; 3 hours Geography, Anthropology, Economics, Political Science or Sociology; 12 hours in an Asian language; 6 hours elective; 453 may not be counted twice. Each student will be required to declare a regional focus and to have the proposed course distribution approved by the Asian Studies Committee at the beginning of the junior year. Regional areas of focus are: East Asia, South Asia and the Middle East. A Senior Thesis is required. The student may choose a topic within a single discipline or culture, or may elect an interdisciplinary and/or cross-cultural approach. The Asian Studies Committee will appoint two thesis readers, normally the primary supervisor and another faculty member from an appropriate field. Three copies of the thesis must be submitted. Modification of the language requirement may be made on an individual basis with the approval of the Committee Chairperson.

Undergraduate Minor

An interdepartmental minor in Asian Studies consists of at least 18 hours in courses selected from the approved list below, including at least 3 hours in history, 3 hours in philosophy or religious studies and 3 hours in geography, anthropology or languages. It is recommended that the student take appropriate language courses. No more than 9 hours may be selected in any one department, and courses used to satisfy the major field may not be applied to the minor.

Approved Asian Studies Courses

The following courses have been approved (see appropriate departmental listings for course descriptions and prerequisites):

AFST 106, 107, 206, 207; ANTH 328; ARAB 101, 102, 201, 202; ARTH 323 or 429 when the topic is appropriate; CJ 314, 413 when the topic is appropriate; COMP 331 or 480 when topic is appropriate; 480; UHON 302; HIST 251, 252, 323, 324, 340, 341, 380, 381, 382, 383, 384, 386, 387, 388, 480, 481, plus 492 and 496 when topic is appropriate; CHIN 101, 102, 201, 202, 297, 301, 302, 320, 339, 411; JAPN 101, 102, 201, 202, 297, 301, 302, 320, 339, 411; PHIL 108, 331, 334, 336, 337, 348, 438, 439, 440, 449; POLS 478; RELG 107, 109, 230, 231, 263, 323, 324, 438, 439, 440, 442, 447/547 when topic is appropriate, 448, 449, 481; SOC 221, 478; UHON 221, 222 when "Eastern Legacy," 301, 302 when topic is appropriate; WMST 331 when topic is appropriate; Asian Studies Senior Thesis given as COMP, HIST, PHIL, RELG or POLS 453. For information about Arabic, Hebrew, Classical Chinese, Persian and Sanskrit see the Asian Studies Committee Chairperson.

European Studies

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Steve Bishop, Foreign Languages and Literatures
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James L. Boone, Anthropology
Pamela Cheek, Foreign Languages and Literatures
Richard Coughlin, Sociology
Monica Cyrino, Foreign Languages and Literatures
Helen Damico, English

Rachele Duke, Foreign Languages and Literatures
 Eliza Ferguson, History
 Timothy Graham, Institute for Medieval Studies
 Marissa Greenberg, English
 Kristine Grimsrud, Economics
 Gary Harrison, English
 Gail Houston, English
 Aeron Hunt, English
 Tania Ivanova-Sullivan,
 Adrian Johnston, Philosophy
 Brent Kalar, Philosophy
 Lorenzo F. Garcia, Jr., Foreign Languages and Literatures
 Natasha Kolchevska, Foreign Languages and Literatures
 Caleb Richardson, History
 Carmen Nocentelli, Foreign Languages and Literatures
 Anita Obermeier, English
 Mark Peceny, Political Science
 Marina Peters-Newell, Foreign Languages and Literatures
 Walter Putnam, Foreign Languages and Literatures
 Mary Quinn, Spanish and Portuguese
 Enrique Sanabria, History
 Christine Sauer, Economics
 Katja Schroeter, Foreign Languages and Literatures
 Jane Slaughter, History
 Jake Spidle, History
 Charlie Steen, History
 Lawrence Straus, Anthropology
 Iain Thomson, Philosophy
 Rajeshwari Vallury, Foreign Languages and Literatures
 Neddy Vigil, Spanish and Portuguese
 Carolyn Woodward, English

Major Study Requirements

The interdisciplinary European Studies Major requires 36 hours of work in approved courses from a very broad range of departmental offerings (list available on Web site or in European Studies office). All students must take 12 hours of courses in a European language other than English or the equivalent (testing out or taking a 300 level or above course in the language). Students are further required to take a minimum of 3 hours in courses with predominantly European content and focus from each of the following four general areas:

- 1) Fine Arts (Art/Art History, Dance, Media Arts, Music, Theatre)
- 2) History
- 3) Literature and Philosophy (English, Comparative Literature, Foreign Languages and Literatures, Philosophy)
- 4) Social Science (Anthropology, Economics, Geography, Political Science, Sociology)

In addition to the distribution requirements outlined above, students must take the interdisciplinary "European Studies Seminar" (3 hours), plus an additional 9 hours from the courses in the approved European Studies catalog (list available on Web site or in European Studies office).

The non-language courses (24 hours) must meet the following guidelines:

- No more than 6 hours below the 300 level;
- No more than 12 hours in any one department; and
- No more than 3 hours in undergraduate readings or individual studies courses.

Students are encouraged, where possible, to construct with the advice of the European Studies Director a "disciplinary focus" tied to the departmental discipline in which they take the majority of their courses.

Departmental Honors

Students who seek honors in European Studies should contact the Director. Graduating with Honors requires a minimum grade point average of 3.5 and the writing of an Honors Thesis.

Minor Study Requirements

The interdisciplinary European Studies minor requires 30 hours of work in approved courses from a very broad range of departmental offerings (list available on Web site or in European Studies office). All students must take 12 hours of courses in a European language other than English or the equivalent (testing out or taking a 300 level or above course in the language). Students are further required to take a minimum of 3 hours in courses with predominantly European content and focus from three of the following four general areas:

- 1) Fine Arts (Art/Art History, Dance, Media Arts, Music, Theatre)
- 2) History
- 3) Literature and Philosophy (English, Comparative Literature, Foreign Languages and Literatures, Philosophy)
- 4) Social Science (Anthropology, Economics, Geography, Political Science, Sociology)

In addition to the distribution requirements outlined above, students must take an additional 9 hours from the courses in the approved European Studies catalog (list available on Web site or in European Studies office).

The non-language courses must meet the following guidelines:

- No more than 6 hours below the 300 level;
- No more than 9 hours in any one department; and
- No more than 3 hours in undergraduate readings or individual studies courses.

NOTE: The list of approved courses, or European Studies catalog, is a compilation of all undergraduate courses offered by The University of New Mexico which are devoted mostly to European orientations. These include, in addition to those offered in the College of Arts and Sciences, certain courses in the College of Fine Arts and the Schools of Architecture and Planning, Management and Law. The list is available on the European Studies Web site and in the European Studies office. The list is not necessarily complete since new courses are added every year, and students are therefore encouraged to ask about courses not found on the list that appear to satisfy the requirements.

International Studies

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 Enrique Sanabria, History
 Katja Schroeter, Foreign Languages and Literatures
 Jane Slaughter, History
 Charlie Steen, History
 Lawrence Straus, Anthropology
 Ian Thomson, Philosophy
 Rajeshwari Vallury, Foreign Languages and Literatures
 Neddy Vigil, Spanish and Portuguese
 Carolyn Woodward, English

- 1) International Politics (3 hours): POLS 240
- 2) Humanities (3 hours): ARTH 201 or 202; ARTH 261 or 262; COMP 224; ENGL 264; ENGL 292 or 293; HIST 490; RELG 107
- 3) Social and Natural Sciences (3 hours): ANTH 130; CJ 115; CRP 181; ECON 203; ENVS 101; GEOG 140; GEOG 195; PHIL 102; POLS 220; SOC 221; WMST 200

Thematic Concentration (9 hours in upper-division courses)

Select one concentration from the following:

1. Culture and Arts in Global Perspective
2. Environment and Society/Sustainability
3. Indigenous, National, Transnational Identities
4. Global Markets, International Institutions and Global Governance
5. Conflict, Peace, and Diplomacy
6. Rituals and Belief Systems
7. Women and Gender in the Contemporary World

Area Studies Concentration (9 hours)

Select one from the following:

1. Africa
2. Europe
3. Asia and Middle East
4. Russia and Eurasia
5. Latin America

Introduction

International Studies is an interdisciplinary undergraduate program drawing on the courses, faculty, and resources of a large number of UNM departments and colleges, with a central orientation toward contemporary global themes and different world areas. Because of its interdisciplinary nature, the program is housed in the College of Arts and Sciences and the College's International Studies Institute but also draws on faculty and courses in the Colleges of Fine Arts, Architecture and Planning, and Education.

The core elements of the International Studies major and minor allow students to combine studies in languages, humanities, and social sciences with studies in such fields as fine arts, architecture and planning, and education in order to create an integrated, interdisciplinary undergraduate concentration.

The International Studies major and minor is administered by the International Studies Institute (ISI) in the College of Arts and Sciences. The ISI not only provides the administrative support and advising for the International Studies major and minor but also organizes lectures, lecture series, and special events and provides student scholarships to undergraduates.

Major Study Requirements

The major in International Studies requires 39 credit hours of which at least 21 hours (7 classes) must be at the upper-division level. All students must take 9 hours in a foreign language and 9 hours of required core courses specified below. In addition, students must take 9 hours each in one of the thematic and areas studies concentrations described below. No more than 12 hours may be selected in any one department. Students will work closely with the Director of International Studies in planning their program of study and must receive approval for all course work in fulfillment of the major.

Foreign Language (9 hours).

Nine hours beyond the General Education requirement of one semester of language or demonstrated proficiency through the second year of any language other than English.

Core Courses (9 hours).

Select nine hours (three of which must from introduce the student's chosen thematic concentration) from the following three areas:

International/Intercultural Capstone Experience (3 hours)

The most significant capstone experience for an International Studies major is to be able to study abroad. However, the program also recognizes that not every INTS major can take advantage of study abroad opportunities, so there are two options for a capstone experience.

Option 1: Study Abroad (International Studies/INTS 400, 1-3 hours). **Requires permission of program.**

This course is conducted as an independent study or seminar and allows the student to design their own international experience in consultation with the INTS advisor and faculty. Many options exist for a study abroad experience, e.g. a short-term study trip (2-4 weeks), a traditional semester abroad, or a summer language program. Students are strongly encouraged to explore the possibilities through UNM's Office of International Programs and Studies (OIPS).

Option 2: Intercultural Experience (International Studies, INTS 401, 1-3 hours). **Requires permission of program.**

There are diverse opportunities on the UNM campus and throughout New Mexico for a student to gain intercultural understanding and experience. This option allows students to find and explore these opportunities. Like study abroad opportunities, these are varied and can earn the students 1-3 credit hours depending on the experience. Students are responsible for seeking out these opportunities and completing specific requirements for credit.

Opportunities might include but are not limited to:

- ISI Annual lecture series (1-3 hours): Attending lectures and participating in post lecture discussions with ISI teaching assistant and faculty
- Living among UNM's international students in the residence halls for a semester or more (3 hours)
- World Affairs Delegation/Model United Nations Team (1-3 hours depending on participation)
- Student Organizations engaged with global issues, culture, and/or international studies (1-3 hours depending on participation) See: <http://www.unm.edu/~sac/StudentOrganizations.html>
- Internships with organizations and institutions on campus or throughout NM that deal with international/global issues (1-3 hours depending on length of internship). Students are encouraged to seek out or create their own internship opportunities in consultation with the Director of International Studies.

Honors in International Studies (International Studies/INTS 402, 3 hours)

Majors wishing to work for Honors in International Studies should contact the Director of the International Studies program during their junior year. Honors students will need to sign up for two consecutive semesters of course work on the thesis.

The first semester consists of a readings course/independent study in the home department of their thesis mentor and will count as one of the student's electives in either the area studies or thematic concentration. This course is the preliminary work and research for the honors thesis.

The second semester consists of INTS 402 in which the student completes the research and writes the honors thesis under the direction of a committee of at least 2 ISI affiliated faculty members.

Note: This option adds 3 hours to the major.

Thematic Concentrations

The courses below reflect current course offerings, but are not exhaustive. INTS faculty and students may suggest additional courses for the thematic concentrations to the INTS advisor and/or advisory board.

Thematic Concentration 1: Culture and Arts in Global Perspective**I. Core Course Requirement (3 hours)**

Select one:

ANTH 130 Cultures of the World
ENGL 292 or 293 World Literatures
ARTH 261 or 262 World Architecture
ARTH 201 or 202 History of Art
CJ 115 Communication Across Cultures

II. Upper Division Courses (9 hours)

Select three:

ANTH 312 Oral Narrative Traditions)
ANTH 344 Comparative Ethnic Relations
ANTH 346 Expressive Culture
ANTH 444 Anthropology of World Beat
COMP 480 Seminar in Comparative Literature***
ENGL/COMP 330 Topics in Comparative and World Literature
ENGL 479 Postcolonial Literatures
MA 335 International Horror Films
MA 326 History of Film
MA 327 History of Film
MA 412 Third World Cinemas
MUS 422 Indigenous World Music
MUS 436 Selected Topics in Contemporary World Music
RELG 350 Religion and Literature
CJ 314 Intercultural Communication
CJ 319 Language and Culture

***Comparative Literature/Cultural Studies courses have specific area content and literature/cultural course should be coordinated with the student's area studies concentration.

Thematic Concentration 2: Environment and Society/ Sustainability**I. Core Course Requirement (3 hours)**

Select one:

ENVS 101 The Blue Planet
CRP 181 Introduction to Environmental Problems
GEOG 195 Survey of Environmental Issues
ECON 203 Society and Environment

II. Upper Division Courses (9 hours)

Select three:

CRP 424 Environmental Planning Methods
CRP 431 Foundations of Community Development
CJ 339 Rhetoric and the Environment
EPS 203 Earth Resources and Environment
EPS 352 Global Climate Change
ENVS 330 Environmental Systems (multiple prerequisites)

ECON 342 Environmental Economics (prerequisites)
ECON 343 Natural Resource Economics (prerequisites)
ECON 442 Topics in Environmental and Natural Resources (prerequisites)
GEOG 352 Global Climate Change
GEOG 360 Land and Resource Management
GEOG 461 Environmental Management (prerequisite)
GEOG 465 Urban Environmental Management
PHIL 363 Environmental Ethics
POLS 475 Environmental Politics
SOC 305 Environmental Sociology

Thematic Concentration 3: Indigenous, National, and Transnational Identities**I. Core Course Requirement (3 hours)**

Select one:

ANTH 130 Cultures of the World
GEOG 140 World Regional Geography
ENGL 264 Survey of Native Literatures and Rhetorics

II. Upper Division Courses (9 hours)

Select three:

ANTH 312 Oral Narrative Traditions
ANTH 331 Indigenous Peoples of North America
ANTH 332 Indigenous Peoples of South America
ANTH 344 Comparative Ethnic Relations
ANTH 365 Anthropology of Health
CRP 376 Human Settlements
ENGL 464 Advanced Studies in Native Literatures and Rhetorics
ENGL 479 Post-colonial Literature
HIST 346 Native America to 1850
HIST 347 Native America, 1850-1940
HIST 348 Native America, Post-1940
HIST 473 Indigenous Peoples of Latin America
MUS 422 Indigenous World Music
MUS 436 Selected Topics in Contemporary World Music

Thematic Concentration 4: Global Markets, International Institutions, and Global Governance**I. Core Course Requirement (3 hours)**

Select one:

ECON 203 Society and Environment
POLS 220 Comparative Politics
SOC 221 Global Issues

II. Upper Division Courses (9 hours)

Select three:

CJ 467 Mass Communication: International Perspectives
ECON 321 Development Economics (prerequisites)
ECON 421 Latin American Economics
ECON 423 Topics: Latin American Development
ECON 424 International Trade (prerequisites)
ECON 429 International Finance (prerequisites)
POLS 320 Topics in Comparative Politics
POLS 321 Comparative Politics: Developing Countries
POLS 322 Politics of Human Rights
POLS 340 Topics in International Politics
POLS 346 International Political Economy
POLS 377 Population Policy and Politics
POLS 446 Trade Law and Policy
SOC 303 Sociology of Political Behavior
SOC 461 Social Dynamics of Global Change

Thematic Concentration 5: Conflict, Peace, and Diplomacy**I. Core Course Requirement (3 hours)**

Select one:

POLS 220 Comparative Politics
SOC 221 Global Issues

II. Upper Division Courses (9 hours)

Select three:

ANTH 339 Human Rights in Anthropology
CJ 336 Rhetoric of Dissent
HIST 311 History of World War
HIST 338 History of World War II Era
HIST 339 Vietnam War Era

240 ARTS AND SCIENCES

HIST 340 U.S. Foreign Relations to 1900
HIST 341 U.S. Foreign Relations, post 1900
HIST 350 Modern U.S. Military History
HIST 422 Modern European Imperialism
HIST 426 History of the Holocaust
HIST 428 Women, War and Revolution
POLS 322 Human Rights and Political Violence
POLS 341 International Conflict and Cooperation
POLS 342 American Foreign Policy
POLS 440 International Conflict and Arms Control
POLS 441 Civil Wars
POLS 442 International Peacekeeping and Conflict Resolution
SOC 331 Collective Behavior
SOC 412 Sociology of Police and Social Control

Thematic Concentration 6: Rituals and Belief Systems
For this concentration also consult Religious Studies course schedule.

I. Core Course Requirement (3 hours)

RELG 107 Living World Religions

II. Upper Division Courses (9 hours)

Select three:

ANTH 333 Ritual, Symbols and Behavior
ENGL 304 The Bible as Literature
HIST 323 History of the Jewish People to 1492
HIST 324 Modern History of the Jewish People
HIST 326 History of Christianity to 1517
HIST 327 History of Christianity to the present
HIST 481 Islam
PHIL 348 Comparative Philosophy
RELG 333 Ritual Symbols and Behavior
RELG 347 Topics in Religious Studies
RELG 350 Religion and Literature
RELG 365 Philosophy of Religion
SOC 422 Sociology of Religion

Thematic Concentration 7: Women and Gender in the Contemporary World

For this concentration also consult Women's Studies course schedule.

I. Core Course Requirement (3 hours)

WMST 200 Women: Social and Historical Perspectives

II. Upper Division Courses (9 hours)

Select three:

ANTH 380 Women Culture and Society
CJ 326 Gender and Communication
CJ 469 Multiculturalism, Gender, and Media
CRP 428 Gender and Economic Development
ECON 239 Economics of Race and Gender
ECON 331 Economics of Poverty and Discrimination
HIST 321 Women in the Modern World
HIST 322 History of Women's Rights Movement
HIST 428 Women, War, and Revolution
LING/WMST 334 Language and Gender
MA 436 Images of (Wo)men
PSY 375 Psychology of Women
SOC 308 Sociology of Gender
SOC 423 Gender and Crime
WMST 325 Race, Class and Feminism
WMST 331 Transnational Feminisms

Area Studies Concentration (9 hours)

The courses in the area studies concentrations reflect current course offerings but are not exhaustive. INTS faculty and students may suggest additional courses to the INTS advisor and/or advisory board. At least 50% of course content must be in area, see checklist for acceptance.

Majors are required to take 9 hours (3 courses) in their chosen area concentration. Courses must have at least 50% of their content in the area and come from at least two of the four general areas below:

1. Fine Arts (Art/Art History, Dance, Cinematic Arts, Music, Theatre)
2. History

3. Literature and Philosophy (English, Comparative Literature, Foreign Languages and Literatures, Philosophy)
4. Social and Natural Sciences (Anthropology, Biology, Economics, Geography, Political Science, Sociology)

Africa. The list of approved courses is a compilation of all undergraduate courses offered by The University of New Mexico which are devoted mostly to African orientations. The list is available on the Africana Studies website and/or in the Africana Studies office. The list is not necessarily complete since new courses are added each year, and students are therefore encouraged to ask about courses not found on the list that satisfy the requirements.

Europe. The list of approved course is a compilation of all undergraduate courses offered by The University of New Mexico which are devoted mostly to European orientations. The list is available on the European Studies website and/or in the European Studies office. The list is not necessarily complete since new courses are added each year, and students are therefore encouraged to ask about courses not found on the list that satisfy the requirements.

Asia and Middle East. The list of approved course is a compilation of all undergraduate courses offered by The University of New Mexico which are devoted mostly to Asian and Middle Eastern orientations. The list is available on the Asian Studies website and/or in the Asian Studies office. The list is not necessarily complete since new courses are added each year, and students are therefore encouraged to ask about courses not found on the list that satisfy the requirements.

Russia and Eurasia. The list of approved course is a compilation of all undergraduate courses offered by The University of New Mexico which are devoted mostly to Russian and Eurasian orientations. The list is available on the Russian Studies website and/or in the Russian Studies office. The list is not necessarily complete since new courses are added each year, and students are therefore encouraged to ask about courses not found on the list that satisfy the requirements.

Latin America. The list of approved course is a compilation of all undergraduate courses offered by The University of New Mexico which are devoted mostly to Latin American orientations. The list is available on the Latin American Studies website and/or in the Latin American Studies office. The list is not necessarily complete since new courses are added each year, and students are therefore encouraged to ask about courses not found on the list that satisfy the requirements.

Minor Study Requirements

The minor in International Studies requires 27 credit hours of which at least 12 hours (4 classes) must be at the upper-division level. All students must take 9 hours of a foreign language and 6 hours of required core courses specified below. In addition, students must take 6 hours each in one of the thematic and areas studies concentrations described below. No more than 9 hours may be selected in any one department. Students will work closely with the Director of International Studies in planning their program of study and must receive approval for all course work in fulfillment of the minor.

Foreign Language (9 hours)

Nine hours beyond General Education requirement of one semester of language or demonstrated proficiency through the second year of any language other than English.

Core Courses (6 hours)

Select six hours (three of which must introduce the student's chosen thematic concentration) from the following three areas:

- 1) International Politics (3 hours): POLS 240
- 2) Humanities (3 hours): ARTH 201 or 202; ARTH 261 or 262; COMP 224; ENGL 264; ENGL 292 or 293; HIST 490; RELG 107

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3) Social and Natural Sciences (3 hours): ANTH 130; CJ 115; CRP 181; ECON 203; ENVS 101; GEOG 140; GEOG 195; PHIL 102; POLS 220; SOC 221; WMST 200

Thematic Concentration (6 hours in upper-division courses)

Select one concentration from the list under *Major Study Requirements*, and choose courses from the corresponding list of approved courses.

Area Studies Concentration (6 hours)

Select one from the list under *Major Study Requirements*, and choose courses from the corresponding list of approved courses.

International Studies (INTS)

400. Directed Study and Travel Abroad. (1-3, to a maximum of 3) Δ

Provides academic credit to students participating in approved programs abroad. Course may be repeated once, providing the student participates in a different travel program. Restriction: permission of program.

401. Intercultural Experience. (1-3, to a maximum of 3) Δ

This course gives credit to students formally participating in venues that engage global issues, cross-cultural activities, and/or international studies. Restriction: permission of program.

402. Honors in International Studies. (3)

The Honors Thesis provides students the opportunity to focus on a specific research question or artistic project in a rigorous, engaged fashion with the guidance of an expert faculty member. Restriction: permission of program.

Russian Studies

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For general current information about the program contact Professor Kolchevska in the Department of Foreign Languages and Literatures; for advisement and pertinent information about developing an individualized program of study focusing in a specific area, contact individual faculty members of the committee.

Committee in Charge

Melissa Bokovoy, History
Gregory Gleason, Political Science
Natasha Kolchevska, Foreign Languages and Literatures
Tanya Ivanova-Sullivan, Foreign Languages and Literatures

Adjunct Professor

Marina Oborotova, Political Science

Professor Emeritus

Byron Lindsey, Foreign Languages and Literatures
Richard Robbins, History

Introduction

The combined major in Russian Studies is administered by the interdepartmental committee listed above. The goal of the program is to provide the student with a broad knowledge of modern Russia and Eurasia through the study of humanities, language, literature and the social sciences. Study of the Russian language to a level of proficiency is required. Study abroad programs in Russia are strongly recommended. The major does not require a minor for graduation.

Major Study Requirements

I. The Core—(27 semester hours)	
RUSS 201 and 202 (Intermediate Russian: 3 + 3 credits)	6
RUSS 301 and 302 (Advanced Russian: 3 + 3 credits)	6
RUSS 339 (Russian Culture and History through Film AOA HIST 335 and MA 339: 3 credits)	3
RUSS 338 or 340 (Russian Literature and Culture in Translation, 338, or Topics in Russian Literature, 340: 3 credits; both are taught in translation)	3
HIST 315, 316 or 317 (History of Russia, three different (select two) chronological periods: 3 + 3 credits)	6
POLS 357 Russian and Eurasian Government and Politics	3
Total	27
II. Electives—(9 hours)	
Including, but not limited to the following: RUSS 401/402 or any Russian Literature in Translation course;	
HIST 300 (when offered with Russian content), 313, 314, 424, 674;	
POLS 220, 240, 440	

Minor Study Requirements

The minor in Russian Studies requires 23 semester hours: 14 hours of Russian language and 9 hours of Russian, History, Political Science and/or Economics.

LATIN

see *Foreign Languages and Literatures*.

LATIN AMERICAN STUDIES

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Professors

Donald Coes, Economics
David Craven, Art History
Les Field, Anthropology
Phillip Gonzales, Sociology
Linda Hall, History
Hillard Kaplan, Anthropology
Enrique Lamadrid, Spanish and Portuguese
Antoinette Sedillo López, Law
Margaret Montoya, Law
Jennifer Moore, Law
Mark Peceny, Political Science
Elizabeth Rapaport, Law
Tey Diana Rebolledo, Spanish and Portuguese
James Richardson, Community and Regional Planning
Christine Sierra, Political Science
William Stanley, Political Science
Susan Tiano, Sociology
Gloria Valencia-Weber, Law
Howard Waitzkin, Sociology

Associate Professors

Holly Barnet-Sanchez, Art History
Judy Bieber, History
Melissa Binder, Economics
Teresa Córdova, Community and Regional Planning

242 ARTS AND SCIENCES

Raul de Gouvea, Management
Susan Dever, Media Arts
Robert Fiala, Sociology
William Fleming, Community and Regional Planning
Kimberly Gauderman, History
David Henkel, Community and Regional Planning
Elizabeth Hutchison, History
Claudia Isaac, Community and Regional Planning
Celia López-Chávez, University Honors
Kimberle López, Spanish and Portuguese
Miguel López, Spanish and Portuguese
Kathryn McKnight, Spanish and Portuguese
Margo Milleret, Spanish and Portuguese
Rosalia Mitchell, Education
Suzanne Oakdale, Anthropology
Andrew Schrank, Sociology
Douglas Thomas, Management
Sam Truett, History
Richard Wood, Sociology

Assistant Professors

Dante DiGregorio, Management
Matias Fontenla, Economics
Raymond Hernández-Durán, Art History
Michelle Hall Kells, English
Leila Lehnen, Spanish and Portuguese
Nancy López, Sociology
Juan Pablo Micozzi, Political Science
Anna Nogar, Spanish and Portuguese
Keith Pruffer, Anthropology
Barbara Reyes, History
Enrique Sanabria, History
Eleuterio Santiago-Díaz, Spanish and Portuguese
Julie Sykes, Spanish and Portuguese
Catherine Travis, Spanish and Portuguese
Jennifer von Schwerin, Art History

Introduction

This is an interdepartmental program offering the bachelor's, master's and doctoral degrees. The program is academically supervised by the Interdisciplinary Committee on Latin American Studies (ICLAS) in the College of Arts and Sciences and administered by the Latin American & Iberian Institute.

The Latin American Studies Program is currently not admitting students to its Ph.D. program. The doctoral program is in moratorium.

Undergraduate Major Study Requirements

The undergraduate program provides a solid foundation in language skills and area competence that can be valuable in business, public service or further professional training.

The major in Latin American Studies consists of a minimum of 36 hours, including the required courses outlined in A, B, C, D and E, and F below. Students will work closely with the Associate Director in planning their program of study and must receive approval for all course work in fulfillment of the major.

- A. Languages of Latin America (maximum of 12 hours counted toward the major): Students are required to achieve proficiency in two Latin American languages. There are seven options for fulfilling the language requirement:
- 1) Spanish option with Portuguese support skills, requiring SPAN 301 and 302 and PORT 275 or 276.
 - 2) Portuguese option with Spanish support skills, requiring PORT 311 and 312 and SPAN 101 and 102.
 - 3) Balanced Spanish and Portuguese option, requiring demonstrated proficiency through SPAN 202 and PORT 276.

- 4) Spanish option with Quichua support skills, requiring SPAN 301, SPAN 302, LING 401 (Topics: Quichua I), and LING 402 (Topics: Quichua II).
 - 5) Spanish option with Quiche Maya support skills, requiring SPAN 301, SPAN 302, LING 401 (Topics: Quiche Maya I), and LING 402 (Topics: Quiche Maya II).
 - 6) Portuguese option with Quichua support skills, requiring PORT 311, PORT 312, LING 401 (Topics: Quichua I), and LING 402 (Topics: Quichua II).
 - 7) Portuguese option with Quiche Maya support skills, requiring PORT 311, PORT 312, LING 401 (Topics: Quiche Maya I), and LING 402 (Topics: Quiche Maya II).
- B. Core Courses (15 hours): Students will select 15 hours of Latin American content courses from one of the following three areas:
- 1) Humanities: Art History; Brazilian Literature & Culture; History; Media Arts; Religious Studies; Spanish American Literature & Culture.
 - 2) Social and Natural Sciences: Anthropology; Biology; Community and Regional Planning; Economics; History; Political Science; Sociology; Women Studies.
 - 3) A core area focused on a particular theme (such as environment and ecology, development, gender, U.S.-Latin American relations, etc.) developed jointly by the student and the Associate Director.
- C. Electives (minimum of 9 hours) with Latin American content as needed to complete 36 hours.
- D. Of the courses completed for the Latin American Studies major, at least 18 hours must be at the 300 level or higher.
- E. Courses for the core and elective requirements must be from at least three different disciplines.
- F. At least half of the required credit hours for the major must be taken in residence on the main campus at UNM. The Associate Director may approve substitutions on a case-by-case basis.

Brazilian Studies Concentration

Participants in the Latin American Studies undergraduate major may earn a Concentration in Brazilian Studies by completing the Portuguese language track requirement and five of the following courses: History 376, History 377, Portuguese 200, Portuguese 335, Philosophy 388, Portuguese 414 or 415. The Associate Director may approve the substitution of other courses with substantial Brazil content.

Minor Study Requirement

The minor in Latin American Studies consists of a minimum of 24 credit hours including 6 hours of Spanish 301 and 302 or Portuguese 311 and 312; 12 credit hours in one of the core areas listed above; and 6 credit hours of elective courses.

Approved Electives

AFST 386, 388; ANTH 324, 332, 333, 339, 343, 344, 345, 366, 371, 376, 384, 387; ARTH 343, 411, 412, 450, 488, 489, 490, 493, 494; BIOL 461L; ECON 321, 421, 423, 424, 429; HIST 181, 182, 300, 363, 370, 371, 372, 373, 374, 375, 376, 377, 389, 390, 463, 464, 465, 468, 469, 470, 471, 472, 473, 474, 475, 476; LING 401 (Quichua or Quiche Maya), 402 (Quichua or Quiche Maya); LTAM 400; MA 310, 410; PHIL 388, 389, 390; POLS 321, 322, 345, 346, 355, 356, 441, 442, 455; PORT 275, 276, 311, 312, 335, 414, 415, 416, 417, 421, 457, 458, 461; RELG 387, 388, 389, 390, 422; SOC 221, 350, 390, 420, 422, 450, 461, 484; SPAN 301, 302, 307, 350, 351, 352, 430, 431, 432, 433, 435, 438, 439; WMST 331, 418, 472. Other courses of Latin American content (such as topics courses) may be approved as electives upon petition to the Associate Director.

Departmental Honors

Students seeking honors in Latin American Studies should consult with the Associate Director and submit a formal letter of application during their junior year. Honors candidates must register for 6 hours of Latin American Studies 497 and 499 and complete a Senior Honors Thesis which will be orally defended.

Graduate Program

Graduate Advisors

Kathryn McKnight, Associate Director for Academic Programs (mcknight@unm.edu)

Application Deadlines

Fall semester: February 1 (with departmental financial aid consideration)

April 1 (without departmental financial aid consideration)

Spring semester: November 1 (without departmental financial aid consideration)

Degrees Offered

M.A. in Latin American Studies (MALAS)

Students concentrate in two areas chosen from the following: Anthropology (with an emphasis in either Archaeology, Ethnology, or Human Evolutionary Ecology), Art History, (with an emphasis in either Pre-Columbian, Colonial, or Modern), Brazilian Literature & Culture, Communication, Community & Regional Planning, Economics, Gender Studies, History, Human Rights, International Management, Political Science, Religion & Philosophy, Sociology, Southwest Studies, Spanish American Literature, and Spanish Linguistics. Students may also petition for approval of other thematic areas of concentration (such concentrations cannot be transcripted). The combination of concentrations must ensure that the program is interdisciplinary. For example, students selecting Anthropology with an emphasis in Archaeology as one concentration may not select Anthropology with an emphasis in Ethnology as the second concentration. Students also are required to have no more than one interdisciplinary concentration. For example, a student may not choose both Human Rights and Gender Studies.

Concentration/Emphases requirements.

Select from the following list of courses for each concentration/emphases. Substitutions for these courses will be considered on a case-by-case basis.

Anthropology Concentration.

Emphases. Ethnology: ANTH 530, 532, 533, 535, 537, 539, 543, 546, 547, 584, 587. Archaeology: ANTH 522, 524, 529, 574, 579. Human Evolutionary Ecology: ANTH 561, 562, 565, 566, 567.

Art History Concentration.

Emphases. Pre-Columbian: ARTH *343, 500, 511, 512, 560. Colonial: ARTH 500, 549, 550, 580. Modern: ARTH 500, 529, 583, 585, 588, 589, 590, 593, 594.

Brazilian Literature and Culture Concentration.

PORT *461, 514, 515, 516, 517, 521, 557, 558, 570, SPAN 502.

Communication Concentration.

Select one from: CJ 506, 531, 566. Choosing remaining courses from: CJ 517, 518, 519, 555, 569, 604

Community and Regional Planning Concentration.

CRP 500, 513, 515, 527, 528, 531, 567, 570, 574, 576, 578, 587.

Economics Concentration.

ECON **315, *320, *321, *331, *335, *343, *410, *421, *423, *424, *427, *429, *442, 503, 520, 521, 542, 584.

Gender Studies Concentration.

CRP 528, HIST 628, 651, 652, 686, 687, 692, SOC 509, SPAN **439, SPAN 639.

History Concentration.

HIST 518, 560, 570, 571, 572, 573, 574, 575, 576, 577, 643, 644, 645, 648, 649, 650, 651, 652, 653, 654, 655, 656, 685, 686, 687, 688, 689, 690, 692. Students generally take HIST 686 and/or HIST 687. The course(s) may be substituted upon approval from the Associate Director.

Human Rights Concentration.

ANTH 539, ECON *423, HIST 574, 575, 653, 687, LAW 505, 537, 541, 548, 592, 593, 626, 667, POLS 521.

International Management Concentration.

MGMT 511, 524, 574, 583, 594, 595, 597.

Political Science Concentration.

POLS 511, 512, 520, 521, 525, 540, 541.

Religion & Philosophy Concentration.

ANTH 533, HIST 656, PHIL 588, 589, PHIL 590, RELG *422, SOC 532.

Sociology Concentration.

SOC *461, *484, 503, 506, 508, 509, 510, 513, 520, 528, 584.

Southwest Studies Concentration.

AMST 558, 560, 563, 565, ANTH *421, 521, 535, 537, 576, ARTH 576, CRP 586, 569, ENGL 565, 574, HIST 563, 564, 643, 644, 645, 684, 685, LING 532, LLSS *446, 566, 583, PH 579, POLS *308, RELG *483, SOC 520, 528, SPAN **479, 546, 547, 578, 579.

Spanish American Literature Concentration.

SPAN **430, **431, **432, **433, **435, *438, **439, 502, 504, 531, 532, 536, 631, 633, 639.

Spanish Linguistics Concentration.

SPAN **443, 540, 542, 543, 545, 546, 547, 548, 549. Students with limited background in Spanish Linguistics are encouraged to take SPAN 350 and 352.

Variations may occur from year to year in the availability of faculty members to support concentrations. Such changes in faculty availability are beyond the control of the Latin American Studies program. Thus, it may occasionally be impossible for students to obtain sufficient coursework and advisement in one or more concentrations described herein. Therefore students' choices of concentrations require the prior approval of the Associate Director.

Ph.D. in Latin American Studies

The Latin American Studies Program is currently not admitting students to its Ph.D. program. The doctoral program is in moratorium.

Students select a concentration from Group A and concentration from Group B. Group A concentrations include: Anthropology, Art History, Brazilian Literature & Culture, History, Political Science, Sociology, Spanish American Literature, and Spanish Linguistics. Group B concentrations include: Anthropology, Art History, Brazilian Literature & Culture, Economics, History, International Management, Political Science, Sociology, Spanish American Literature, and Spanish Linguistics.

Concentration requirements.

Select from the following list of courses for each concentration. Substitutions for these courses will be considered on a case-by-case basis.

Anthropology: ANTH 522, 524, 529, 532, 533, 537, 539, 543, 546, 547, 561, 562, 565, 566, 567, 574, 584, 585, 587.

Art History: ARTH 500, 511, 512, 529, 549, 550, 560, 580, 583, 585, 588, 589, 590, 593, 594.

244 ARTS AND SCIENCES

Brazilian Literature & Culture: PORT *461, 514, 515, 516, 517, 521, 557, 558, 570, SPAN 502.

Economics: ECON *410, *421, *423, *424, *427, *429, *442, 503, 520, 521, 542, 584.

History: HIST 518, 560, 570, 571, 572, 573, 574, 575, 576, 577, 628, 643, 644, 645, 648, 649, 650, 651, 652, 653, 654, 655, 656, 665, 673, 685, 686, 687, 688, 689, 690, 692.

International Management: MGMT 511, 524, 574, 583, 594, 595, 597.

Political Science: POLS 511, 512, 520, 521, 525, 540, 541, 580, 581, 582, 583, 681.

Sociology: SOC *420, *461, *484, 503, 506, 508, 509, 510, 513, 520, 528, 584.

Spanish American Literature: SPAN **430, **431, **432, **433, **435, **438, **439, 502, 504, 531, 532, 536, 601, 631, 633, 639.

Spanish Linguistics: SPAN **443, 540, 541, 542, 543, 545, 546, 547, 548, 549, 550.

M.A. in Latin American Studies

Applications: In addition to the materials required by the University of New Mexico Office of Admissions, the following items must be submitted directly to the Latin American Studies Program: three letters of recommendation, a letter of intent, an academic writing sample, unofficial copies of transcripts, and GRE scores.

Prerequisite: The Bachelor's degree is required. Background work in the social sciences and humanities related to Latin America is preferred. At least two years of undergraduate course work (or equivalent language training) in either Spanish or Portuguese is required prior to admission. Applicants with otherwise strong qualifications but with limited Spanish competence may be admitted on the condition that they complete Spanish 352, Advanced Grammar, within their first year of graduate study.

Degree Requirements

Plan I (thesis option); 36 credit hours. Students must select two areas of concentration within the MALAS program. Students have the option of completing 9 credit hours in one concentration and 15 credit hours in the other concentration or completing 12 credit hours in each concentration. The remaining 12 credit hours are divided between 6 hours of program electives and 6 hours of thesis credits.

Students under the Plan I option must complete a minimum of 12 credits in graduate seminars numbered 500 or above (excluding 551 or 552 Problems courses) and 6 hours of thesis credits numbered 599. Students should consult with the Associate Director to determine which courses are considered seminars. Students are required to present an oral defense of the thesis before a thesis committee composed of at least two faculty members in one concentration and one faculty member from the second concentration. Students also are required to sit for the comprehensive examination in the second concentration, administered by three faculty members from that concentration.

Plan II (non-thesis option); 36 credit hours. Students must select two areas of concentration within the MALAS program. Students have the option of completing 9 credit hours in one concentration and 15 credit hours in the other concentration or completing 12 credit hours in each concentration. The remaining 12 credit hours are comprised of electives. Students are required to sit for the comprehensive examinations in both concentrations. The examinations are administered by a Committee on Studies composed of two faculty members from each concentration.

Under the Plan II option, students must complete a minimum of 12 credits in graduate seminars numbered 500 or above (excluding 551 or 552 Problems courses). Students should consult with the Associate Director to determine which courses are considered seminars.

To maintain and improve language proficiency during graduate studies, students under both Plan I and II who are not concentrating in Brazilian Literature & Culture, Spanish American Literature, or Spanish Linguistics will be required to take at least one appropriate language course. Students may choose from Spanish 307 or above; Portuguese 277 or above; or a course in one of Latin America's indigenous languages. If the course is available for graduate credit, it can count as one of the student's elective courses.

Dual degrees: The Interdisciplinary Committee on Latin American Studies coordinates the five dual degree programs noted below. The student applying to any dual degree program is required to meet entrance and other requirements of both programs.

Students wishing to add one of these dual degree options after their initial enrollment must apply to that program within three semesters. Acceptance into the second program will establish dual degree status for the student.

MALAS/MBA: Offered jointly with the Robert O. Anderson School of Management (ASM), this program is designed to train management professionals with special expertise in Latin America. The dual degree reduces requirements to complete the two degrees by approximately 12 hours, to a minimum of 57 hours and a maximum of 72 hours past the Bachelor's, depending on the number of waivers granted by ASM for core requirements. Competency in Spanish or Portuguese is required for admission to the dual degree. Applicants must meet entrance requirements for both programs; applications should be submitted simultaneously to both programs.

In order to meet the MBA requirements, a student must complete 48 credit hours of study, unless the student is eligible to waive some of the courses. If waivers are granted, a total of 33 credit hours must be completed. MBA core requirements include MGT 501, 502, 504, 506, 508, 511, 520, 522, 526, 598. Students must complete 30 hours of core courses or be waived from these courses (with the exception of MGT 598). Students must also complete 18 hours of elective management courses.

For the Latin American Studies component, students are required to complete 24 credit hours, including a minimum of 9 hours in each of two concentrations chosen from the following: Anthropology (with an emphasis in either Archaeology, Ethnology, or Human Evolutionary Ecology), Art History, (with an emphasis in either Pre-Columbian, Colonial, or Modern), Brazilian Literature & Culture, Communication, Community & Regional Planning, Economics, Gender Studies, History, Human Rights, International Management, Political Science, Religion & Philosophy, Sociology, Southwest Studies, Spanish American Literature, and Spanish Linguistics. The combination of areas must ensure that the program is interdisciplinary. For example, students selecting Anthropology with an emphasis in Archaeology as one concentration may not select Anthropology with an emphasis in Ethnology as the second concentration. Students also are required to have no more than one interdisciplinary concentration. For example, a student may not choose both Human Rights and Gender Studies. The remaining 6 hours may be used for thesis (under Plan I) or electives (under Plan II).

Under Plan I, students are required to present an oral defense of the thesis before a thesis committee composed of at least two faculty members in one area of concentration and one faculty member from the second concentration. Students also are required to sit for the comprehensive examination in the second concentration, administered by three faculty members from that concentration. Under Plan II, students are required to sit for the comprehensive examinations in both areas of concentration. The examinations are administered by a Committee on Studies composed of two faculty members from each concentration.

Under both Plans I and II, students must complete a minimum of 6 credits in graduate seminars numbered 500 or above (excluding 551 or 552 Problems courses). Students should consult with the Associate Director to determine which courses are considered seminars.

There are two fellowships that are available specifically for MALAS/MBA dual degree students: Bank of America MALAS/MBA Fellowship and Wells Fargo MALAS/MBA Fellowship. Both fellowships provide \$2000 for one year and can be renewed.

MALAS/MCRP: The joint master's program in Latin American Studies and Community & Regional Planning is designed for students who are interested in the professional practice of planning in a Latin American context.

The Community & Regional Planning Program at the University of New Mexico is dedicated to planning and advocating for sustainable communities and ecosystems throughout the Southwest region and Latin America. MALAS/MCRP graduates possess the knowledge and skills necessary to support planning by diverse human communities throughout the Western Hemisphere. MALAS/MCRP students learn to assist Latin American communities to create community-based plans and programs that sustain and enhance their culture, resource base, built environment and economic vitality. The program promotes participatory processes that respond to community identities and development needs.

Prerequisites to the program are competence in either Spanish or Portuguese (at least two years of undergraduate course work or equivalent language training) and basic course work in economics (micro and/or macro) and statistics. Deficit courses in economics and statistics may be made up after admission to the program.

The program requires a minimum of 54 hours of graduate credit (compared to 72 hours if the two degrees were pursued separately). The required graduate credit hours include: 1) CRP 578, a 3 credit hour bridge seminar; 2) 27 credit hours of thesis and course work in Community & Regional Planning; and 3) 24 credit hours of course work in Latin American Studies. For the 27 credit hours in Community & Regional Planning, students must complete CRP 500, 510, 511, 521, 545 (or 580), 588, and 599. For the 24 credit hours in Latin American Studies, students must complete a minimum of 9 hours in each of two concentrations chosen from the following: Anthropology (with an emphasis in either Archaeology, Ethnology, or Human Evolutionary Ecology), Art History, (with an emphasis in either Pre-Columbian, Colonial, or Modern), Brazilian Literature & Culture, Communication, Community & Regional Planning, Economics, Gender Studies, History, Human Rights, International Management, Political Science, Religion & Philosophy, Sociology, Southwest Studies, Spanish American Literature, and Spanish Linguistics. The combination of areas must ensure that the program is interdisciplinary. For example, students selecting Anthropology with an emphasis in Archaeology as one concentration may not select Anthropology with an emphasis in Ethnology as the second concentration. Students also are required to have no more than one interdisciplinary concentration. For example, a student may not choose both Human Rights and Gender Studies. Each candidate is required to prepare a thesis (Plan I). The Master's examination will consist of an oral examination at the final presentation of the thesis; this examination will include coverage of the student's two concentrations in Latin American Studies. The student's Committee on Studies, comprised of at least two faculty members in one concentration and one faculty member from the second concentration, preside over the examination. The Chair of the Committee on Studies must be a faculty member from Community & Regional Planning.

Students must complete a minimum of 6 credits in graduate seminars numbered 500 or above (excluding 551 or 552 Problems courses). Students should consult with the Associate Director to determine which courses are considered seminars.

MALAS/JD: This dual degree program is intended to prepare legal professionals for work in Latin America or with Hispanic peoples in the United States by combining legal training with Latin American language and area studies. The program enables students to develop professional skills directly applicable to Latin American nations and populations. Prerequisites to the program are competence in either Spanish or Portuguese (at least two years of undergraduate course work or equivalent language training). The program requires 80 credit hours of Law course work that must include 9 credit hours of international law, 24 credit hours of Latin American Studies course work, and a 3 credit hour bridge course containing subject matter linking Law and Latin American Studies.

The first-year Law curriculum consists of required courses that emphasize methods of legal reasoning, policy analysis, and the analysis of legal institutions. During their second and third years, students can choose from approximately 100 elective courses in developing individualized programs suited to their career goals.

The Latin American Studies component requires that students complete a minimum of 9 hours in each of two concentrations chosen from the following: Anthropology (with an emphasis in either Archaeology, Ethnology, or Human Evolutionary Ecology), Art History, (with an emphasis in either Pre-Columbian, Colonial, or Modern), Brazilian Literature & Culture, Communication, Community & Regional Planning, Economics, Gender Studies, History, Human Rights, International Management, Political Science, Religion & Philosophy, Sociology, Southwest Studies, Spanish American Literature, and Spanish Linguistics. The combination of areas must ensure that the program is interdisciplinary. For example, students selecting Anthropology with an emphasis in Archaeology as one concentration may not select Anthropology with an emphasis in Ethnology as the second concentration. Students also are required to have no more than one interdisciplinary concentration. For example, a student may not choose both Human Rights and Gender Studies. The remaining 6 credit hours may be used for electives. Students must complete a minimum of 6 credits in graduate seminars numbered 500 or above (excluding 551 or 552 Problems courses). Students should consult with the Associate Director to determine which courses are considered seminars.

To meet the exit requirements for the Latin American Studies component, students must 1) sit for the comprehensive examinations in both concentrations. The examinations are administered by a Committee on Studies composed of two faculty members from each concentration; or 2) sit for a comprehensive examination in one concentration and complete an article length professional paper (jointly supervised by one member of the Law faculty and one non-Law Latin American-specialized faculty member) in the student's other area of concentration.

MALAS/MA in LLSS: The Latin American Studies Program and the College of Education offer a dual degree program leading to master's degrees in Latin American Studies and Language, Literacy and Sociocultural Studies. This program is intended to allow education professionals to enhance their secondary school teaching with Latin American topics in the humanities and social sciences. The program combines advanced professional development in education with advanced interdisciplinary study of Latin America and is designed to help students integrate the two fields through coordinated advisement and bridge courses.

The program requires 51 credit hours of course work for students who hold teaching certificates. It includes three components: 1) 21 credit hours of Language, Literacy and Sociocultural Studies courses with a concentration in social studies; 2) 21 credit hours of Latin American Studies course work with at least 9 hours in each of two areas of concentration chosen from the following: Anthropology (with an emphasis in either Archaeology, Ethnology, or Human Evolutionary Ecology), Art History, (with an emphasis in either

Pre-Columbian, Colonial, or Modern), Brazilian Literature & Culture, Communication, Community & Regional Planning, Economics, Gender Studies, History, Human Rights, International Management, Political Science, Religion & Philosophy, Sociology, Southwest Studies, Spanish American Literature, and Spanish Linguistics. The combination of areas must ensure that the program is interdisciplinary. For example, students selecting Anthropology with an emphasis in Archaeology as one concentration may not select Anthropology with an emphasis in Ethnology as the second concentration. Students also are required to have no more than one interdisciplinary concentration. For example, a student may not choose both Human Rights and Gender Studies. The remaining 3 credit hours may be used for electives; and 3) 9 credit hours of bridge courses.

Students must complete a minimum of 6 credits in graduate seminars numbered 500 or above (excluding 551 or 552 Problems courses). Students should consult with the Associate Director to determine which courses are considered seminars.

All students follow Plan II (non-thesis) and are required to sit for the comprehensive examinations in both concentrations. The examinations are administered by a Committee on Studies composed of two faculty members from each concentration. Students also must meet exit requirements for the LLSS degree.

Ph.D. in Latin American Studies

The Latin American Studies Program is currently not admitting students to its Ph.D. program. The doctoral program is in moratorium.

The Ph.D. in Latin American Studies is designed to meet the needs of a small number of students whose career goals would be best advanced by an inter-disciplinary doctorate. Such students would include individuals who seek employment in small colleges where the ability to teach across disciplines would be an advantage and those who seek non-academic positions in fields such as museum work, international cultural exchange, diplomacy or other roles in which having skills in two disciplines, combined with Latin American area expertise, would be more useful than somewhat more extensive training within one discipline. Students primarily interested in academic employment in research institutions will generally be better served by earning a doctorate within a single discipline.

Applications: In addition to the materials required by the University of New Mexico Office of Admissions, the following items must be submitted directly to the Latin American Studies Program: three letters of recommendation, a letter of intent, an academic writing sample, unofficial copies of transcripts, and GRE scores.

Prerequisite: A master's degree in the concentration from Group A or in Latin American Studies with appropriate areas of concentration is required. Specific entrance requirements may vary depending on the student's intended concentration. Each application for admission is screened by the department of the projected concentration from Group A before being approved by the Associate Director.

Degree Requirements

The program requires a minimum of 54 hours of graduate credit work (not including dissertation) beyond the Bachelor's degree. This work must include a concentration from Group A consisting of at least 30 credit hours and another concentration from Group B of at least 15 credit hours. The remaining 9 credit hours may be elective credits or additional course credits in either of the concentrations. Of the 54 total credit hours required for the Ph.D., a minimum of 24 credit hours must be taken after admission to the doctoral program. (Any course work taken at the master's level and applied towards the Ph.D. must be approved by both the Associate Director and the student's Committee on Studies.) Course work at UNM

must include 15 hours in the concentration from Group A and 9 hours in the concentration from Group B. Group A concentrations include: Anthropology, Art History, Brazilian Literature & Culture, History, Political Science, Sociology, Spanish American Literature, and Spanish Linguistics. Group B concentrations include all of the above as well as Economics and International Management. See concentration requirements listed under Ph.D. in Latin American Studies.

A Committee on Studies must be formed before the conclusion of the semester preceding the semester in which the student plans to take comprehensive examinations and a program of studies must be developed and approved by the Associate Director by the end of the second semester. The Committee on Studies will be composed of three members from the student's Group A concentration and two members from the Group B concentration. Under no circumstances will the comprehensive examinations be administered by less than the approved five-member committee.

Comprehensive examinations will be given at the completion of all course work in both concentrations. The comprehensive examinations will be coordinated and administered by the Associate Director in conjunction with the student's Committee on Studies (COS). There will be a six to eight hour written examination in at least two areas of study within the Group A concentration and a four to six hour written examination in at least two areas of study within the Group B concentration. The written examination in the Group A concentration will be followed by an oral examination in no more than two weeks. All examinations will be taken during the same semester.

A separate dissertation committee oversees the doctoral dissertation project. Members of this committee frequently also served on the student's COS. This does not, however, have to be the case. The dissertation committee consists of at least two Latin American Studies faculty members from the Group A concentration (one of whom serves as the chair), one Latin American Studies faculty member from the Group B concentration, and a fourth member from "at large" that is approved by the Associate Director. If the student and committee chair agree, another Latin American Studies faculty member may serve as co-chair. The co-chair would need to be from either the Group A or Group B concentration.

Competence is required in two languages chosen from Spanish, Portuguese, French, Haitian Creole, or Latin American indigenous languages. (Basic competence is considered the equivalent of the successful completion of advanced level course work in the primary language and two semesters or more of study in the second language.)

General requirements for the Ph.D. are set forth in earlier pages of this catalog. Students must write and successfully defend a dissertation.

Latin American Studies (LTAM)

Latin American Studies is an interdisciplinary program. In addition to the courses listed below, Latin American content courses can be found under the following departmental headings: Anderson Schools of Management (International Management), Anthropology, Art History, Community and Regional Planning, Economics, History, Law, Philosophy, Political Science, Portuguese, Religious Studies, Sociology, and Spanish.

400. Topics in Latin American Studies. (3, no limit) Δ
Will vary from instructor to instructor, but will be an in-depth analysis of special topics related to Latin America. For course content, consult the Schedule of Classes. The course may be repeated without limit provided the topics vary.

497. Independent Studies. (1-3, repeatable to a maximum of 3 times) Δ
Restriction: permission of program chairperson or instructor.

499. Senior Honors Thesis. (3)

Prerequisite: 497. Restriction: permission of instructor.

500. Topics in Latin American Studies. (3, no limit) Δ

Will vary from instructor to instructor, but will be an in-depth analysis of special topics related to Latin America. For course content, consult the Schedule of Classes. The course may be repeated without limit provided the topics vary.

504. Seminar in Latin American Studies. (3, no limit) Δ

(Also offered as SPAN 504, HIST 690, 688.)

551. Master's Problems. (1-3 to a maximum of 12) Δ

Guided individual research and reading. Students may include up to 12 credit hours in their Master's program and additional credit hours at the Ph.D. level.

578. Latin American Development and Planning. (3)

(Also offered as SOC 508 and CRP 578.) Interdisciplinary seminar focusing on area topics in Latin American planning, development and urbanization. It is the core course for the LAS/MCRP dual-degree program.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

699. Latin American Studies Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

LINGUISTICS

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David Margolin, Ph.D., The University of New Mexico

Associated Faculty in Other Departments

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Philip S. Dale, Ph.D., University of Michigan (Speech and Hearing Sciences)
Tania Ivanova-Sullivan, Ph.D., Ohio State University (Foreign Languages and Literatures)
George F. Luger, Ph.D., University of Pennsylvania (Computer Science)
Janet L. Patterson, Ph.D., The University of New Mexico (Speech and Hearing Sciences)
Julie Sykes, Ph.D., University of Minnesota (Spanish and Portuguese)

Introduction

The Department of Linguistics offers a B.A. major and minor in Linguistics; a B.S. major in Signed Language Interpreting; a minor in Navajo Language and Linguistics; an M.A. and Ph.D. in Linguistics; and contributes to linguistics-related degree programs in other departments and colleges. The Department offers a range of courses in the core areas of phonetics, phonology, syntax, semantics, and discourse as well as in the interdisciplinary fields of applied linguistics, psycholinguistics, and sociolinguistics. The Department has a theoretical orientation based in functional and cognitive approaches and has teaching and research strengths in the areas of Signed Language Studies, typology, language evolution, sociocultural and interactional studies, Native American Languages, discourse analysis, and experimental inquiry. In addition the Department offers programs of study in linguistics with concentrations in Computational Linguistics, Speech and Hearing Sciences, and Native American Languages of the Southwest. The faculty also participates in the Ph.D. program in Educational Linguistics, sponsored jointly by the Department of Linguistics and the College of Education's Department of Language, Literacy and Sociocultural Studies. The program in Educational Linguistics focuses on issues in bilingual and multicultural education and in second language learning and pedagogy.

Major Study Requirements

Linguistics

The B.A. major in Linguistics requires a minimum of 33 hours numbered above 200 (24 in required courses, 9 in approved electives) and four semesters of a second language or the equivalent. Required courses are: LING 301, 303, 304, 322, 331, 367, 412 or 446, 425 or 429. The 9 hours in approved electives may be selected from courses in linguistics or from courses in other departments approved by the department advisor. The four semesters of a second language may be satisfied by fulfilling the College Second Language Group requirement.

Signed Language Studies

The B.A. major in Linguistics with a concentration in Signed Language Studies requires 33 hours (24 required, 9 in approved electives) and four semesters of American Sign Language: SIGN 201, 210, 211, 310, or the equivalent. Required courses are SIGN 305, 352, 355 and LING 322, 331 or 359, 367, 412, 425 or 429. Electives must be approved by the Signed Language Studies advisor.

Signed Language Interpreting

The B.S. major in Signed Language Interpreting requires the following courses: SIGN 201, 210, 211, 212, 214, 310, 352, 360, 411, 412, 418, 419 and LING 101. Students majoring in Signed Language Interpreting must be approved by the Signed Language Interpreting program.

Languages

An interdisciplinary B.A. major in languages is offered through the Department of Foreign Languages and Literatures in conjunction with the Department of Spanish and Portuguese. The Department of Linguistics makes available several courses that qualify for this major. Consult with the advisor in the Department of Foreign Languages and Literatures.

Minor Study Requirements

The minor in Linguistics requires 21 hours of courses numbered 200 or above: 12 hours of required linguistics courses (LING 301, 303, 304, and 322) and 9 hours of electives. The electives may be selected from courses in linguistics or from courses in other departments which have been approved by the Department Advisor.

Minor in Navajo Language and Linguistics

The minor in Navajo Language requires 18 hours of Navajo language and Navajo linguistics courses at or above the 200 level. These hours must include NVJO 201, 202, 311, 312, and 401. Native speakers must take NVJO 206 and NVJO 315 in lieu of NVJO 201 and 202. Three additional hours must be selected from the following courses in Linguistics: LING 331, LING 359, LING 415, LING *401, LING *402 or from approved electives from LLSS or Native American Studies.

Major or Minor in the College of Education

For the major, composite major or minor in language arts, bilingual education, teaching English to speakers of other languages (TESOL), and reading, see the Bilingual/TESOL Education, Elementary Education and Secondary Education section of this catalog.

Departmental Honors

A student seeking departmental honors in the Department of Linguistics (for majors in either Linguistics or Signed Language Interpreting) should identify a research project during the junior year in consultation with an appropriate professor and should submit a proposal in the form of a letter to the department chairperson.

If the proposal is approved by the department chairperson, the student should enroll in LING 498 the first semester of the senior year and LING 499 the second semester of the senior year. These 6 hours of honors work are in addition to the minimum number of hours required for the major.

Graduate Programs

Application Deadlines

- Fall semester: March 31 for M.A. and January 15 for Ph.D.
 Spring semester: None accepted for Ph.D.; October 31 for M.A.
 Summer semester: None accepted for Ph.D.; March 31 for M.A.

All applications seeking financial aid must be received by January 15.

Degrees Offered

M.A. in Linguistics

The Department of Linguistics offers the Master of Arts degree in linguistics with flexibility in selection of an area of study. This degree is offered under Plan I (24 hours plus thesis) or Plan II (32 hours) according to the regulations set forth in earlier pages of this catalog, except that a minimum of 12 hours of 500-level courses is required.

Minimum prerequisites for pursuing the M.A. in linguistics are 12 hours of basic linguistics, including introductory linguistic analysis, phonetics, phonological analysis, and grammatical analysis. Deficiencies in these prerequisites may be made up after admission to the program but such course work may not be counted toward the degree.

Candidates for the master's degree must complete 21 hours of core course work, including 3 hours in each of the following areas: phonology (502, 503), morphosyntax (512), psycholinguistics (560, 565, 566, 567, 568), sociolinguistics (531, 533, 535, 539), language change (546), and two of the following three areas: discourse/syntax (523, 529, or a seminar on a relevant topic), cognitive linguistics (519, 525, or a seminar on a relevant topic), and typology (513, 517, 548, or a seminar on a relevant topic). The remaining required hours are selected by the candidate, with the approval of the Graduate Advisor.

Plan I students are required to undergo an oral examination of the master's thesis. Plan II students are required to take a written comprehensive examination.

Computational Linguistics

In addition to the course work for the Linguistics M.A., the concentration in Computational Linguistics requires five prerequisite Computer Science courses: CS 151, CS 201, CS 251, CS 257, and CS 351; three recommended graduate-level Computer Science courses: CS 438, CS 451, and CS 527; and, two elective courses chosen in consultation with the student's department advisor. If the student has opted for Plan I, they are required to take nine thesis hours in addition to two of the recommended CS courses. One of three Master's examination questions must address an area of Computational Linguistics.

Native American Languages of the Southwest

The Department of Linguistics offers the M.A. in Linguistics with a concentration in Native American Languages of the Southwest. The program is designed so as to take advantage of the resources in the Departments of Linguistics, Native American Studies, and Anthropology, as well as the College of Education. The concentration in Native American Languages is designed to fit with the department's interest in functional grammar and sociolinguistics. Candidates for the M.A. degree under the thesis Plan I must complete 24 hours of course work in linguistics plus at least eight thesis hours and candidates under the non-thesis Plan II must complete 32 hours of course work in linguistics. The candidate will choose one of three focus areas: 1) field research on Native American languages, 2) issues in bilingual education, or 3) Navajo studies. Four courses in the chosen focus area, and one course from either of the other two focus areas, are required.

Ph.D. in Linguistics

Admission to the Ph.D. program is highly selective. The following criteria must be met: 1) completion of course work equivalent to the University of New Mexico M.A. in Linguistics with an average of B+ or better; 2) Pass with Distinction on the University of New Mexico M.A. Comprehensive Exam or equivalent, and the submission of a research paper of publishable quality; and 3) willingness of a University of New Mexico Linguistics faculty member to serve as the student's mentor.

The Ph.D. program requires a minimum of 48 graduate credit course work. This may include up to 30 hours of appropriate courses from the M.A. but at least 18 hours must be work beyond the M.A. At least 24 hours must be completed at UNM and at least 18 hours must be at the 500 or 600 level. Students must fulfill the following requirements: 1) a graduate phonology course (502 or 503); 2) an advanced course in phonetics or phonology (505, 506, or a seminar in phonetics or phonology); 3) a course in each of the following

areas: discourse/syntax (523, 529, or a seminar on a relevant topic); cognitive linguistics (519, 525, or a seminar on a relevant topic), and typology (513, 517, 548, or a seminar on a relevant topic); 4) at least one methods courses; and 5) three advanced seminars in the areas of preparation for the comprehensive examination. These required courses include some that were required for the MA and courses taken for that degree may be included as fulfilling the requirements for the Ph.D. as well.

Research skills required for the Ph.D. are 1) reading, writing, and conversational ability in a language other than the student's native language (this requirement may be fulfilled by 4 semesters of college language courses with a grade of B or better); 2) knowledge of the structure of a non-Indo-European language; and 3) coursework in statistics up to and including analysis of variance or the equivalent.

At the end of their coursework Ph.D. candidates are required to take a comprehensive examination over three areas of specialization.

Contact the department for more detailed information on admissions and requirements for the M.A. and Ph.D. programs or consult the Web site, <http://www.unm.edu/~linguist>.

Computational Linguistics

The Ph.D. in Linguistics with a concentration in Computational Linguistics requires that the student complete a minimum of 48 hours of graduate credit course work that includes up to 30 hours of appropriate courses from the M.A., but at least 18 hours must be course work beyond the M.A. At least 24 hours must be completed at UNM and at least 18 hours must be at the 500 or 600 level. Students must fulfill the following requirements: 1) One 500-level course each in phonology, grammar and discourse, and computer science beyond what is required for the M.A.; 2) at least one methods course (which may include an appropriate course from Computer Science); 3) three advanced seminars in the areas of preparation for the comprehensive examination; 4) a comprehensive examination over three areas of specialization, two of which shall be in the core areas of linguistics, and one in the area of computational linguistics; 5) reading, writing, and conversational ability in a language other than the student's native language plus proficiency in a computer language; 6) knowledge of the structure of a non-Indo-European language; and 7) course work in formal modeling or quantitative methods.

Speech and Hearing Sciences

The Department offers a concentration in the linguistics doctoral program for students interested in combining the study of Speech and Hearing Sciences with Linguistics. Requirements for students who have a master's degree in Speech-Language Pathology are: LING 504; LING 522; LING 531; LING 567; LING 502 or 503; LING 523; LING 532, 533, or 535. Requirements for students who have a master's degree in Linguistics: SHS 510; LING 506; SHS 431; SHS 550; SHS 507; SHS 530 or LING 560; one additional SHS course on disorders. Requirements for all students in the concentration: a second graduate course in phonetics and phonology (chosen from LING 502, 503, or 505); LING 529; and the following: graduate level courses in statistics, research methods (not SHS 506), and three seminars in the areas of specialization for the comprehensive examination (specific courses must be approved by the Committee on Studies). Students in the concentration must also meet all other requirements for the Linguistics Ph.D.

Linguistics (LING)

101. Introduction to the Study of Language. (3) (Also offered as ANTH 110.) Broad overview of the nature of language: language structure, biology of language, language learning, language and thought, bilingualism, social and regional variation and educational implications. Intended to fulfill breadth requirements in any college. 101 and ANTH 110 may not both be counted for credit.

295. Special Topics in Current Language Issues. (3 to a maximum of 12) Δ

Special topics motivated by expertise of instructor and interest of students. Topics such as language and gender, language and politics, animal communication, language and aging and languages of the world. May be repeated for credit as topic varies. (Offered upon demand)

301. [292.] Introduction to Linguistic Analysis. (3)

Basic concepts and technical vocabulary of language as a structured system: phonology, morphology, syntax, semantics. Emphasis on descriptive linguistics; some attention to language change and variation. Presumes no prior knowledge of linguistics.

303. Introduction to Phonetics. (3) Neel, Smith

(Also offered as SHS 303.) An introduction to the physiological mechanisms underlying speech production, linguistic classification and transcription of speech sounds, acoustic properties of speech sounds, relationship between phonetics and phonology, and applications to speech pathology.

304/504. Phonological Analysis. (3) Smith

(Also offered as ANTH 317.) Introduction to patterns in sound structure, with an emphasis on problem-solving. Topics include distinctive features, common phonological processes, autosegmental theory and syllable structure. Prerequisite: 301 or 303 or SHS 303.

322/522. Grammatical Analysis. (3) Axelrod, Croft, Gorbet

(Also offered as ANTH *318.) Principles of morphological and syntactic analysis and introduction to functional and formal theories of grammar. Descriptive analysis of grammatical structures and problems from a variety of languages. Prerequisite: 301 or SIGN 305 or SPAN 351.

331/531. Language in Society. (3) Axelrod

Introduction to sociolinguistics. Topics: social dialects, societal multilingualism, language contact, language attitudes, language policy and planning, the role of language in binding and defining communities. Prerequisite: 101 or 301 or 440 or ANTH 110.

334/534. Language and Gender. (3) Axelrod

(Also offered as WMST 334.) This course provides an introduction to linguistic analyses of language used by and about women and men, exploring how language is used in constructing ourselves and others as men and women, gay, straight, or transgendered.

359/559. Language and Culture. (3) Dinwoodie, Gorbet

(Also offered as ANTH 310 and CJ 319.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition. Prerequisite: 101 or 301 or ANTH 110.

367/567. Psychology of Language. (3) Morford

(Also offered as PSY **367.) Theoretical and methodological issues in psycholinguistics, including comprehension, speech perception and production, language acquisition, bilingualism, brain and language, reading. Prerequisite: 101 or 301 or ANTH 110 or PSY 220 or PSY 240 or PSY 260 or PSY 265 or PSY 271.

***401-402. Topics: American Indian Languages. (3, 3 to a maximum of 12) Δ**

Introductory study of a Native American language, selected according to availability of instructor and student interest. May be repeated for credit as the topic varies.

406/506. Introduction to Experimental Phonetics. (3)

Smith
Introduction to experimental methods used in the study of speech. Laboratory exercises in computer-based measurement of acoustic and aerodynamic data. Acoustic theory illustrated by sounds in diverse languages. Introduction to speech technology. Prerequisite: 303 or SHS 303 or SPAN 350.

***407. Sanskrit I. (3)**

(Also offered as MLNG, RELG 407.) An introduction to the Sanskrit language in conjunction with readings from classical Sanskrit literature in translation.

***408. Sanskrit II. (3)**

(Also offered as MLNG, RELG 408.) The continuation of Sanskrit I: the completion of the study of Sanskrit grammar and an introduction to the reading of Sanskrit texts.

412/512. Morphosyntax (3) Axelrod, Croft

Analysis of the morphology and syntax of a broad range of constructions, examining crosslinguistic variation and universals, semantic and discourse functions, and historical origins.

Prerequisite: 322.

413/513. Linguistic Field Methods. (3) Axelrod, Gorbet

(Also offered as ANTH 413.) Practice in transcribing from oral dictation, phonemic analysis, introduction to problems of morphology.

Prerequisite: (304 or ANTH 317) and (322 or ANTH *318). {Offered upon demand.}

415/515. Native American Languages. (3) Axelrod

(Also offered as ANTH 415.) Survey of Indian languages of North America, with special emphasis on languages of New Mexico. Topics: linguistic structure in particular languages and language families; relationship of languages and cultures; and language loss, maintenance and preservation.

417/517. Typology and Universals. (3) Croft

An overview of language universals based on the comparison of a broad range of languages, and explanations for language universals. Topics covered include implicational universals, typological markedness, functional motivations, and diachronic typology.

Prerequisite: 322.

425/525. Semantic Analysis. (3) Axelrod, Croft, Travis

An introduction to the study of sentence and word level meaning in the languages of the world, emphasizing the role of speaker and hearer, linguistic and extralinguistic context, lexical semantics, and grammatical meaning.

Prerequisite: 301 or SIGN 305 or SPAN 351.

429/529. Discourse Analysis. (3) Axelrod, Travis

Introduction to the relationship of morphosyntax to the structure of discourse in the languages of the world. Topics: method and theory in the analysis of spoken and written discourse; basic notions such as topic, focus and cohesion.

Prerequisite: 322.

432/532. Spanish-English Bilingualism. (3)

(Also offered as LLSS 445.) An introduction to issues in bilingualism with emphasis on Spanish and English in the Southwest. Topics: language maintenance and shift, language policy and education, borrowing and codeswitching, first and second language acquisition, language attitudes.

435/535. Societal Bilingualism. (3)

Differential use of languages in multilingual societies; attitudinal correlates of use; language maintenance and shift in relation to other social change; language loyalty and group identification.

Prerequisite: 331.

436/536. Language and Education in Southwest Native American Communities. (3)

(Also offered as LLSS 460/560 and NATV *460.) This course explores the historical context of education and its impact on Native American communities of the Southwest. Topics include native language acquisition, bilingualism, language shift, and language revitalization efforts in native communities and schools.

440/540. Introduction to Linguistics. (3)

Broad overview of the field of linguistics; principles and practices of linguistic analysis, sociolinguistics, psycholinguistics and educational linguistics. Oriented primarily to the needs of present and prospective teachers.

441/541. English Grammars. (3) Beene

(Also offered as ENGL 441.) A survey of various grammar models and their applications to analysis of the English language.

Prerequisite: ENGL 240.

446/546. Introduction to Language Change. (3) Bybee, Croft

(Also offered as ANTH 416.) Theories and methods of comparative and historical linguistics, emphasizing change in English, Indo-European and Native American languages.

Prerequisite: 304 or ANTH 317.

447/547. Old English. (3 to a maximum of 6) Δ Damico

(Also offered as ENGL 447./547.) An introduction to the grammar, syntax, and phonology of Old English. Prepares students for more advanced studies in this and later periods.

449/549. Middle English Language. (3) Damico

(Also offered as ENGL 449./549.) Comprehensive study of Middle English dialects and the development of Middle English from Old English. Prepares students for Middle English literature.

460/560. Child Language. (3) Morford

(Also offered as PSY 422.) Theories, methodologies and findings in child language from birth to late childhood. Emphasizes implications of child language data for linguistic and psycholinguistic theories. Topics: biological foundations; pre-linguistic communication; phonological, syntactic, semantic and pragmatic development; bilingualism.

Prerequisite: 367 or PSY 324 or PSY 328 or PSY 360 or PSY 367.

469L./569L. Experimental Psycholinguistics. (3) Morford

(Also offered as PSY 469L.) Laboratory course in psycholinguistics; review of classic issues and research. Provides an opportunity to learn basic research methods in experimental psycholinguistics and gain skills necessary to conduct independent research.

Prerequisite: 367 or PSY 367.

490/590. Topics in Linguistics. (3 to a maximum of 12) Δ

Special topics motivated by expertise of instructor and interest of students.

495. Undergraduate Problems. (1-6, to a maximum of 6) Δ

For original individual study project approved by instructor. Maximum of 6 hours creditable to linguistics major or minor. Restriction: permission of instructor.

498. Reading and Research for Honors. (3)

Restriction: permission of instructor.

499. Honors Thesis. (3)

Prerequisite: 498.

502. Generative Theories of Phonology. (3) Smith

The basic organizational units of phonology: features, segments, syllables, words, suprasegmentals, tone, stress and intonation. Topics: natural phonological processes, diachronic changes, and typological variation involving these units.

Prerequisite: 304 or 504 or SPAN 545.

503. Usage-based Phonology. (3) Bybee, Smith

The nature of phonological representations in the lexicon and the interaction of morphology, syntax, and language use with phonology. Topics: underspecification, lexical phonology, cognitive phonology, rules, schemas, and productivity.

Prerequisite: 304 or 504 or SPAN 545.

504/304. Phonological Analysis. (3) Smith

(Also offered as ANTH 517.) Introduction to patterns in sound structure, with an emphasis on problem-solving. Topics include distinctive features, common phonological processes, autosegmental theory and syllable structure.

Prerequisite: 303 or SHS 303 or SPAN 350.

505. Survey of Phonetic Theory. (3) Smith

Advanced topics in phonetics. Acoustic and articulatory study of sounds in different languages; phonetic universals; models of speech production and perception; prosody; relation between phonetics and phonology.
Prerequisite: 304 or 504 or SPAN 545.

506/406. Introduction to Experimental Phonetics. (3) Smith
Introduction to experimental methods used in the study of speech. Laboratory exercises in computer-based measurement of acoustic and aerodynamic data. Acoustic theory illustrated by sounds in diverse languages. Introduction to speech technology.
Prerequisite: 303 or SHS 303 or SPAN 350.

512/412. Morphosyntax (3) Axelrod, Croft

Analysis of the morphology and syntax of a broad range of constructions, examining crosslinguistic variation and universals, semantic and discourse functions, and historical origins.
Prerequisite: 322 or 522.

513/413. Linguistic Field Methods. (3) Axelrod, Gorbet

(Also offered as ANTH 512) Practice in transcribing from oral dictation, phonemic analysis, introduction to problems of morphology.
Prerequisite: (304 or 504 or SPAN 350) and (322 or 522). (Offered upon demand)

515/415. Native American Languages. (3) Axelrod

(Also offered as ANTH 515.) Survey of Indian languages of North America, with special emphasis on languages of New Mexico. Particular languages and such issues as classification; language structure; relationship of languages and cultures; and language loss, maintenance and preservation.

517/417. Typology and Universals. (3) Croft

An overview of language universals based on the comparison of a broad range of languages, and explanations for language universals. Topics covered include implicational universals, typological markedness, functional motivations, and diachronic typology.
Prerequisite: 322 or 522.

519. Cognitive Linguistics. (3) Croft, Gorbet

(Also offered as ANTH 519.) Introduction to cognitive linguistic approaches (e.g., Cognitive Grammar, Construction Grammar) to syntax, morphology, and semantics. Grammatical phenomena at various scales from morpheme to discourse and in a variety of languages.
Prerequisite: 322 or 522 or SPAN 351.

521. Formal Syntactic Theories. (3) Axelrod, Croft

The study of universals of syntax from a generative or formal perspective. Description of cross-linguistic phenomena in at least two formal theories, such as Government and Binding, Generalized Phrase Structure Grammar or Lexical Functional Grammar.
Prerequisite: 322 or 522.

522/322. Grammatical Analysis. (3) Axelrod, Croft,

Gorbet
Principles of morphological and syntactic analysis and introduction to functional and formal theories of grammar. Descriptive analysis of grammatical structures and problems from a variety of languages.
Prerequisite: 292 or SIGN 305 or SPAN 351.

523. Functional Syntactic Theories. (3) Axelrod, Croft,

Travis, S. Wilcox
(Also offered as ANTH 513.) Description and explanation of morphological, syntactic, and discourse phenomena, both in language-specific and typological perspective, in terms of their cognitive representations and the cognitive and interactional processes in which they function.
Prerequisite: 322 or 522 or SPAN 351.

525/425. Semantic Analysis. (3) Axelrod, Croft, Travis

An introduction to the study of sentence and word level meaning in the languages of the world, emphasizing the role

of speaker and hearer, linguistic and extralinguistic context, lexical semantics, and grammatical meaning.
Prerequisite: 292 or SIGN 305 or SPAN 351.

529/429. Discourse Analysis. (3) Axelrod, Travis

Introduction to the relationship of morphosyntax to the structure of discourse in the languages of the world. Topics: method and theory in the analysis of spoken and written discourse; basic notions such as topic, focus and cohesion.
Prerequisite: 322 or 522 or SPAN 351.

531/331. Language in Society. (3) Axelrod

Introduction to sociolinguistics. Topics: social dialects, societal multilingualism, language contact, language attitudes, language policy and planning, the role of language in binding and defining communities.
Prerequisite: 101 or 301 or 440.

532/432. Spanish-English Bilingualism. (3)

(Also offered as LLSS 545.) An introduction to issues in bilingualism with emphasis on Spanish and English in the Southwest. Topics: language maintenance and shift, language policy and education, borrowing and codeswitching, first and second language acquisition, language attitudes.

533. Sociolinguistic Variation. (3)

Linguistic variability in relation to social status and situational context, attitudinal correlates of language stratification and sociolinguistic change in progress.
Prerequisite: 331 or 531.

534/334. Language and Gender. (3) Axelrod

(Also offered as WMST 534.) This course provides an introduction to linguistic analyses of language used by and about women and men, exploring how language is used in constructing ourselves and others as men and women, gay, straight or transgendered.

535/435. Societal Bilingualism. (3)

Differential use of languages in multilingual societies; attitudinal correlates of use; language maintenance and shift in relation to other social change; language loyalty and group identification.
Prerequisite: 331 or 531.

536/436. Language and Education in Southwest Native American Communities. (3)

(Also offered as LLSS 460/560 and NATV *460.) This course explores the historical context of education and its impact on Native American communities of the Southwest. Topics include native language acquisition, bilingualism, language shift, and language revitalization efforts in native communities and schools.

539. Seminar in Sociolinguistics. (3 to a maximum of 12) Δ

Variable topics such as variation theory, language planning, pidgins and creoles, language attitudes and dialectology.

540/440. Introduction to Linguistics. (3)

Broad overview of the field of linguistics; principles and practices of linguistic analysis, sociolinguistics, psycholinguistics and educational linguistics. Oriented primarily to the needs of present and prospective teachers.

541/441. English Grammars. (3) Beene

(Also offered as ENGL 541.) A survey of various grammar models and their applications to analysis of the English language.
Prerequisite: ENGL 240.

546/446. Introduction to Language Change. (3) Bybee, Croft

(Also offered as ANTH 516.) Theories and methods of comparative and historical linguistics, emphasizing change in English, Indo-European, and Native American languages.
Prerequisite: 304 or 504 or SPAN 545.

252 ARTS AND SCIENCES

547/447. Old English. (3 to a maximum of 6) Δ Damico (Also offered as ENGL 547./447.) An introduction to the grammar, syntax, and phonology of Old English. Prepares students for more advanced studies in this and later periods.

548. Grammaticization. (3) Bybee
Grammaticization is the historical process by which words in constructions become grammatical units. The course examines this process across languages, focusing on mechanisms of change and implications for typology, universals and synchronic analysis.
Prerequisite: 412 or 512 or **SPAN 443 or SPAN 542.

549/449. Middle English Language. (3) Damico (Also offered as ENGL 549/449.) Comprehensive study of Middle English dialects and the development of Middle English from Old English. Prepares students for Middle English literature.

554. Seminar in Linguistic Theory. (3 to a maximum of 12) Δ
(Also offered as ANTH 514.) Current topics and issues in phonology, syntax or semantics. Maximum 12 credits.

559/359. Language and Culture. (3) Dinwoodie, Gorbet (Also offered as ANTH 511 and CJ 519.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition.
Prerequisite: 101 or 301 or ANTH 110.

560/460. Child Language. (3) Morford (Also offered as PSY 522.) Theories, methodologies and findings in child language from birth to late childhood. Emphasizes implications of child language data for linguistic and psycholinguistic theories. Topics: biological foundations; pre-linguistic communication; phonological, syntactic, semantic and pragmatic development; bilingualism.

565. Seminar in Thought and Language. (3) John-Steiner (Also offered as PSY, EDPY 565.) The role of language in human cognition is approached from a sociocultural framework. Topics: semiotic systems, languages of the mind, categorization, problem solving, and cognitive pluralism.

566. Psychology of Bilingualism. (3) Morford (Also offered as PSY 566.) Examination of psycholinguistic research relating to adult and childhood bilingualism. Topics: bilingual memory and lexical representation, language separation and interaction in production, code switching and mixing, neurolinguistics, and childhood bilingualism.
Prerequisite: 367 or 567 or PSY 367.

567/367. Psychology of Language. (3) Morford (Also offered as PSY **367.) Theoretical and methodological issues in psycholinguistics, including comprehension, speech perception and production, language acquisition, bilingualism, brain and language, reading.
Prerequisite: 301 or PSY 265 or SIGN 305.

568. Seminar in Psycholinguistics. (3 to a maximum of 12) Δ Morford
(Also offered as PSY 569.)
Restriction: permission of instructor.

569L./469L. Experimental Psycholinguistics. (3) Morford (Also offered as PSY 469L.) Laboratory course in psycholinguistics; review of classic issues and research. Provides an opportunity to learn basic research methods in experimental psycholinguistics and gain skills necessary to conduct independent research.
Prerequisite: 367 or 567 or PSY 367.

590/490. Topics in Linguistics. (3 to a maximum of 12) Δ
Special topics motivated by expertise of instructor and interest of students.

595. Graduate Problems. (1-6 to a maximum of 24) Δ
Original independent study project approved by instructor. Restriction: permission of instructor.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

699. Dissertation. (3-12, no limit) Δ
Original research for doctoral dissertation in Linguistics. Available only to doctoral students who have been advanced to candidacy. Taken under supervision of dissertation director.
Offered on a CR/NC basis only.

Navajo (NVJO)

(No major offered. For minor study requirements, see Linguistics.)

101–102. Elementary Conversational Navajo for Non-Native Speakers. (3, 3) Manavi
Beginning Navajo for students with no previous exposure to the language. Development of all four language skills, with emphasis on listening and speaking. {101–Fall, 102–Spring}

103. Basic Medical Navajo. (3) Manavi
Fundamentals of Navajo for students in the medical profession. Does not satisfy language requirement of College of Arts and Sciences. {Offered upon demand}

105. Introduction to Written Navajo for Native Speakers. [Written Navajo for Native Speakers.] (3) Manavi
Introduction to Navajo writing and reading; for native speakers of Navajo only. 101 and 105 may not both be counted for credit.

201. [201-202.] Intermediate Conversational Navajo I. [Intermediate Navajo.] (3)
Intermediate Navajo for students who have completed 102, or equivalent. Introduction to Navajo phonology, morphology, syntax as well as the use of Young & Morgan's 'The Navajo Language'. Emphasis on comprehension and conversation.
Prerequisite: 102 or 105.

202. [201-202.] Intermediate Conversational Navajo II. [Intermediate Navajo.] (3)
Intermediate Navajo for students who have completed NVJO 201, or equivalent. Continued exploration of Navajo sentence and word structure. Course work will involve extensive reading, writing as well as situational speaking and listening skills
Prerequisite: 201.

206. Creative Writing and Advanced Reading for Native Speakers. [Creative Writing and Advanced Reading.] (3) Manavi
A continuation of 105 for native Navajo speakers. Difficulty level of reading will increase. Additionally, difficulty level of writing will require an advanced level of vocabulary. Fluency in Navajo is desired.
Prerequisite: 105.

311./511. Navajo Verb System I. (3) Platero
This course focuses on Navajo phonology verb morphology and multifaceted nature of Navajo verb complex. Will also cover introduction to prefix template of Navajo verb, verb paradigms in imperative mode, and its four sub-modes.
Prerequisite: 202 and 206.

312./512. Navajo Verb System II. (3) Platero
The course continues study of the verb paradigms in Navajo and introduces the perfective, usitative, iterative, progressive and future modes. Extensive discussion on Navajo aspectual variation, stem alternations, conjugation patterns and verb parsing.
Prerequisite: 311.

315./515. Advanced Navajo. (3) Platero
An examination of Navajo syntax, including voice alternations (passive, causative), relative and subordinate clause constructions and discourse structure.
Prerequisite: 202 or 206.

401/501. Navajo Linguistics. (3) Platero
Introduction to Navajo linguistics including examination of the nature and structure of the language. Linguistics areas including phonetics and phonology, syntax, semantics, pragmatics and sociolinguistics will be covered.
Prerequisite: 202 and 206.

495. Undergraduate Problems. (1-6 to a maximum of 6) Δ Willink, Platero
Restriction: permission of instructor.

501/401. Navajo Linguistics. (3)
Introduction to Navajo linguistics including examination of the nature and structure of the language. Linguistics areas including phonetics and phonology, syntax, semantics, pragmatics and sociolinguistics will be covered.
Prerequisite: 202 and 206.

511/311. Navajo Verb System I. (3) Platero
This course focuses on Navajo phonology verb morphology and multifaceted nature of Navajo verb complex. Will also cover introduction to prefix template of Navajo verb, verb paradigms in imperative mode, and its four sub-modes.
Prerequisite: 202 and 206.

512/312. Navajo Verb System II. (3) Platero
The course continues study of the verb paradigms in Navajo and introduces the perfective, usitative, iterative, progressive and future modes. Extensive discussion on Navajo aspectual variation, stem alternations, conjugation patterns and verb parsing.
Prerequisite: 311 or 511.

515/315. Advanced Navajo. (3) Platero
An examination of Navajo syntax, including voice alternations (passive, causative), relative and subordinate clause constructions and discourse structure.
Prerequisite: 202 or 206.

595. Graduate Problems. (1-6) Axelrod, Platero
Original independent study project approved by instructor.
Restriction: permission of instructor.

Signed Language Interpreting (SIGN)

(For major study requirements, see *Linguistics*.)

201. Introduction to Signed Language. (3) Myers, Santiago, P. Wilcox
Overview of signed language studies and related issues. Introduction to American Sign Language (ASL); signed communication systems most frequently used by deaf and hard of hearing individuals; the study of fingerspelling.

210. American Sign Language I. (3) Myers, Rudy, Santiago
Study of ASL, including basic concepts and sign lexicon. Grammatical features of ASL will be stressed, along with structure and syntax. The student will be expected to demonstrate to the instructor his or her proficiency at the end of the semester.
Prerequisite: 201. Restriction: permission of program coordinator.

211. American Sign Language II. (3) Myers, Rudy
A study of ASL including sign language colloquialisms used in conversational signing. Provides a summary of information currently available dealing with the understanding of ASL grammatical structure and its sociolinguistic usage.
Prerequisite: 210. Restriction: permission of program coordinator.

212. Fingerspelling I. (3) Santiago, P. Wilcox
Assists the student in acquiring fluent fingerspelling ability through the use of visual and expressive drills. Videotapes of a variety of fingerspelling styles will be used to ensure that the student acquires a comprehensive background.
Prerequisite: 201. Restriction: permission of program coordinator.

214. Lexical Semantics for Transliteration. (3) P. Wilcox
Examines polysemy of the English lexicon which transliterators must be concerned with, ranging from semantic prototypes to word meanings which are essentially fluid. Signs representing English morphology are also discussed.
Prerequisite: 201. Restriction: permission of program coordinator.

***305. Signed Language Linguistics. (3)** S. Wilcox
Examines linguistic research on signed languages, primarily ASL: phonetics, phonology, morphology, syntax and semantics. Also covers signed language sociolinguistics, psycholinguistics, language acquisition (first and second) and neurolinguistics.
Prerequisite: 210 and LING 101. Restriction: permission of instructor.

***310. American Sign Language III. (3)** Rudy
Designed to help students improve their expressive skills and general conversational competence in ASL relative to phonology, lexical items, syntax and discourse. Focuses on semantic appropriateness and accuracy of particular lexical items, appropriate use of non-manual behaviors and the use of context to determine meaning.
Prerequisite: 211. Restriction: permission of program coordinator.

320. American Sign Language IV. (3) Rudy
Intensive practice involving receptive/expressive skills in complex grammatical structures, dialogue and storytelling. Intensive study of transcription techniques and their applications to ASL research and documentation.
Prerequisite: 310. Restriction: permission of program coordinator.

***352. Language and Culture in the Deaf Community, Part 1. (3)** S. Wilcox
An introduction to Deaf culture. Examines the language, education, social and political aspects and art forms of Deaf people from an anthropological point of view.
Restriction: permission of program coordinator.

353. Language and Culture in the Deaf Community, Part 2. (3)
Continues developing a thorough understanding of the issues related to signed languages and Deaf culture. Cross-cultural issues and the history of Deaf people also will be addressed. Taught in ASL.
Prerequisite: 310 and 352.

355. Deaf History and Literature. (3) Rudy
A study of the history of Deaf people, the Deaf community and an overview of all genres of Deaf literature. Topics include educational, social, political and economic aspects of the Deaf community from the Deaf perspective.
Prerequisite: 310 and 352. Restriction: permission of program coordinator.

***360. The Interpreting Profession. (3)** P. Wilcox
Addresses the mental processes essential to interpretation and transliteration. In addition to exercises used to develop interpreting strategies such as memory retention, message analysis, decalage, etc., the student is introduced to the interpreter's Code of Professional Conduct and business practices of the professional interpreter.
Prerequisite: 212 and 214 and 310 and 352 and LING 101. Restriction: permission of program coordinator.

411. Consecutive Interpretation. (3) Shaffer
Theory and practice of consecutive interpretation. Topics: message analysis, attention, cultural mediation, reducing interference from the source language. Equal time is spent with ASL & English texts.
Prerequisite: 360. Restriction: admitted to B.S. in Signed Language Interpreting, and permission of program coordinator.

412. Simultaneous Interpreting. (3) Shaffer
Theory and practice of simultaneous interpretation. Topics: control of source-language input, team interpreting, self-monitoring and repair, preparation, providing feedback and special situations such as interpreting in medical settings. Prerequisite: 411. Restriction: admitted to B.S. in Signed Language Interpreting, and permission of program coordinator.

418. Signed Language Interpreting Research. (3) S. Wilcox
A detailed study of current trends and practices in signed language interpreting and evaluation, along with similarities and differences between signed language and spoken language interpreting. Introduction to interpreting process models and assessment models and discussion of current research in the field of interpreting. Students will conduct a small-scale research project and participate in a debate of issues surrounding the interpreting profession. Restriction: admitted to B.S. in Signed Language Interpreting, and permission of program coordinator.

419. Practicum in Signed Language Interpreting. (1-3 to a maximum of 4) Δ Shaffer
Supervised practicum interpreting and transliterating in a variety of community and academic settings, including elementary through post-secondary classrooms, medical situations, vocational rehabilitation, platform and television interpreting and so forth. Supervised preparation for future private practice employment. Prerequisite: 360. Restriction: admitted to B.S. in Signed Language Interpreting, and permission of program coordinator.

495. Undergraduate Problems. (1-6 to a maximum of 6) Δ
Restriction: permission of instructor.

MATHEMATICS AND STATISTICS

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Charles P. Boyer, Ph.D., Pennsylvania State University
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Alexandru Buium, Ph.D., University of Bucharest (Romania)
Ronald Christensen, Ph.D., University of Minnesota—Statistics
Evangelos A. Coutsias, Ph.D., California Institute of Technology
James A. Ellison, Ph.D., California Institute of Technology
Pedro F. Embid, Ph.D., University of California (Berkeley)
Frank L. Gilfeather, Ph.D., University of California (Irvine)
Jens Lorenz, Ph.D., University of Münster (Germany)
Terry A. Loring, Ph.D., University of California (Berkeley)
Alexander P. Stone, Ph.D., University of Illinois
Deborah L. Sulsky, Ph.D., New York University

Associate Professors

Gabriel Huerta, Ph.D., Duke University—Statistics
Pavel M. Lushnikov, Ph.D., Landau Institute of Theoretical Physics of the Russian Academy of Sciences
Michael J. Nakamaye, Ph.D., Yale University
Monika Nitsche, Ph.D., University of Michigan
Maria C. Pereyra, Ph.D., Yale University
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Assistant Professors

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Michelle Guindani, Ph.D., Universita Bocconi (Milan, Italy)
Yan Lu, Ph.D., Arizona State University
Curtis B. Storlie, Ph.D., Colorado State University
Kristin Umland, Ph.D., University of Illinois (Chicago)
Dimitar Vassilev, Ph.D., Purdue University
Helen Wearing, Ph.D., Heriot-Watt University (Edinburgh, Scotland)

Lecturers

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Cathy Briand, M.A., The University of New Mexico
James Dudley, M.A., The University of New Mexico
Philip P. Herlan, M.S., State University College of New York (Buffalo)
Victoria Kauffman, M.A., The University of New Mexico
Janet Vassilev, Ph.D., University of California, Los Angeles

Adjunct Faculty

William D. Beavis, Adjunct Professor, Ph.D., Iowa State University
Jeremiah U. Brackbill, Adjunct Professor, Ph.D., University of Wisconsin
John Irwin, Adjunct Professor, Ph.D., Cornell University
Louis A. Romero, Adjunct Professor, Ph.D., California Institute of Technology
Harvey Rose, Ph.D., Harvard University
Peter Vorobieff, Ph.D., Lehigh University, PA
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Burton Wendroff, Adjunct Professor, Ph.D., New York University
Michael Wester, Ph.D., The University of New Mexico

Professors Emeriti

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Robert F. Cogburn, Ph.D., University of California (Berkeley)
Jeffrey R. Davis, Ph.D., Washington University
Roger C. Entringer, Ph.D., The University of New Mexico
Archie G. Gibson, Ph.D., University of Colorado
Nancy A. Gonzales, Ed.D., Harvard University
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Reuben Hersh, Ph.D., New York University
Lambert H. Koopmans, Ph.D., University of California (Berkeley)
Wojciech Kucharz, Ph.D., Jagiellonian University (Krakow, Poland)
James V. Lewis, Ph.D., University of California (Berkeley)
Richard C. Metzler, Ph.D., Wayne State University
Cornelis W. Onneweer, Ph.D., Wayne State University
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Arthur Steger, Ph.D., University of California (Berkeley)
Stanly L. Steinberg, Ph.D., Stanford University
William J. Zimmer, Ph.D., Purdue University—Statistics

Introduction

Mathematics is fundamental to the formulation and analysis of scientific theories, is a rich and independent field of inquiry, and its study is excellent preparation for life in our highly specialized society. Active research throughout the mathematical subdisciplines, spurred on in part by advances in computing technology, leads to new perspectives and applications. The major in mathematics combines broad study of fundamental theories with in-depth investigation of particular subjects chosen from pure, applied and computational mathematics. A degree in mathematics, either alone or in combination with study in another field, is excellent preparation for careers in industry, universities and research institutes.

Statistics is the science of collecting and analyzing data. Statisticians interact with researchers in all the various disciplines of science, engineering, medicine, social science and

business to develop scientifically sound methods in those areas. Most course work in the department is devoted to understanding current methods and the reasoning behind them. A degree in statistics prepares students for careers in industry, government, universities and research institutes, as well as being excellent preparation for professional programs in medicine, law, business administration and public policy and administration.

High School Students. In order to graduate from the University of New Mexico, all students are required to take a minimum of 3 credits of mathematics course work at the college algebra (MATH 121) level or above. To prepare for this level of study, high school students must take two years of algebra and one year of geometry prior to admission. Students should take mathematics during their senior year of high school, and also take the SAT or ACT examination during that year, for the best preparation and placement into mathematics courses at the University of New Mexico. Students planning to major in any scientific or technological field should take more advanced mathematics courses in high school. Placement in Mathematics or Statistics courses at UNM is based on the most recent ACT/SAT Math scores.

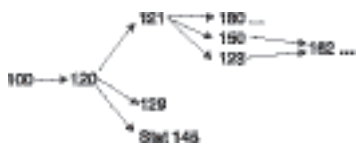
A beginning student who wishes to take MATH 163 or a more advanced course must have College Board Advanced Placement scores as described in the Admissions section of the catalog.

A student who wishes to enroll in a course requiring a pre-requisite must earn a grade of C (not C-) or better in the prerequisite course.

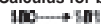
Flow Chart for Beginning Courses

A student's preparation determines the starting course in any sequence.

Transitional courses



Calculus for biological and social sciences



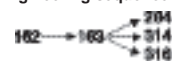
Mathematics major sequence



Statistics major sequence



Engineering sequence



Elementary education sequence



Elementary education students not prepared for MATH 111 will begin with MATH 100.

Restrictions

1. Credit not allowed for both MATH 162 and 180.
2. Credit not allowed for both MATH 163 and 181.
3. Credit not allowed for both MATH 314 and 321.
4. Credit not allowed for both MATH 401 and 501.
5. Credit not allowed for both MATH 322 and 422.
6. Students who have credit for any courses numbered MATH 121 and above may not take IS-M 100 or MATH 120 for credit.
7. Students who have credit for any courses numbered 162 and above may not take MATH 120, 121, 123 or 150 for credit. (Students with MATH 180/181 may take MATH 123 for credit).
8. A student may not take an examination to validate credit in mathematics courses except those offered through UNM Testing Center.
9. Mathematics or Statistics course work dating back more than five years cannot automatically be counted as fulfillment of a prerequisite. Students with older course work who feel they have retained subject knowledge are encouraged to take the COMPASS placement tests offered through the University of New Mexico Testing Center.

Mathematics Major Study Requirements

See separate listing under Statistics for additional degree concentrations.

The following is required of all Mathematics majors:

1. 162, 163, 264, 321 (linear algebra), 401 (advanced calculus); 321 and 401 are not required in Mathematics Education; 401 is not required in Mathematics of Computation.
2. Assignment of an advisor. Students must be assigned a faculty advisor as soon as they decide to major in mathematics. It is important for students to work closely with their advisors in designing a suitable concentration.
3. Knowledge of a computing language at the level of CS 151L is required.
4. Of the Mathematics and Statistics courses taken, at least 27 hours must be numbered 300 or above.
5. Completion of one of Concentrations I, II, III, IV or V below.
6. The pass/fail (CR/NC) option may not be used in courses taken to satisfy requirements 1 and 4. All grades in these courses must be C (not C-) or better.

Concentration I (Pure Mathematics). The concentration in Pure Mathematics requires MATH 322, 327, 402, 313, 412, and two of the following courses: 319, 421, 431, 434, 441, 462, and 472. Students who are unfamiliar with mathematical abstraction are encouraged to take 327 as early in their program as possible.

Concentration II (Applied Mathematics). The concentration must include MATH 311 or 402, 312, 313, 316, 375. Both 311 and 402 can be taken for credit. If 402 is not chosen, then the concentration must include one of 441, 462, 463, 464, 466, 471 or 472. Student must also take one 300 level or above Mathematics and Statistics course, which must be 3-4 credit hours

Concentration III (Math Education). The concentration in Math Education requires MATH 305, 306, 321 or 314, 322, 327**, 338, 401, STAT 345 and one of MATH 316, 375 or 412.

Concentration IV (Mathematics of Computation). This concentration requires, along with the usual Math major requirements, the following:

1. MATH 375, 464 and 471; four of 312, 316, 317, 318, 319, 322; one of STAT 345, MATH 441. Note that MATH 401 is not required for this concentration but is recommended for students contemplating advanced study in mathematics.

2. A minor in Computer Science. Currently this includes 22 CS hours of which the following are required: CS 152L, 261, 251L, ECE 238L, CS 257L and two of CS 341L, 351L and 361L.

The CS advisor may make exceptions where appropriate. See the CS department catalog entry for substitutions and restrictions.

Additional information for Mathematics majors.

1. Each Mathematics major should be in regular contact with their faculty advisor to discuss his or her program of studies.
2. Since many graduate schools require a reading knowledge of one or two foreign languages, it is desirable that an undergraduate take three semesters of at least one of the following: French, German, Russian.
3. A student who would like to have a course offered which is listed as offered on demand should discuss the possibility with the department chairperson.

Mathematics Minor Study Requirements

MATH 264 and 12 hours in Mathematics and Statistics courses numbered above 300. At least 6 of the 12 hours must be in courses labeled Math. (Note that a separate statistics minor is available.) The pass/fail (CR/NC) option **may not** be used for minor study and the grades in all mathematics and statistics courses must be C (not C-) or better. Courses required for a major may not be used to fulfill minor requirement.

Minor in Statistics Requirements for Mathematics Major

MATH 264 and STAT 145, 345, 427, 428, and an additional 3 hours of Statistics in courses numbered 300 and above. All 12 hours in courses 300 level and above must be in courses labeled STAT. (Note that a separate Mathematics Minor for Statistics majors is available.) The pass/fail (CR/NC) option may not be used for minor study and the grades in all statistics courses must be a C (not C-) or better.

Departmental Honors

Requirements for departmental honors in Mathematics are 1) a 3.5 GPA in Mathematics and Statistics courses and a 3.2 overall GPA; 2) notification to department honors advisor no later than two full semesters prior to graduation; 3) completion of a project based on 6 credits of MATH 499 (project outline to be presented to the Mathematics Undergraduate Honors Committee [MUHC] for approval); 4) final written report to be submitted to MUHC for approval; and 5) seminar to be given at the end of the project. These requirements are in addition to the major requirements.

Graduate Program

Graduate Advisors

Contact the department for assignment of a faculty graduate advisor.

Application Deadlines

Fall semester:	February 15 (with financial aid)
	April 30 (without financial aid)
Spring semester:	November 1

Mathematics Degrees Offered

See separate listings under Statistics for additional degree concentrations.

M.S. in Mathematics

Concentrations: pure mathematics, applied mathematics.

The Master of Science in Mathematics degree is offered by the Department of Mathematics and Statistics in the concentration of pure mathematics and applied mathematics. The student planning to study pure mathematics is expected to have taken the courses usually included in an undergraduate mathematics major, that is, linear algebra, abstract algebra and advanced calculus. To pursue the program in applied mathematics the student should have taken advanced calculus, linear algebra and have some familiarity with differential equations and scientific computing. Faculty may choose to admit promising students lacking an adequate undergraduate background to the graduate program, but such students are required to remove undergraduate deficiencies.

The Master of Science in Mathematics degree is awarded under either Plan I 26 hours and 6 hours thesis (thesis option) or Plan II 32 hours (non-thesis option). There is no minor requirement. The thesis option is best suited for students seeking jobs in industry or government laboratories. At least 18 hours (Plan I) or 24 hours (Plan II) of the program must be in the department. Knowledge of a foreign language is not required. Courses required for a M.S. in pure mathematics include: MATH 510, 520, 535, and 561. Credit must be earned in at least two of the following courses: MATH 511, 521, 536, or 562. The remaining courses are electives that are approved by the student's faculty advisor. Courses required for the applied mathematics concentration are: MATH 504, 512, 513, 514, and 561. The following courses are recommended for students under Plan II: MATH 505, 510, and 583. The remaining courses are electives that are approved by the student's faculty advisor.

It is possible to earn a master's degree on a part-time basis at the Los Alamos Center for Graduate Studies. The training office at the Center should be consulted for details.

Ph.D. in Mathematics

Concentrations: pure mathematics, applied mathematics.

The Doctor of Philosophy in Mathematics degree is offered by the department with concentrations in the areas of pure mathematics and applied mathematics. Knowledge of one foreign language chosen from French, German or Russian is expected. Students must pass the Ph.D. qualifying examinations no later than one year after admission. The Ph.D. requires a minimum of 18 semester hours of work beyond the Master's degree and those hours must be in residence at UNM. No more than 6 of these hours may be in reading or special topics courses. An additional 18 hours of dissertation are required for the Ph.D. The program of study in pure mathematics must complete at least two one-year sequences of advanced courses, for example: MATH 563 and 581; MATH 530 and 531; MATH 532 and 533; MATH 536 and 537; MATH 572 and 565; and/or MATH 519 and 539. Credit for attendance in four departmental seminars or colloquia is required for the pure mathematics Ph.D. The program of study for the concentration of applied mathematics must complete: MATH 505, MATH 510, MATH 583, MATH 584, and student must have credit for attendance in at least four department seminars or colloquia.

NOTE: MATH 501 and 502 cannot be counted toward hours needed for graduate degrees in Mathematics or Statistics.

Nanoscience & Microsystems (NSMS) M.S. & Ph.D. Degree Program

This department participates in the interdisciplinary NSMS program; for more information, see the Graduate Interdisciplinary Studies section of this catalog.

Graduate Minor in Mathematics (M.S.)

For a graduate minor at least 9 hours of work in mathematics or statistics approved by both the student's major department and the Department of Mathematics and Statistics are required. A student may receive a Master of Arts in Education with supporting courses in mathematics or statistics.

Students desiring to take a course who do not have the indicated prerequisite should consult with the course instructor.

Graduate Minor in Applied Mathematics (Ph.D.)

For a graduate minor for the Ph.D. student at least 9 hours of work in mathematics to include Math 512 and 513 and an elective at the Math 500 level or above, to exclude colloquia or seminars and approved by both the student's major department and the Department of Mathematics and Statistics are required. This minor may not be more than 25% of course work required for the Ph.D. degree. The minor form must be submitted to OGS with the Program of Studies.

Students desiring to take a course who do not have the indicated prerequisite should consult with the course instructor.

Statistics Major Study Requirements

The following is required of all Statistics majors.

1. Assignment of a faculty advisor. Students must go to the Department of Mathematics and Statistics to be assigned an advisor from the Statistics Group as soon as they decide to major in statistics.
2. STAT 145 or approved equivalent.
3. Knowledge of a computing language at the level of CS 151L.
4. MATH 162, 163, 264 and one of 314 or 321.
5. At least 21 hours of statistics courses numbered 250 or above (with a grade of C [not C-] or better). These must include STAT 345, 427, 428, 440 and 445.
6. Enrichment courses: At least 6 additional hours of courses numbered 300 or higher and approved by the student's undergraduate advisor. These can be taken in an appropriate discipline of the student's choice, for example: anthropology, biology, business, chemistry, computer science, economics, engineering, mathematics, psychology and statistics. These courses may overlap with the student's minor.
7. The pass/fail (CR/NC) option may not be used in courses taken to satisfy requirements 2, 4 and 5. All grades in these courses must be C (not C-) or better.

Additional information for statistics majors.

1. For students interested in a career in actuarial science, preparation for the first actuarial exam consists of the courses MATH 162, 163, 264 and 314 or 321. Preparation for the second actuarial exam consists of the courses STAT 453 and 461. For information on actuarial careers and other exams consult a Statistics advisor.
2. Students planning on pursuing a graduate degree in Statistics are encouraged to take MATH 321 and 401.

Statistics Minor Study Requirements

One year of calculus, MATH 162 and 163, or MATH 180 and 181, STAT 145, 345, 427, 428 and an additional 3 hours of mathematics or statistics in courses numbered 250 and above. The pass/fail (CR/NC) option **may not** be used for minor study and the grades in all mathematics and statistics courses must be C (not C-) or better.

Minor in Mathematics Requirements for a Statistics Major

MATH 264 and 12 hours of Mathematics courses numbered above 300. All 12 hours must be in courses labeled MATH. (Note that a separate Statistics Minor for Mathematics majors is available.) The pass/fail (CR/NC) option may not be used for minor study and the grades in all mathematics courses must be C (not C-) or better.

Departmental Honors

Requirements for departmental honors in Statistics are 1) a 3.5 GPA in major courses and a 3.2 overall GPA; 2) notification to department honors advisor no later than two full semesters prior to graduation; 3) completion of a project based on 6 credits of STAT 495 (project outline to be presented to the Statistics Undergraduate Honors Committee [SUHC] for approval); 4) final written report to be submitted to SUHC for approval; and 5) seminar to be given at the end of the project. These requirements are in addition to the major requirements.

Graduate Program

Graduate Advisors

Contact the department for assignment of a faculty graduate advisor.

Application Deadlines

Fall semester:	February 15 (with financial aid)
	April 30 (without financial aid)
Spring semester:	November 1

Statistics Degrees Offered

M.S. in Statistics

Concentration: applied statistics.

The Master of Science degree student should have taken introductory statistics, linear algebra and a calculus sequence including multivariable calculus. Promising students lacking an adequate undergraduate background may be admitted to the graduate program but are required to remove undergraduate deficiencies.

The Master of Science in Statistics degree is awarded under either Plan I 26 hours and 6 hours thesis (thesis option) or Plan II 32 hours (non-thesis option). There is no minor requirement. At least 18 hours (Plan I) or 24 hours (Plan II) of the program must be in the department. Knowledge of a foreign language is not required. The following courses are required for all students: STAT 561, 540, 545, and 553. Students must take a minimum of 14 elective credit hours for Plan I or 20 elective credit hours for Plan II. These courses are approved by the student's faculty advisor. Students planning to pursue a Ph.D. should elect Plan II and are encouraged to include MATH 510, 563, and STAT 546 in their program.

NOTE: MATH 501 and 502 cannot be counted toward hours needed for graduate degrees in Mathematics or Statistics.

Ph.D. in Statistics

The Doctor of Philosophy in Statistics degree is offered by the Statistics Program. Knowledge of a computer language is required, but knowledge of a foreign language is not. General requirements for the Ph.D. include 18 hours of course work above the Master's level. No more than 6 of these hours may be taken in reading or special topics. 18 hours of dissertation is required for the Ph.D. in Statistics. Students who enter the Ph.D. program with a Master's degree are expected to take the Ph.D. qualifying examination as soon as possible and no later than one year after admission. The following courses are required for the Ph.D. students: STAT 546, 556, 557, and 567.

NOTE: MATH 501 and 502 cannot be counted toward hours needed for graduate degrees in Mathematics or Statistics.

General requirements for both the M.S. and Ph.D. degrees are given in the earlier pages of the catalog. Lists of required courses, the number of hours that must be taken in courses labeled STAT and various concentrations can be found in the *Handbook for Statistics Graduate Students*, obtained from the Statistics Web page: <http://stat.unm.edu/stats>

Graduate Minor in Statistics (M.A.)

For a graduate minor at least 9 hours of work in statistics approved by both the student's major department and the Statistics Program faculty are required. (For a Masters using Plan II, 12 credit hours are required.)

Students desiring to take a course who do not have the indicated prerequisites should consult with the course instructor.

NOTE: STAT 538 and 539 cannot be counted toward the hours needed for graduate degrees in Mathematics and Statistics.

Graduate Minor in Statistics (Ph.D.)

For a graduate minor for the Ph.D. student at least 9 hours of work in statistics courses including STAT 540 and 545 and one elective at the 500 level or above, to exclude colloquia or seminars and approved by both the student's major department and the Department of Mathematics and Statistics are required. This minor may not be more than 25% of course work required for the Ph.D. degree. The minor form must be submitted to OGS with Program of Studies.

Graduate Minor in Pure Mathematics (Ph.D.)

For a graduate minor for the Ph.D. student at least 9 hours of work in mathematics to include Math 510 and 511 and an elective at the Math 500 level or above, to exclude colloquia or seminars and approved by both the student's major department and the Department of Mathematics and Statistics are required. This minor may not be more than 25% of course work required for the Ph.D. degree. The minor form must be submitted to OGS with the Program of Studies.

Mathematics (MATH)

I. Introductory Courses

ISM 100. Algebraic Problem Solving. (3)

Includes signed numbers, solving linear equations, formulas, graphing, solving systems of equations and applications. Also covers exponents and polynomials, factoring and quadratics. Satisfactory completion of MATH 100 meets prerequisite for MATH 120. **Offered on a CR/NC basis only through University College.**

106. Problems in Intermediate Algebra. (1)

Study session for 120 with an emphasis on problem solving. **Offered on a CR/NC basis only.** {Fall, Spring}

107. Problems in College Algebra. (1)

Study session for 121 with an emphasis on problem solving. **Offered on a CR/NC basis only.** {Fall, Spring}

110. Problems in Elements of Calculus. (1)

Study session for 180 with an emphasis on problem-solving. **Offered on a CR/NC basis only.** {Fall, Spring}

116. Topics in Pre-calculus Mathematics. (3)

Selected topics from algebra, geometry and trigonometry. Prerequisite: permission of the department. **Offered on a CR/NC basis only.**

120. Intermediate Algebra. (3) ¹

Preparation for MATH 121, 129 and STAT 145. Covers linear equations and inequalities, polynomials, factoring, exponents, radicals, fractional expressions and equations,

quadratic equations, perimeters, areas of simple geometric shapes, and logarithms. Emphasis on problem solving skills. Acceptable as credit toward graduation, but not acceptable to satisfy UNM core or group requirements.

Prerequisite: ACT=>19 or SAT=>450 or IS-M 100 or Compass Pre-Algebra >56 or Algebra >33.

121. College Algebra. (3) ¹

Preparation for MATH 150 and 180. The study of equations, functions and graphs, especially linear and quadratic functions. Introduction to polynomial, rational, exponential and logarithmic functions. Applications involving simple geometric objects. Emphasizes algebraic problem solving skills. Meets New Mexico Lower-Division General Education Common Core Curriculum Area II: Mathematics (NMCCN 1113).

Prerequisite: ACT=>22 or SAT=>510 or MATH 120 or Compass Algebra >54 or College Algebra >33.

123. Trigonometry. (3) ¹

Definition of the trigonometric functions, radian and degree measure, graphs, basic trigonometric identities, inverse trigonometric functions, complex numbers, polar coordinates and graphs, vectors in 2 dimensions. May be taken concurrently with MATH 150. Meets New Mexico Lower-Division General Education Common Core Curriculum Area II: Mathematics (NMCCN 1113).

Prerequisite: ACT=>25 or SAT=>570 or MATH 121 or Compass College Algebra >54.

129. A Survey of Mathematics. (3)

An introduction to some of the great ideas of mathematics, including logic, systems of numbers, sequences and series, geometry and probability. Emphasizes general problem-solving skills. Meets New Mexico Lower-Division General Education Common Core Curriculum Area II: Mathematics.

Prerequisite: ACT=>22 or SAT=>510 or MATH 120 or 121 or 123 or 150 or 162 or 163 or 180 or 181 or 264.

150. Pre-Calculus Mathematics. (3) ¹

In-depth study of polynomial, rational, exponential and logarithmic functions and their graphs. Includes the fundamental theorem of algebra, systems of equations, conic sections, parametric equations and applications in geometry. Exploration of the graphing calculator. May be taken concurrently with MATH 123. Meets New Mexico Lower-Division General Education Common Core Curriculum Area II: Mathematics.

Prerequisite: ACT=>25 or SAT=>570 or MATH 121 or Compass College Algebra >54.

162. Calculus I. (4) ¹

Derivative as a rate of change, intuitive, numerical and theoretical concepts, applications to graphing, linearization and optimization. Integral as a sum, relation between integral and derivative, and applications of definite integral. Meets New Mexico Lower-Division General Education Common Core Curriculum Area II: Mathematics (NMCCN 1614).

Prerequisite: (ACT=28-31 or SAT=640-700 or MATH 150 or Compass College Algebra >66) and (MATH 123 or Compass Trig >59) or (ACT=>32 or SAT=>700).

163. Calculus II. (4) ¹

Transcendental functions, techniques of integration, numerical integration, improper integrals, sequences and series with applications, complex variables and parametrization of curves.

Prerequisite: MATH 162.

180. Elements of Calculus I. (3) ¹

Limits of functions and continuity, intuitive concepts and basic properties; derivative as rate of change, basic differentiation techniques; application of differential calculus to graphing and minima-maxima problems; exponential and logarithmic functions with applications. Meets New Mexico Lower-Division General Education Common Core Curriculum Area II: Mathematics (NMCCN 1613).

Prerequisite: ACT=>26 or SAT=>600 or MATH 121 or MATH 150 or Compass College Algebra >66.

181. Elements of Calculus II. (3) ¹

Includes the definite integral, multivariate calculus, simple differential equations, basic review of trigonometry and its relation to calculus.
Prerequisite: 180.

264. Calculus III. (4)

Vector operations, vector representation of planes and curves, functions of several variables, partial derivatives, gradient, tangent planes, optimization, multiple integrals in Cartesian cylindrical and spherical coordinates, vector fields, line integrals and Green's theorem.
Prerequisite: C (not C-) or better in 163.

275. Honors Calculus. (3)

Differential and integral calculus with an emphasis on conceptual understanding.
Prerequisite: Grade of at least A- in 180 or 162.

Footnote:

¹ See Restrictions earlier in Mathematics and Statistics.

II. Courses for Teachers and Education Students

The following courses are intended primarily for undergraduate and graduate students in the College of Education and for others seeking teaching certification. Other persons may be admitted to these courses by permission of the department chairperson.

111. Mathematics for Elementary and Middle School Teachers I. (3)

Course offers an in-depth look at the representations of rational numbers, including base-ten and decimal numbers, integers, fractions, and arithmetic operations on these sets. Problem solving is emphasized throughout.
Prerequisite: 120 or 121 or 123 or 150 or 162 or 180 or STAT 145 or ISM 100 or ACT=>19 or SAT=>450 or Compass Pre-Algebra >56 or Algebra >33.

112. Mathematics for Elementary and Middle School Teachers II. (3)

This course develops basic geometric concepts including rigid transformations and congruence; dilations and similarity; length, area and volume; systems of measurement and unit conversions; connections to coordinate geometry. Problem solving is emphasized throughout.
Prerequisite: 111.

215. Mathematics for Elementary and Middle School Teachers III. (3)

Algebra from the viewpoint of the elementary curriculum with emphasis on proportional and linear relationships. Also included: topics from probability and statistics with connections to other topics in the elementary curriculum. Problem solving is emphasized throughout.
Prerequisite: 112.

300/500. Computing in the Mathematics Curriculum. (3)

Use of computers and graphing utilities in the mathematics classroom. Introduction to hardware and commercial software. Applications of selected programming languages to the teaching of mathematics.
Prerequisite: 162 or 181.

301/503. Calculus for Teachers. (3)

A penetrating look at functions, derivatives, integrals, and the Fundamental Theorem of Calculus that makes explicit how topics in the secondary school curriculum come to fruition in this foundational subject.
Prerequisite: 163. Restriction: permission of instructor.

305/507. Mathematics from a Historical Perspective. (3)

A survey of mathematical developments prior to 1800; emphasis on problem solving techniques; comparison of older and more modern methods.
Prerequisite: 163. {Fall}

306/506. College Geometry. (3)

An axiomatic approach to fundamentals of geometry, both Euclidean and non-Euclidean. Emphasis on historical development of geometry. {Spring}

308/508. Theory and Practice of Problem Solving. (3)

An experience in mathematical invention and discovery at the level of high school geometry and algebra that includes a deeper look at sequences, series, and recursions. {Offered upon demand}
Prerequisite: 180 or 162. Corequisite: 306.

309/509. Applications of Mathematics. (3)

An experience in mathematical invention and discovery at the level of high school geometry and algebra that includes a deeper look at sequences, series, and recursions.
Prerequisite: 181 or 163.

338/542. Mathematics for Secondary Teachers. (3)

Topics from secondary mathematics presented from an advanced standpoint and designed to meet the needs of pre- and in-service teachers. Open only to prospective and in-service teachers of mathematics.
Prerequisite: 306 and 327. {Spring}

339/543. Topics in Mathematics for Elementary and Middle School Teachers. (1-3, no limit) Δ

Presents mathematical topics of concern to elementary and mid-school teachers. Open only to in-service and prospective teachers. {Offered upon demand}

350/550. Topics in Mathematics for Secondary Teachers. (1-3, no limit) Δ

Presents mathematical topics of concern to secondary teachers. Open only to in-service and prospective teachers. {Offered upon demand}

III. Upper-Level Undergraduate Courses

311. Vector Analysis. (3)

Vector algebra, lines, planes; vector valued functions, curves, tangent lines, arc length, line integrals; directional derivative and gradient; divergence, curl, Gauss' and Stokes' theorems, geometric interpretations.
Prerequisite: 264.

****312. Partial Differential Equations for Engineering. (3)**

Solution methods for partial differential equations; science and engineering applications; heat and wave equations, Laplace's equation; separation of variables; Fourier series and transforms; special functions.
Prerequisite: 264 and 316.

****313. Complex Variables for Engineering. (3)**

Theory of functions of a complex variable with application to physical and engineering problems. Although not required, skill in vector analysis will be helpful in taking this course.
Prerequisite: 264.

****314. Linear Algebra with Applications. (3) ¹**

System of linear equations, matrices, linear transformations, determinants, eigenvalues and eigenvectors. Efficient computational methods emphasized.
Prerequisite: (163 or 181) and CS 151L.

****316. Applied Ordinary Differential Equations. (3)**

Introduction to algorithmic theory of ordinary differential equations. Topics covered: elementary theory of ordinary differential equations, numerical methods, phase-plane analysis, and introduction to Laplace transformations. Third-level calculus is helpful for this class.
Prerequisite: 163 and CS 151L.

****317. Elementary Combinatorics. (3)**

Basic enumeration including combinations, permutations, set and integer partitions, distributions, and rearrangements, binomial and multinomial theorems together with pigeon-hole and inclusion-exclusion principles and mathematical induction principles. Discrete probability, elementary ordinary generating functions, recurrence relations, and sorting algorithms. Prerequisite: 163 or 181. {Fall}

****318. Graph Theory. (3)**

Trees, connectivity, planarity, colorability, and digraphs: algorithms and models involving these concepts. Ability in linear algebra is helpful when taking this course. {Spring}

****319. Theory of Numbers. (3)**

Divisibility, congruences, primitive roots, quadratic residues, diophantine equations, continued fractions, partitions, number theoretic functions. {Spring}

****321. Linear Algebra. (3) ¹**

Linear transformations, matrices, eigenvalues and eigenvectors, inner product spaces. Prerequisite: 264. {Fall, Spring}

322. Modern Algebra I. (3)

Groups, rings, homomorphisms, permutation groups, quotient structure, ideal theory, fields. Prerequisite: 264. {Fall}

****327. Introduction to Mathematical Thinking and Discrete Structures. (3)**

Course will introduce students to the fundamentals of mathematical proof in the context of discrete structures. Topics include logic, sets and relations, functions, integers, induction and recursion, counting, permutations and combinations and algorithms. Prerequisite: 162 and 163. {Fall}

****356. Symbolic Logic. (4)**

(Also offered as PHIL 356.) This is a first course in logical theory. Its primary goal is to study the notion of logical entailment and related concepts, such as consistency and contingency. Formal systems are developed to analyze these notions rigorously.

****375. Introduction to Numerical Computing. (3)**

(Also offered as CS 375.) An introductory course covering such topics as solution of linear and nonlinear equations; interpolation and approximation of functions, including splines; techniques for approximate differentiation and integration; solution of differential equations; familiarization with existing software. Prerequisite: CS 151L.

391. Advanced Undergraduate Honors Seminar. (1-3 to a maximum of 8) Δ

Advanced problem solving. Especially recommended for students wishing to participate in the Putnam Intercollegiate Mathematical Competition. Restriction: permission of instructor. {Offered upon demand}

393. Topics in Mathematics. (3, no limit) Δ

Selected topics from analysis, algebra, geometry, statistics, model building, interdisciplinary studies and problem solving. {Offered upon demand}

401./501. Advanced Calculus I. (4)**

Rigorous treatment of calculus in one variable. Definition and topology of real numbers, sequences, limits, functions, continuity, differentiation and integration. Students will learn how to read, understand and construct mathematical proofs. Prerequisite: 264 and two courses at the 300+ level.

402./502. Advanced Calculus II. (3)**

Generalization of 401/501 to several variables and metric spaces: sequences, limits, compactness and continuity on metric spaces; interchange of limit operations; series, power series; partial derivatives; fixed point, implicit and inverse function theorems; multiple integrals. Prerequisite: 401.

****412. Nonlinear Dynamics and Chaos. (3)**

Qualitative study of linear and nonlinear ordinary differential equations and discrete time maps including stability analysis, bifurcations, fractal structures and chaos; applications to biology, chemistry, physics and engineering. Prerequisite: 264 and (314 or 321) or 316.

****415. History and Philosophy of Mathematics. (3)**

(Also offered as PHIL *415.) A historical survey of principal issues and controversies on the nature of mathematics. Emphasis varies from year to year. Prerequisite: 163 or 181 or 356.

***421. Modern Algebra II. (3)**

Theory of fields, algebraic field extensions and Galois theory for fields of characteristic zero. Prerequisite: 322 or 422. {Spring}

****422. Modern Algebra for Engineers. (3)**

Groups, rings and fields. (This course will not be counted in the hours necessary for a mathematics major.) Prerequisite: 264. {Fall}

***431./535. Introduction to Topology. (3)**

Metric spaces, topological spaces, continuity, algebraic topology. Prerequisite: 401. {Fall}

434./534. Introduction to Differential Geometry. (3)

Elementary theory of surfaces, differential forms, integral geometry and Riemannian geometry. Prerequisite: 311 or 402. {Offered upon demand}

****439. Topics in Mathematics. (1-3, no limit) Δ**

{Offered upon demand}

441. Probability. (3)

(Also offered as STAT 461/561.) Mathematical models for random experiments, random variables, expectation. The common discrete and continuous distributions with application. Joint distributions, conditional probability and expectation, independence. Laws of large numbers and the central limit theorem. Moment generating functions. Prerequisite: 264. {Fall}

462./512. Introduction to Ordinary Differential Equations. (3)

Linear systems. Existence and uniqueness theorems, flows, linearized stability for critical points, stable manifold theorem. Gradient and Hamiltonian systems. Limit sets, attractors, periodic orbits, Floquet theory and the Poincare Map. Introduction to perturbation theory. Prerequisite: (314 or 321) and 316 and 401. {Fall}

463./513. Introduction to Partial Differential Equations. (3)

Classification of partial differential equations; properly posed problems; separation of variables, eigenfunctions and Green's functions; brief survey of numerical methods and variational principles. Prerequisite: 312 and 313 and (314 or 321) and (311 or 402). {Spring}

464./514. Applied Matrix Theory. (3)

Determinants; theory of linear equations; matrix analysis of differential equations; eigenvalues, eigenvectors and canonical forms; variational principles; generalized inverses. Prerequisite: 314 or 321. {Fall}

***466. Mathematical Methods in Science and Engineering. (3)**

Special functions and advanced mathematical methods for solving differential equations, difference equations and integral equations. Prerequisite: 311 and 312 and 313 and 316. {Spring}

***471. Introduction to Scientific Computing. (3)**

(Also offered as CS 471.) Introduction to scientific computing fundamentals, exposure to high performance programming language and scientific computing tools, case studies of scientific problem solving techniques.

472/572. Fourier Analysis and Wavelets. (3)
Discrete Fourier and Wavelet Transform. Fourier series and integrals. Expansions in series of orthogonal wavelets and other functions. Multiresolution and time/frequency analysis. Applications to signal processing and statistics.
Prerequisite: (314 or 321) or 401. {Offered upon demand}

499. Individual Study. (1-3 to a maximum of 6) Δ
Guided study, under the supervision of a faculty member, of selected topics not covered in regular courses

Footnote:
1 See Restrictions earlier in Mathematics and Statistics.

IV. Graduate Courses

500/300. Computing in the Mathematics Curriculum. (3)
Use of computers and graphing utilities in the mathematics classroom. Introduction to hardware and commercial software. Applications of selected programming languages to the teaching of mathematics.
Prerequisite: 162 or 181. Restriction: College of Education graduate students.

****501/401. Advanced Calculus I. (4)**
Rigorous treatment of calculus in one variable. Definition and topology of real numbers, sequences, limits, functions, continuity, differentiation and integration. Students will learn how to read, understand and construct mathematical proofs.
Prerequisite: 264 and two courses at the 300+ level. Restriction: College of Education graduate students.

****502/402. Advanced Calculus II. (3)**
Generalization of 401/501 to several variables and metric spaces: sequences, limits, compactness and continuity on metric spaces; interchange of limit operations; series, power series; partial derivatives; fixed point, implicit and inverse function theorems; multiple integrals.
Prerequisite: 501. Restriction: College of Education graduate students.

503/301. Calculus for Teachers. (3)
A penetrating look at functions, derivatives, integrals, and the Fundamental Theorem of Calculus that makes explicit how topics in the secondary school curriculum come to fruition in this foundational subject.
Restriction: permission of instructor.

504. Introductory Numerical Analysis: Numerical Linear Algebra. (3)
(Also offered as CS 575.) Direct and iterative methods of the solution of linear systems of equations and least squares problems. Error analysis and numerical stability. The eigenvalue problem. Descent methods for function minimization, time permitting.
Prerequisite: 464, 514. {Spring}

505. Introductory Numerical Analysis: Approximation and Differential Equations. (3)
(Also offered as CS 576.) Numerical approximation of functions. Interpolation by polynomials, splines and trigonometric functions. Numerical integration and solution of ordinary differential equations. An introduction to finite difference and finite element methods, time permitting.
Prerequisite: 316 or 401. {Fall}

506/306. College Geometry. (3)
An axiomatic approach to fundamentals of geometry, both Euclidean and non-Euclidean. Emphasis on historical development of geometry.
Restriction: College of Education graduate students. {Spring}

507/305. Mathematics from a Historical Perspective. (3)
A survey of mathematical developments prior to 1800; emphasis on problem solving techniques; comparison of older and more modern methods.
Prerequisite: 163. Restriction: College of Education graduate students. {Fall}

508/308. Theory and Practice of Problem Solving. (3)
An experience in mathematical invention and discovery at the level of high school geometry and algebra that includes a deeper look at sequences, series, and recursions. {Offered upon demand}
Prerequisite: 180 or 162. Corequisite: 306. Restriction: College of Education graduate students.

509/309. Applications of Mathematics. (3)
An experience in mathematical invention and discovery at the level of high school geometry and algebra that includes a deeper look at sequences, series, and recursions.
Prerequisite: 181 or 163. Restriction: College of Education graduate students.

510. Introduction to Analysis I. (3)
Real number fields, sets and mappings. Basic point set topology, sequences, series, convergence issues. Continuous functions, differentiation, Riemann integral. General topology and applications: Weierstrass and Stone-Weierstrass approximation theorems, elements of Founier Analysis (time permitting).
Prerequisite: 321, 401. {Fall}

511. Introduction to Analysis II. (3)
Continuation of 510. Differentiation in R^n . Inverse and implicit function theorems, integration in R^n , differential forms and Stokes theorem.
Prerequisite: 510. {Spring}

512/462. Introduction to Ordinary Differential Equations. (3)
Linear systems. Existence and uniqueness theorems, flows, linearized stability for critical points, stable manifold theorem. Gradient and Hamiltonian systems. Limit sets, attractors, periodic orbits, Floquet theory and the Poincare Map. Introduction to perturbation theory.
Prerequisite: 314, or 321, 316, 401. {Fall}

513/463. Introduction to Partial Differential Equations. (3)
Classification of partial differential equations; properly posed problems; separation of variables, eigenfunctions and Green's functions; brief survey of numerical methods and variational principles.
Prerequisite: 312, 313, 314 or 321, one of 311 or 402. {Spring}

514/464. Applied Matrix Theory. (3)
Determinants; theory of linear equations; matrix analysis of differential equations; eigenvalues, eigenvectors and canonical forms; variational principles; generalized inverses.
Prerequisite: 314 or 321. {Fall}

519. Selected Topics in Number Theory. (3, no limit) Δ

520. Abstract Algebra I. (3)
Theory of groups, permutation groups, Sylow theorems. Introduction to ring theory, polynomial rings. Principal ideal domains.
Prerequisite: 322. {Fall}

521. Abstract Algebra II. (3)
Continuation of 520. Module theory, field theory, Galois theory.
Prerequisite: 321, 520. {Spring}

530. Algebraic Geometry I. (3)
Basic theory of complex affine and projective varieties. Smooth and singular points, dimension, regular and rational mappings between varieties, Chow's theorem.
Prerequisite: 431, 521, 561. {Alternate Falls}

531. Algebraic Geometry II. (3)
Continuation of 530. Degree of a variety and linear systems. Detailed study of curves and surfaces.
Prerequisite: 530. {Alternate Springs}

532. Algebraic Topology I. (3)
Introduction to homology and cohomology theories. Homotopy theory, CW complexes.
Prerequisite: 431, 521. {Alternate Falls}

533. Algebraic Topology II. (3)

Continuation of 532. Duality theorems, universal coefficients, spectral sequence.

Prerequisite: 532. {Alternate Springs}

534/434. Introduction to Differential Geometry. (3)

Elementary theory of surfaces, differential forms, integral geometry, Riemannian geometry.

Prerequisite: 311 or 402. {Offered upon demand}

535/431. Foundations of Topology. (3)

Basic point set topology, Separation axioms, metric spaces, topological manifolds, fundamental group and covering spaces.

Prerequisite: 401. {Fall}

536. Introduction to Differentiable Manifolds. (3)

Concept of a manifold, differential structures, vector bundles, tangent and cotangent bundles, embedding, immersions and submersions, transversality, Stokes' theorem.

Prerequisite: 511. {Spring}

537. Riemannian Geometry I. (3)

Theory of connections, curvature, Riemannian metrics, Hopf-Rinow theorem, geodesics, Riemannian submanifolds.

Prerequisite: 536. {Alternate Falls}

538. Riemannian Geometry II. (3)

Continuation of MATH 537 with emphasis on adding more structures. Riemannian submersions, Bochner theorems with relation to topology of manifolds, Riemannian Foliations, Complex and Kaehler geometry, Sasakian and contact geometry.

Prerequisite: 537. {Alternate Springs}

539. Selected Topics in Geometry and Topology. (3, no limit) Δ **540. Stochastic Processes with Applications. (3)**

(Also offered as STAT 565.) Markov chains and processes with applications. Classification of states. Decompositions. Stationary distributions. Probability of absorption, the gambler's ruin and mean time problems. Queuing and branching processes. Introduction to continuous time Markov processes. Jump processes and Brownian motion.

Prerequisite: 527. {Offered upon demand}

541. Advanced Probability. (3)

(Also offered as STAT 567.) A measure theoretic introduction to probability theory. Construction of probability measures. Distribution and characteristic functions, independence and zero-one laws. Sequences of independent random variables, strong law of large numbers and central limit theorem. Conditional expectation. Martingales.

Prerequisite: 563. {Alternate Springs}

542/338. Mathematics for Secondary Teachers. (3)

Topics from secondary mathematics presented from an advanced standpoint and designed to meet the needs of pre- and in-service teachers. Open only to prospective and in-service teachers of mathematics.

Prerequisite: 306 and 322 and 327. Restriction: College of Education graduate students. {Fall}

543/339. Topics in Mathematics for Elementary and Middle School Teachers. (1-3, no limit) Δ

Presents mathematical topics of concern to elementary and mid-school teachers. Open only to in-service and prospective teachers. May be repeated for credit by permission of instructor. {Offered upon demand}

Restriction: College of Education graduate students.

549. Selected Topics in Probability Theory. (3, no limit) Δ

(Also offered as STAT 569.)

550/350. Topics in Mathematics for Secondary Teachers. (1-3, no limit) Δ

Presents mathematical topics of concern to secondary teachers. Open only to in-service and prospective teachers. May

be repeated for credit by permission of instructor. {Offered upon demand}

Restriction: College of Education graduate students.

551. Problems. (1-3, no limit) Δ **557. Selected Topics in Numerical Analysis. (3, no limit) Δ**

(Also offered as CS 557.) Possible topics include approximation theory, two point boundary value problems, quadrature, integral equations and roots of nonlinear equations.

561. Functions of a Complex Variable I. (3)

Analyticity, Cauchy theorem and formulas, Taylor and Laurent series, singularities and residues, conformal mapping, selected topics.

Prerequisite: 311 or 402. {Fall}

562. Functions of a Complex Variable II. (3)

The Mittag-Leffler theorem, series and product expansions, introduction to asymptotics and the properties of the gamma and zeta functions. The Riemann mapping theorem, harmonic functions and Dirichlet's problem. Introduction to elliptic functions. Selected topics.

Prerequisite: 561. {Fall}

563. Measure Theory. (3)

Functions of one and several real variables, measure theory, starting with Lebesgue measure and integration. Product measures. Measure on spaces of functions.

Prerequisite: 401 or 510. {Fall}

565. Harmonic Analysis. (3)

Fourier analysis on the circle, real line and on compact and locally compact groups.

Prerequisite: 563. {Offered upon demand}

568. Stochastic Differential Equations. (3)

Basic theory of stochastic differential equations with applications. The presentation will be at a level accessible to scientists, engineers and applied mathematicians.

Prerequisite: 316 and 441. {Offered upon demand}

569. Selected Topics in Analysis. (3, no limit) Δ **570. Singular Perturbations. (3)**

Singularly perturbed boundary value problems, layer type expansions and matching. Initial value problems and multi-scaling methods for ordinary and partial differential equations. Phase plane and qualitative ideas. Applications. Perturbations of Hamiltonian systems.

Prerequisite: 462, 463. {Alternate Springs}

571. Ordinary Differential Equations. (3)

Existence and uniqueness of solutions, linear systems, asymptotic behavior of solutions to nonlinear systems, integral manifolds and linearizations, perturbation theory, bifurcation theory, dichotomies for solutions of linear systems.

Prerequisite: 462. {Alternate Springs}

572/472. Fourier Analysis and Wavelets. (3)

Discrete Fourier and Wavelet Transform. Fourier series and integrals. Expansions in series of orthogonal wavelets and other functions. Multiresolution and time/frequency analysis. Applications to signal processing and statistics.

Prerequisite: 314, 321 or 401. {Offered upon demand}

573. Partial Differential Equations. (3)

Equations of first order, classification of equations and systems, elliptic equations and introduction to potential theory, hyperbolic equations and systems, parabolic equations.

Prerequisite: 463. {Alternate Falls}

576. Numerical Linear Algebra. (3)

Selected advanced topics in numerical linear algebra.

Prerequisite: 504. {Alternate Springs}

577. Numerical Ordinary Differential Equations. (3)

Numerical methods for initial value and/or boundary value problems.

Prerequisite: 462, 504, 505. {Offered upon demand}

578. Numerical Partial Differential Equations. (3)
Introduction to the numerical analysis of partial differential equations.
Prerequisite: 463, 504, 505. {Alternate Falls}

579. Selected Topics in Applied Mathematics. (3, no limit) Δ

581. Functional Analysis I. (3)
Normed vector spaces, including Hilbert and Banach spaces. Linear operators on these spaces, with an emphasis on applications.
Prerequisite: 510. {Offered upon demand}

582. Functional Analysis II. (3)
Advanced topics in function spaces and linear operators.
Prerequisite: 581.

583. Methods of Applied Mathematics I. (3)
Approximation in Hilbert spaces, basic operator theory, integral equations, distribution theory, Green's functions, differential operators, boundary value problems and nonlinear problems.
Prerequisite: 312, 314, 316, 401. {Alternate Falls}

584. Methods of Applied Mathematics II. (3)
Eigenfunction expansions for ordinary and partial differential operators, Euler-Lagrange equations, Hamilton's principle, calculus of variations, brief complex variable theory, special functions, transform and spectral theory, asymptotic expansions.
Prerequisite: 312 and 314 and 316 and 401. {Alternate Springs}

598. Practicum. (1-6 to a maximum of 6) Δ
Practicum involves a project of an applied nature which may be done in conjunction with an industrial laboratory, a research institution or another department of the University. It is expected the student will become acquainted with a field of application in science or engineering and complete a project of use and interest to workers in that field. A final written report is required.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

605. Graduate Colloquium. (1 to a maximum of 4) Δ
Students present their current research.

639. Seminar in Geometry and Topology. (1-3, no limit) Δ

649. Seminar in Probability and Statistics. (1-3, no limit) Δ
{Also offered as STAT 649.}

650. Reading and Research. (1-6 to a maximum of 12) Δ

669. Seminar in Analysis. (1-3, no limit) Δ

679. Seminar in Applied Mathematics. (1-3, no limit) Δ

689. Seminar in Functional Analysis. (1-3)

699. Dissertation. (3-12, no limit) Δ
Offered on a CR/NC basis only.

Statistics (STAT)

145. Introduction to Statistics. (3)
Techniques for the visual presentation of numerical data, descriptive statistics, introduction to probability and basic probability models used in statistics, introduction to sampling and statistical inference, illustrated by examples from a variety of fields.
Prerequisite: ACT = >22 or SAT = >510 or MATH 120 or 121 or 123 or 150 or 162 or 163 or 180 or 181 or 264. {Summer, Fall, Spring}

****345. Elements of Mathematical Statistics and Probability Theory. (3)**
An introduction to probability including combinatorics, Bayes' theorem, probability densities, expectation, variance and correlation. An introduction to estimation, confidence intervals and hypothesis testing.
Prerequisite: MATH 181 or MATH 163.

425./525. SAS® Programming. (3)
A detailed introduction to the SAS® programming language. Topics covered include reading data, storing data, manipulating data, data presentation, graphing, and macro programming. SAS® software will be used.
Prerequisite: 345 and 427.

427./527. Advanced Data Analysis I. (3)**
Statistical tools for scientific research, including parametric and non-parametric methods for ANOVA and group comparisons, simple linear and multiple linear regression, and basic ideas of experimental design and analysis. Emphasis placed on the use of statistical packages such as Minitab® and SAS®.
Prerequisite: 145. {Fall}

428./528. Advanced Data Analysis II. (3)
A continuation of 427 that focuses on methods for analyzing multivariate data and categorical data. Topics include MANOVA, principal components, discriminant analysis, classification, factor analysis, analysis of contingency tables including log-linear models for multidimensional tables and logistic regression.
Prerequisite: 427.

434./534. Contingency Tables and Dependence Structures. (3)
This course examines the use of log-linear models to analyze count data. It also uses graphical models to examine dependence structures for both count data and measurement data.
Prerequisite: 345 and 427.

440./540. Regression Analysis. (3)
Simple regression and multiple regression. Residual analysis and transformations. Matrix approach to general linear models. Model selection procedures, nonlinear least squares, logistic regression. Computer applications.
Prerequisite: 427. {Fall}

445./545. Analysis of Variance and Experimental Design. (3)
A data-analytic course. Multifactor ANOVA. Principles of experimental design. Analysis of randomized blocks, Latin squares, split plots, etc. Random and mixed models. Extensive use of computer packages with interpretation, diagnostics.
Prerequisite: 440. {Spring}

453./553. Statistical Inference with Applications. (3)
Transformations of univariate and multivariate distributions to obtain the special distributions important in statistics. Concepts of estimation and hypothesis testing in both large and small samples with emphasis on the statistical properties of the more commonly used procedures, including student's t-tests, F-tests and chi-square tests. Confidence intervals. Performance of procedures under non-standard conditions (i.e., robustness).
Prerequisite: 461. {Spring}

461./561. Probability. (3)
{Also offered as MATH 441.} Mathematical models for random experiments, random variables, expectation. The common discrete and continuous distributions with application. Joint distributions, conditional probability and expectation, independence. Laws of large numbers and the central limit theorem. Moment generating functions.
Prerequisite: MATH 264. {Fall}

470/570. Industrial Statistics. (3)

Basic ideas of statistical quality control and improvement. Topics covered: Deming's 14 points and deadly diseases, Pareto charts, histograms, cause and effect diagrams, control charts, sampling, prediction, reliability, experimental design, fractional factorials, Taguchi methods, response surfaces. Prerequisite: 345.

472/572. Sampling Theory and Practice. (3)

Basic methods of survey sampling; simple random sampling, stratified sampling, cluster sampling, systematic sampling and general sampling schemes; estimation based on auxiliary information; design of complex samples and case studies. Prerequisite: 345. {Alternate Falls}

474/574. Biostatistical Methods: Survival Analysis and Logistic Regression. (3)

A detailed overview of methods commonly used to analyze medical and epidemiological data. Topics include the Kaplan-Meier estimate of the survivor function, models for censored survival data, the Cox proportional hazards model, methods for categorical response data including logistic regression and probit analysis, generalized linear models. Prerequisite: 428 or 440.

476/576. Multivariate Analysis. (3)

Tools for multivariate analysis including multivariate ANOVA, principal components analysis, discriminant analysis, cluster analysis, factor analysis, structural equations modeling, canonical correlations and multidimensional scaling. Prerequisite: 428 or 440. {Offered upon demand}

477/577. Introduction to Bayesian Modeling. (3)

An introduction to Bayesian methodology and applications. Topics covered include: probability review, Bayes' theorem, prior elicitation, Markov chain Monte Carlo techniques. The free software programs WinBUGS and R will be used for data analysis. Prerequisite: 461 and (427 or 440). {Alternate Springs}.

479. Topics in Statistics. (3, no limit) Δ

Modern topics not covered in regular course offerings.

481/581. Introduction to Time Series Analysis. (3)

Introduction to time domain and frequency domain models of time series. Data analysis with emphasis on Box-Jenkins methods. Topics such as multivariate models; linear filters; linear prediction; forecasting and control. Prerequisite: 461. {Alternate Springs}

495. Individual Study. (1-3 to a maximum of 6) Δ

Guided study, under the supervision of a faculty member, of selected topics not covered in regular course offerings.

520. Topics in Interdisciplinary Biological and Biomedical Sciences. (3, unlimited) Δ

(Also offered as ANTH 620, BIOL 520, CS 520, ECE 620) Varying interdisciplinary topics taught by collaborative scientists from UNM, SFI, and LANL.

524. Collaborative Interdisciplinary Teaching. (3)

(Also offered as BIOL 524, CS 524, ANTH 624, ECE 524) Course designed to develop the methods content and assessment of effective interdisciplinary biological courses; Students will develop and teach an undergraduate interdisciplinary topics course. Topics vary. Restriction: permission of instructor.

525/425. SAS® Programming. (3)

A detailed introduction to the SAS® programming language. Topics covered include reading data, storing data, manipulating data, data presentation, graphing, and macro programming. SAS® software will be used. Prerequisite: 345, 427.

****527/427. Advanced Data Analysis I. (3)**

Statistical tools for scientific research, including parametric and non-parametric methods for ANOVA and group comparisons, simple linear and multiple linear regression and basic ideas of experimental design and analysis. Emphasis placed

on the use of statistical packages such as Minitab® and SAS®. Course cannot be counted in the hours needed for graduate degrees in Mathematics and Statistics.

Prerequisite: 145. {Fall}

528/428. Advanced Data Analysis II. (3)

A continuation of 527 that focuses on methods for analyzing multivariate data and categorical data. Topics include MANOVA, principal components, discriminate analysis, classification, factor analysis, analysis of contingency tables including log-linear models for multidimensional tables and logistic regression.

Prerequisite: 527.

531. Statistical Genetics I. (3)

A detailed examination of the statistical methods used in analyzing genetic data. Topics covered include the estimation of allele frequencies, testing for Hardy-Weinberg equilibrium, classical and complex segregation analysis, linkage analysis for Mendelian and complex diseases, and the detection of allelic association. Popular genetic software will be used for data analysis.

Prerequisite: 345, 427. {Alternate Falls}

532. Statistical Genetics II. (3)

A continuation of 531. Topics covered include statistical methods for describing variation in quantitative traits, methods of mapping and characterizing quantitative trait loci and other current topics in statistical genetics, including the analysis of microarray data and phylogenetic methods. Popular genetic software will be used for data analysis.

Prerequisite: 531. {Alternate Springs}

534/434. Contingency Tables and Dependence Structures. (3)

This course examines the use of log-linear models to analyze count data. It also uses graphical models to examine dependence structures for both count data and measurement data.

Prerequisite: 345, 527.

****538. Biostatistical Methods I for Public Health and Medical Sciences. (3)**

Covers basic statistical methods, including statistical summaries and inference. Methods of summarizing data include graphical displays and numerical summaries. Statistical inference includes hypothesis testing and confidence intervals. Methods for continuous and categorical data are studied. Prerequisite: B or better in MATH 121. {Fall}

****539. Biostatistical Method II for Public Health and Medical Sciences. (3)**

Covers basic models used in the statistical analysis of studies in the medical sciences and public health field, with an emphasis on epidemiology. Linear regression, analysis of variance, logistic regression, and survival models are studied.

Prerequisite: 538. {Spring}

540/440. Regression Analysis. (3)

Simple regression and multiple regression. Residual analysis and transformations. Matrix approach to general linear models. Model selection procedures, nonlinear least squares, logistic regression. Computer applications.

Prerequisite: 527. {Fall}

545/445. Analysis of Variance and Experimental Design. (3)

A data-analytic course. Multifactor ANOVA. Principles of experimental design. Analysis of randomized blocks, Latin squares, split plots, etc. Random and mixed models. Extensive use of computer packages with interpretation, diagnostics.

Prerequisite: 540. {Spring}

546. Theory of Linear Models. (3)

Theory of the Linear Models discussed in 440/540 and 445/545. Linear spaces, matrices, projections, multivariate normal distribution and theory of quadratic forms. Non-full rank models and estimability. Gauss-Markov theorem.

Distribution theory for normality assumptions. Hypothesis testing and confidence regions.
Prerequisite: 553, 545, linear algebra. {Alternate Falls}

547. Multivariate Analysis and Advanced Linear Models. (3)

Hotelling T2, multivariate ANOVA and Regression, classification and discrimination, principal components and factor analysis, clustering, graphical and computational techniques, topics in linear models.
Prerequisite: 546. {Alternate Springs}

553/453. Statistical Inference with Applications. (3)

Transformations of univariate and multivariate distributions to obtain the special distributions important in statistics. Concepts of estimation and hypothesis testing in both large and small samples with emphasis on the statistical properties of the more commonly used procedures, including Student's t-tests, F-tests and chi-square tests. Confidence intervals. Performance of procedures under non-standard conditions (i.e., robustness).
Prerequisite: 561. {Spring}

556. Advanced Statistical Inference I. (3)

Theory and methods of point estimation, sufficiency and its applications.
Prerequisite: 553, 561 and MATH 510. {Alternate Falls}

557. Advanced Statistical Inference II. (3)

Standard limit theorems, hypothesis testing, confidence intervals and decision theory.
Prerequisite: 556. {Alternate Springs}

561/461. Probability. (3)

Mathematical models for random experiments, random variables, expectation. The common discrete and continuous distributions with application. Joint distributions, conditional probability and expectation, independence. Laws of large numbers and the central limit theorem. Moment generating functions.
Prerequisite: MATH 264. {Fall}

565. Stochastic Processes with Applications. (3)

(Also offered as MATH 540.) Markov chains and processes with applications. Classification of states. Decompositions. Stationary distributions. Probability of absorption, the gambler's ruin and mean time problems. Queuing and branching processes. Introduction to continuous time Markov processes. Jump processes and Brownian motion.
Prerequisite: 561. {Offered on demand}

567. Advanced Probability. (3)

(Also offered as MATH 541.) A measure theoretic introduction to probability theory. Construction of probability measures. Distribution and characteristic functions, independence and zero-one laws. Sequences of independent random variables, strong law of large numbers and central limit theorem. Conditional expectation. Martingales.
Prerequisite: MATH 563. {Alternate Springs}

569. Selected Topics in Probability Theory. (3, no limit) Δ

(Also offered as MATH 549.)

570/470. Industrial Statistics. (3)

Basic ideas of statistical quality control and improvement. Topics covered: Demings 14 points and deadly diseases, Pareto charts, histograms, cause and effect diagrams, control charts, sampling, prediction, reliability, experimental design, fractional factorials, Taguchi methods, response surfaces.
Prerequisite: 345.

572/472. Sampling Theory and Practice. (3)

Basic methods of survey sampling; simple random sampling, stratified sampling, cluster sampling, systematic sampling and general sampling schemes; estimation based on auxiliary information; design of complex samples and case studies.
Prerequisite: 345. {Alternate Falls}

574/474. Biostatistical Methods: Survival Analysis and Logistic Regression. (3)

A detailed overview of methods commonly used to analyze medical and epidemiological data. Topics include the Kaplan-Meier estimate of the survivor function, models for censored survival data, the Cox proportional hazards model, methods for categorical response data including logistic regression and probit analysis, generalized linear models.
Prerequisite: 528 or 540.

576/476. Multivariate Analysis. (3)

Tools for multivariate analysis including multivariate ANOVA, principal components analysis, discriminant analysis, cluster analysis, factor analysis, structural equations modeling, canonical correlations and multidimensional scaling.
Prerequisite: 528 or 540. {Offered upon demand}

577/477. Introduction to Bayesian Modeling. (3)

An introduction to Bayesian methodology and applications. Topics covered include: probability review, Bayes' theorem, prior elicitation, Markov chain Monte Carlo techniques. The free software programs WinBUGS and R will be used for data analysis.
Prerequisite: 561 and (527 or 540). {Alternate Springs}

579. Selected Topics in Statistics. (3, no limit) Δ

581/481. Introduction to Time Series Analysis. (3)

Introduction to time domain and frequency domain models of time series. Data analysis with emphasis on Box-Jenkins methods. Topics such as multivariate models; linear filters; linear prediction; forecasting and control.
Prerequisite: 561. {Alternate Springs}

582. Advanced Time Series Analysis. (3)

Time series models in the time and spectral domains. Linear filters. Multivariate models. Autoregressive and moving average models. Filtering and prediction. Distribution theory. Design of experiments.
Prerequisite: 581. {Alternate Falls}

585. Nonparametric and Robust Methods. (3)

Statistical methods that are insensitive to the distribution of the data. Sign tests, Kolmogorov-Smirnov tests, rank tests including the Wilcoxon, Mann-Whitney, Kruskal-Wallis and Friedman tests. Robust estimation including M estimators, L estimators and R estimators.
Prerequisite: 561. {Offered upon demand}

586. Nonparametric Curve Estimation and Image Reconstruction. (3)

Nonparametric regression, density estimation, filtering, spectral density estimation, image reconstruction and pattern recognition. Tools include orthogonal series, kernels, splines, wavelets and neural networks. Applications to medicine, engineering, biostatistics and economics.
Prerequisite: 561. {Offered upon demand}

590. Statistical Computing. (3)

A detailed examination of essential statistical computing skills needed for research and industrial work. Students will use S-Plus, Matlab and SAS® to develop algorithms for solving a variety of statistical problems using resampling and simulation techniques such as the bootstrap, Monte Carlo methods and Markov chain methods for approximating probability distributions. Applications to linear and non-linear models will be stressed.
Prerequisite: 528.

595. Problems. (1-3, no limit) Δ

597. Statistical Consulting Laboratory. (1-3, no limit) Δ

Provides experience in statistical consulting and analysis of real data.
Prerequisite: 528.

599. Master's Thesis. (1-6, no limit) Δ Offered on a CR/NC basis only.

605. Graduate Colloquium. (1 to a maximum of 4) Δ
Students present their current research.

649. Seminar in Probability and Statistics. (1-3, no limit) Δ

(Also offered as MATH 649.)

650. Reading and Research. (1-6 to a maximum of 12) Δ**699. Dissertation. (3-12, no limit) Δ**

Offered on a CR/NC basis only.

MIEVEAL STUDIES

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 Anthony J. Cárdenas-Rotunno, Ph.D., University of Wisconsin (Spanish)
 Helen Damico, Ph.D., New York University (English)
 Leslie Donovan, Ph.D., University of Washington (University Honors)
 Anita Obermeier, Ph.D., Arizona State University (English)

Introduction

The Minor in Medieval Studies is an interdepartmental, interdisciplinary program designed to introduce students to the extraordinarily rich culture of the European Middle Ages. Representing a major period of transition between Classical Antiquity and the Renaissance, the Middle Ages witnessed key developments in literature, history, art, architecture, music, philosophy, religion, and science - developments whose impact has continued to reverberate to the present day. This was the era that saw the composition of great vernacular works such as *Beowulf*, *The Canterbury Tales*, the Arthurian legends, and Dante's *Divine Comedy*; the emergence of the illuminated manuscript as a major art form and medium for the transmission of knowledge; the foundation of the first universities and the development of a formal educational curriculum; the architectural achievements embodied in the great Romanesque and Gothic cathedrals; the major encounter between the West and Islam that produced the Crusades on the one hand and the revival of Aristotelian learning on the other; the spirituality of the monastic orders; the music and love poetry of the troubadours; and the richly varied lives of such influential individuals as the emperor Charlemagne, the philosopher Peter Abelard, the visionary Hildegard of Bingen, and the saint Francis of Assisi. Political and ideological developments were no less important: it was during the Middle Ages that most western countries assumed something close to their present borders and began to develop their national consciousness, while the period also witnessed the beginnings of parliamentary democracy. Students opting for the Minor in Medieval Studies will have the opportunity to explore these varied topics from an interdisciplinary perspective by choosing courses offered by UNM faculty from several different departments, but may maintain a disciplinary focus by selecting the majority of their courses from within one specific department.

Minor Study Requirements

The interdepartmental minor in Medieval Studies requires 24 hours of work in approved courses. All students must take MDVL 201 *The Medieval World* (3 hours) and all students must complete one course in Latin or a modern European language, selected from the following: LATN 101, 102, 201, 202, 351, 352; FREN 101, 102, 201, 202; GRMN 101, 102, 201, 202; ITAL 275, 276; RUSS 101, 102, 201, 202; SPAN

101, 102, 201, 202, 275, 276. The remaining 18 hours are to be selected from the Approved Electives listed below, including at least 3 hours in History, 3 hours in English, and 3 hours in Art History.

Approved Electives

ARTH 261, 321, 322, 330, 431, 432, 449, plus 429 when topic is appropriate; ENGL 305 (when taught as Viking Mythology), 306, 348, 349, 350, 351, 447, 448, 449, 450, 451; HIST 302, 303, 304, 305, 314, 320, 323, 326, 401, 402, 411, 481, plus 300 when topic is appropriate; ITAL 475; MUS 361, 413; PHIL 308; SPAN 411. Other courses of medieval content may be approved as electives by the Director of the Institute for Medieval Studies.

Medieval Studies (MDVL)

201. The Medieval World. (3)

(Also offered as HIST 201.) A broad survey of the history, literature, and culture of the medieval period, from the fall of the Roman Empire to the eve of the Renaissance.

PEACE STUDIES

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Introduction

The minor in Peace Studies is an interdepartmental and interdisciplinary program designed to introduce students to the causes and consequences of conflict. The program allows students the opportunity to examine alternatives to violence and to reflect upon the nature of peace as a sustainable condition at the individual and collective levels.

In the twenty-first century, the problem of violence exists on multiple levels, from domestic abuse and entrenched poverty to international armed conflict, terrorism and counter-terrorism. We face the prospect of a nuclear conflagration on one side, with the daily reality of low-technology conflicts in dozens of countries on another. In the organized violence of warfare, far more civilians die than soldiers; small arms destroy more than sophisticated weaponry, and war-related poverty, displacement, and disease are the biggest killers of all. Moreover, in refugee camps and urban communities alike, the pervasive incidence of violence within families and communities feeds and is fed by violence in its other forms.

Peace Studies students examine the influences that often lead to violent conflict, and the alternative pathways toward sustainable peace, by using the disciplinary frames found within the College of Arts & Sciences. Anthropology, history, philosophy, sociology, political science, economics, literature, communications, journalism and psychology all offer ways of understanding the patterns of conflict we see in our lives and in the world. In both classroom and experiential learning, students are invited to think critically about our world, to act creatively, and to fashion their own and our collective future in a holistic and supportive educational environment.

Ultimately, the goals of the Peace Studies minor reinforce the overall goals of liberal arts education – to inform, to enrich and to strengthen humanistic values in our society. The minor offers a unique, interdisciplinary addition to existing programs at the University of New Mexico and is readily integrated into undergraduate programs in other schools and colleges in the university. Careers in law, education, management, and fine arts are enhanced by the study of conflict and its peaceful resolution, no less than more obvious career paths in foreign service, criminology, media and communications, politics, psychology, and human services.

The UNM Peace Studies Program is a collaborative association of UNM faculty, staff, students and administrators with affiliated organizational and community members. The program affirms the citizenship role of the University, participating in campus and community events relevant to establishing a just and sustainable peace.

Peace Studies Minor Requirements

The minor in Peace Studies will require the successful completion of 24 credit hours: 12 hours of required courses, with the remaining 12 hours taken from four groups of electives, one from each group (see course listing below).

Required Courses – 12 credit hours

Must complete two of the following three groups for 6 hours:

1. PCST 102 Introduction to Peace Studies 3
2. Entry/SocialScience:
PCST 240 International Politics or PCST 221 Global Issues 3
3. Entry/Natural Science:
PHYC 105 Physics and Society 3 or ENVS 101 The Blue Planet 3

Also required are:

- PCST 400 Peace Studies Internship* 3
Peace Studies Seminar** 3

*The Peace Studies Internship entails placement with a community-based organization active in the field of conflict resolution, peacemaking and/or social justice. This volunteer placement is arranged by the student in consultation with the Advisor, and must be supervised by a faculty member. **The Seminar requirement may be satisfied through a relevant upper level course specifically designated as the Peace Studies Seminar for a particular semester by the Peace Studies Program Committee, such as SOC 306 Peace & Conflict or SOC 398 Nonviolent Alternatives to Conflict.

Distributed Elective Courses – 12 credit hours

One course required from each of the following groups. These are suggested courses; substitution of courses of similar nature will satisfy the distribution requirement with approval of the program committee.

Group I – Thought, Ideology and Ethics of War and Peace

Suggested courses:

AMST 320	Topics in Globalization Theory & Practice	3
AMST 182	Environment, Science & Technology	3
ANTH 420	Ethics in Anthropology	3
CJ 318	Language, Thought and Behavior	3
ECON 204	Origins and Development of Economic Thought	3
ENGL 420	Language and Diversity	3
LING 490	Topics in Rhetoric of War	3
PHIL 102	Current Moral Problems	3
PHIL 358	Ethical Theory	3
PHIL 441	Philosophical Movements/Contemporary	3
POLS 260	Political Ideas	3
POLS 362	Modern Political Theory	3
SOC 312	Causes of Crime	3
RELG 347	Religion and Ecology	3
UHON 302	Sem/Modern Terrorism & US Constitution	3

Group II – Methodology and Practice of Conflict Resolution

Suggested courses:

AMST 300	Topics in Globalization & Nonviolent Resistance	3
AMST 310	Nonviolence Issues	3
ANTH 251	Forensic Anthropology	3
ARTH 429	Topics in Visible Agendas	3
BIOL 402	Topics in Bioterrorism	3
CJ 221	Interpersonal Communication	3
CJ 314	Intercultural Communication	3
CJ 320	Mediation	3
FLC	Conflict and Reconciliation	3
POLS 442	International Peacekeeping and Conflict Resolution	3
PSY 374	Cross-cultural Psychology	3
PSY 450	Special Topics in Psychological Trauma	3
WMST 279	Intercultural Communication Between Women	3

Group III – Conflict and Conflict Resolution at the International Level

Suggested courses:

AFST 303	Black Religion and Liberation	3
ANTH 339	Human Rights in Anthropology	3
SOC 461	Dynamics of Social Change	3
GEOG 140	World Regional Geography	3
GEOG 360	Land and Resource Management	3
HIST 311	History of World War I	3
HIST 338	History of World War II Era	3
HIST 339	Vietnam War Era	3
HIST 426	History of the Holocaust	3
HIST 440	Atomic America	3
POLS 220	Introduction to Comparative Politics	3
POLS 320	Topics in Islam and Politics	3
POLS 320	Topics in Middle Eastern Politics	3
POLS 342	American Foreign Policy	3
POLS 345	Inter-American Relations	3
POLS 356	Political Developments in Latin America	3
POLS 440	International Conflict, Arms Control & Disarmament	3
PSY 450	Refugee Health and Development	3
SOC 221	Global Issues	3
FLC	World Religions/Violence in the Name of God	3
WMST 331	Third World Women	3
WMST 339	Women and Cultural Violence	3
WMST 379	Topics in Women, War and Peace Movements	3

Group IV – Conflict and Conflict Resolution at the National and Sub-national Level

Suggested courses:

ANTH 130	Cultures of the World	3
HIST 322	History of the Women's Rights Movement	3
HIST 428	Women, War and Revolution	3
POLS 307	Politics of Ethnic Groups	3
POLS 313	Women and the Law	3
POLS 322	Politics of Human Rights	3

POLS 441	Civil Wars	3
SOC 216	Dynamics of Prejudice	3
SOC 416	Race & Cultural Relations	3
SOC 331	Collective Behavior	3
WMST 353	Women and Creativity	3

The Peace and Justice Studies Certificate Program

The Peace and Justice Studies Certificate Program offers all UNM undergraduate and non-degree students the opportunity to both study and promote peace and justice in interpersonal, institutional, societal and/or global terms. The certificate is a component of the UNM Peace Studies Program, administered through the College of Arts & Sciences, which also offers an interdisciplinary undergraduate minor degree in Peace Studies for students enrolled in the College of Arts & Sciences. While the 24-credit minor is available to A&S majors, the 15-credit certificate program has a broader reach. The Peace & Justice Certificate Program welcomes students from all undergraduate academic departments at UNM, including those administered within University College, the College of Education, and the College of Engineering.

Certificate recipients must earn 18 credits, encompassing 3 internship hours and 12 elective hours. The internship component entails a service learning experience with a community peace and justice organization, such as the Albuquerque Center for Peace and Justice, Catholic Charities, Health Care for the Homeless, Cuidando los Niños, the Women's Community Association and Enlace Comunitario. To fulfill the classroom component, students select four 3-credit courses from the current electives offered under the auspices of the Peace Studies minor, and under the guidance of the Peace Studies Advisor.

The comprehensive list of Peace & Justice Studies electives, currently being offered by various departments in the College of Arts & Sciences, are listed in the catalog under the entry for the Peace Studies minor program. Electives are divided into four substantive categories, comprising the theoretical, methodological, international and national/subnational facets of peace and justice studies, respectively. Certificate candidates may select their electives freely, in consultation with the Peace Studies advisor. Some students may wish to concentrate their electives in one or more category, and others elect to take one from each of the four.

The essence of the Peace & Justice certificate program is twofold. First, it involves an exploration of the causes and consequences of various forms of violence, as well as peaceful alternatives to violence. Second, it encourages students to understand peace as a multi-faceted vision for transformed human relations, which requires implementation on numerous levels and over the long term. Peace & Justice certificate candidates are encouraged to explore the many dimensions of conflict transformation – including disarmament, socio-economic development, inter-personal and cross-cultural communication, political and social pluralism, respect for human rights, international peacekeeping, environmental protection and sustainable resource development, and the promotion of social welfare, including access to a living wage, social security after retirement, health care, education and shelter.

Peace and Justice Studies Requirements

Required Course – 6 credit hours

- 102 Introduction to Peace Studies 3
- 400 Peace Studies Internship* 3

* see your Advisor

Elective Courses – 12 credit hours

Students may take one or more 3-credit courses from each of the preceding four groups, amounting to a total of four 3-credit electives. These are suggested courses; substitution of courses of similar nature is permitted with approval of the Peace Studies Advisor.

Group I – Thought, Ideology and Ethics of War and Peace

– suggested courses:
See Group I electives for Peace Studies minor

Group II – Methodology and Practice of Conflict Resolution

– suggested courses:
See Group II electives for Peace Studies minor

Group III – Conflict and Conflict Resolution at the International Level

– suggested courses:
See Group III electives for Peace Studies minor

Group IV – Conflict and Conflict Resolution at the National and Sub-national Level

– suggested courses:
See Group IV electives for Peace Studies minor

Peace Studies (PCST)

102. Introduction to Peace Studies. (3 to a maximum of 6) Δ

Introduction to peace research. Primary content of Peace Studies Program; focuses on the concepts of peace/war, security/conflict, and violence/non-violence. Special emphasis on non-violent conflict resolution, human rights, and social justice issues.

221. Global Issues. (3)

(Also offered as SOC 221). The global context of patterns of development in nation-states with an emphasis on industrializing countries. Selected topics of social, economic and cultural change. Inequality, war, reform and revolution in global perspective. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.
Prerequisite: 101.

240. International Politics. (3)

(Also offered as POLS 240). Analyzes significant factors in world politics, including nationalism, "national interest," ideology, international conflict and collaboration, balance of power, deterrence, international law and international organization. (Fall, Spring)

400. Peace Studies Internship. (3)

Placement in community-based organization active in conflict resolution, peacemaking, and/or social justice. Arranged by student in consultation with advisor. Must be supervised by a faculty member.

PHILOSOPHY

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 Howard N. Tuttle, Ph.D., Brandeis University

Introduction

Philosophy is a fundamental academic discipline which is related to all areas of human concern. Philosophy courses will be helpful to students in each of the arts and sciences, as well as in professional fields of study. The major and minor programs in philosophy are designed to serve several different functions: 1) the central focus of a liberal arts degree program; 2) a key component in an interdisciplinary program; 3) preparation for graduate work in education, law, medicine, politics, social work and theology; and 4) preparation for graduate work in philosophy. Students are invited to discuss with the departmental undergraduate advisor the role philosophy courses might play in specific programs of study.

Major Study Requirements

Thirty-one hours distributed as follows:

201	Greek Philosophy
202	Modern Philosophy
356	Symbolic Logic
358	Ethical Theory
352	Theory of Knowledge
—or— 354	Metaphysics
441	Philosophical Movements
—or— 442	Individual Philosophers
—or— 402, 403, 404, 406, 409, 410, 412, 413, 421 or 422	

Twelve hours of electives, 6 of which must be at the 300-level or above. (Normally 100-level Philosophy courses will count only if taken prior to any 200 or higher level course.)

Philosophy Major, Pre-Law Concentration (30 or 31 Hours)

For students considering law school and those who wish a philosophy major with a concentration in ethics, legal and social philosophy.

156	Reasoning and Critical Thinking
—or— 356	Symbolic Logic
201	Greek Philosophy
202	Modern Philosophy
352	Theory of Knowledge
358	Ethical Theory
371	Classical Social and Political Philosophy
—or— 372	Modern Social and Political Philosophy
381	Philosophy of Law and Morals

Three electives, two of which must be at the 300 level or above.

Outside the department, the following courses are recommended: POLS 315 or 316 (*Constitutional Law*).

Minor Study Requirements

Eighteen or 19 hours including either 156 or 356; at least two of the following: 101, 201, 202; with 9 additional hours at the 300 or above level. If 101 is included it must be taken before any 300 or above level course which is counted toward the minor.

Note: Only courses in which a student has received a C grade or better (not C-) will be accepted toward the major or minor.

Interdepartmental Majors

The Department of Philosophy cooperates with the Department of Economics in administering an interdepartmental Economics-Philosophy major and with the Department of English in administering an interdepartmental English-Philosophy major. Descriptions of these programs are given under the headings of Economics-Philosophy and English-Philosophy.

Interdisciplinary Majors and Minors

The Philosophy department participates fully in the following interdisciplinary programs which offer undergraduate minors and/or majors within the College of Arts and Sciences: Asian Studies (see *International Studies*); European Studies (see *International Studies*); Latin American Studies, Period Minor (see *Comparative Literature*), Peace Studies, Religious Studies; and Science Technology and Society.

Departmental Honors

Students desiring to read for honors in philosophy should 1) discuss requirements of the program with the departmental honors advisor; 2) establish a committee on studies during the junior year; and 3) enroll in PHIL 497 and 499 for at least a total of 6 hours credit.

Graduate Program

Graduate Director
 Iain Thomson

Applications Deadlines:

Fall semester: Ph.D.—Only students who apply by January 31 are assured of consideration.

M.A.—Only students who apply by March 1 are assured of consideration.

Spring semester: M.A.—Only students who apply by November 1 are assured of consideration. No Spring admissions for Ph.D. program.

Degrees Offered**M.A. in Philosophy
Ph.D. in Philosophy**

Applicants to the Graduate Program in Philosophy must take the Graduate Record Examination and submit a writing sample of not more than 20 typed pages on a philosophical topic. The department is committed to the study of a range of traditions and approaches in philosophy. It requires that each student receive broad training in all basic areas of the discipline. Joint courses and programs are available with several other departments.

The M.A. is offered under either Plan I or Plan II.

In addition to the general requirements for the Ph.D. stated elsewhere in this catalog, the department requires that each student enroll in a minimum number of graduate-level seminars, demonstrate reading competence in one foreign language and satisfactorily complete a preliminary and a comprehensive examination.

The Philosophy Department encourages students who wish to obtain Master's Degrees in two departments to see Dual Graduate Degrees. Cooperative study leading to a Ph.D. in American Studies, with a concentration in Philosophy, is available. Consult American Studies in this catalog.

Degree Requirements

M.A. I. 24 credit hours with no language requirement.

M.A. II. 32 credit hours with no language requirement.

Ph.D. 48 credit hours with one language requirement.

A detailed explanation of all requirements for both the M.A. and the Ph.D. degrees and of the functions of the departmental Graduate Advisory Committee is available upon request. Prospective students are urged to secure this material.

Graduate Minor in Philosophy

Students will need to meet the following requirements (beyond the Office of Graduate Studies minimum requirements) in order to receive a graduate minor in philosophy:

Plan I: A minimum of 9 hours of course work credit, of which 3 hours must be seminar credit and no more than 3 hours of independent study.

Plan II: A minimum of 12 hours course work credit, of which 6 hours must be seminar credit and no more than 3 hours of independent study.

Philosophy (PHIL)

Introductory Courses

101. Introduction to Philosophy. (3)

Philosophical issues and methodology illustrated through selected problems concerning values, knowledge, reality; and in social, political and religious philosophy. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113).

102. Current Moral Problems. (3)

Ethical issues arising in contemporary society, e.g., sexual morality, preferential treatment, racism, punishment, war, world food distribution.

108. Introduction to Asian Philosophies. (3)

Philosophical issues and methodology illustrated in relation to South and East Asian thought: Hinduism, Buddhism, Taoism and Confucianism.

156. Reasoning and Critical Thinking. (3)

The purpose of this course is to help students learn how to analyze, critique and construct arguments in context, in other words, how to read and write argumentative essays. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts.

201. Greek Philosophy. (3)

An introductory survey of early and classical Greek philosophy. Figures: the Presocratics, Socrates, Plato and Aristotle. Topics: beginnings of scientific thought; theories of the self; the concept of being; ethical relativism, happiness, theories of justice.

202. From Descartes to Kant. (3)

An historical study of philosophical trends and controversies that characterize the development of early modern philosophy. This survey will cover the philosophies of Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant..

244. Introduction to Existentialism. (3)

An examination of the works of writers such as Kierkegaard, Nietzsche, Kafka and Sartre who emphasize such issues as death, decision, rebellion and faith.

245. Professional Ethics. (3)

Examination of social and ethical problems associated with the business, engineering, medical and legal professions. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts.

Basic Survey Courses

333. Buddhist Philosophy. (3)

(Also offered as RELG 343.) This course traces the evolution of such topics as karma and rebirth and the nature of the liberated mind as discussed in the Buddhist traditions of India, Tibet, East Asia and the modern West. Prerequisite: one course in Philosophy..

334. Indian Philosophy. (3)

Upanishads, Bhagavad-gita, Jainism, Buddhism, the six Hindu systems and recent developments. Prerequisite: one course in Philosophy.

336. Chinese Philosophy. (3)

The development of Chinese thought from pre-Confucian times through the T'ang dynasty. Prerequisite: one course in Philosophy.

343. Contemporary Continental Philosophy. (3)

A survey of main themes in Dilthey, Husserl, Scheler, Heidegger, Merleau-Ponty, Sartre, Hermeneutics, Structuralism, Deconstruction and the Frankfurt School. Prerequisite: 201 or 202 or 244.

350. Philosophy of Science. (3)

This course is a survey of the main epistemological, ontological and conceptual issues that arise from or concern the methodology and content of the empirical sciences.

352. Theory of Knowledge. (3)

An examination of the nature and possibility of knowledge. Topics include skepticism, the analysis of knowledge, and the nature and structure of epistemic justification. Prerequisite: 202.

354. Metaphysics. (3)

Problems and theories of metaphysics. Topics may include: investigation into the structure of things and their properties, identity and individuation, causation, necessity and possibility, universals, mind and body, space and time, God, truth and naturalism. Prerequisite: 101 or 201 or 202.

356. Symbolic Logic. (4)

(Also offered as MATH 356.) This is a first course in logical theory. Its primary goal is to study the notion of logical entailment and related concepts, such as consistency and contingency. Formal systems are developed to analyze these notions rigorously.

358. Ethical Theory. (3)

Inquiry concerning goodness, rightness, obligation, justice and freedom. Prerequisite: 101 or 102 or 201 or 202.

360. Classical Christian Thought. (3)

(Also offered as RELG 360.) A study of major writings in the Christian tradition, written by such persons as Origen, Augustine, Aquinas, Luther, Calvin and Teresa of Avila. Prerequisite: one course in Religious Studies or Philosophy.

361. Modern Christian Thought. (3)

(Also offered as RELG 361.) Background of the intellectual issues facing Roman Catholic and Protestant traditions today. Prerequisite: one course in Religious Studies or Philosophy.

363. Environmental Ethics. (3)

Close reading of contemporary writings by naturalists, lawyers, theologians and philosophers on the philosophical aspects of environmental problems.

365. Philosophy of Religion. (3)

(Also offered as RELG 365.) Philosophic analysis of some major concepts and problems in religion. Prerequisite: one course in Religious Studies or Philosophy.

368. Biomedical Ethics. (3)

A survey of recent work on bioethics. Topics may include: allocation of scarce resources, autonomy and consent, end of life and beginning of life, killing and letting die, genetic engineering, future therapies.

371. Classical Social and Political Philosophy. (3)

From Plato to Hobbes.
Prerequisite: 101 or 201.

372. Modern Social and Political Philosophy. (3)

From Hobbes to present.
Prerequisite: 101 or 202 or 371.

381. Philosophy of Law. (3)

Examination of philosophical issues pertaining to law, including the nature of law, responsibility, rights, justice, the justification of punishment, and the justification of state interference with individual liberty.
Prerequisite: 358.

389. Latin American Thought I. (3)

(Also offered as HIST, RELG 389.) Pre-Columbian thought through independence ideologies.
Prerequisite: one course in Philosophy.

390. Latin American Thought II. (3)

(Also offered as HIST, RELG, SOC 390.) Positivism through contemporary thought.
Prerequisite: one course in Philosophy.

Undergraduate Topics Courses**341. Topics in Philosophy. (3)**

An investigation of some important philosophic debates.

342. Selected Philosophers. (3 to a maximum of 12) Δ

A treatment of the thought of a major philosopher.

Advanced Undergraduate Survey Courses***408. Medieval Philosophy. (3)**

Major thinkers from Augustine through Ockham.
Prerequisite: 201.

***415. History and Philosophy of Mathematics. (3)**

(Also offered as MATH **415.) A historical survey of principal issues and controversies on the nature of mathematics. Emphasis varies from year to year.
Prerequisite: 356 or MATH 163 or MATH 181 or MATH 356.

***432. American Philosophy. (3)**

A survey of American philosophical thought, emphasizing transcendentalism and pragmatism. Coverage of such figures as Emerson, Thoreau, Peirce, James, Dewey, Rorty, Putnam and Cavell.
Prerequisite: 201 or 202.

***444. Nineteenth-Century Philosophy. (3)**

From Kant through Hegel, Marx, Schopenhauer, Kierkegaard, Mill, Nietzsche.
Prerequisite: 202.

***445. Philosophy of Language. (3)**

Philosophies of meaning with special attention to the relations between language, thought, and world.
Prerequisite: 352 or 354 or 356.

***446. Twentieth-Century Philosophy. (3)**

A survey of major movements of twentieth-century philosophy: phenomenology, existentialism, analytic philosophy, and pragmatism.
Prerequisite: 202 or 352 or 354.

***455. Philosophy of Mind. (3)**

A study of certain issues connected with the nature and status of minds. Topics include the mind-body problem, intentionality, consciousness, and mental causation.
Prerequisite: 202.

***467. Philosophy of Art and Aesthetics. (3)**

Philosophical investigation of concept and theories of art and literature. Possible topics include the nature, definition and criteria of art; its functions; form and content; aesthetic experi-

ence; evaluation; artist's/author's status; meaning; reception; hermeneutics and representation.
Prerequisite: one course in Philosophy.

***480. Philosophy and Literature. (3 to a maximum of 12) Δ**

(Also offered as ENGP 480.) Selected philosophical movements and their relationships to literary masterpieces.
Prerequisite: one course in Philosophy.

485. Philosophical Foundations of Economic Theory. (3)

(Also offered as ECPH 485.)
Prerequisite: ECON 105 and ECON 106.

Advanced Undergraduate Courses on Individual Figures in the History of Philosophy***402. Plato. (3)**

Prerequisite: 201.

***403. Aristotle. (3)**

Prerequisite: 201.

404./504. Augustine. (3)

(Also offered as RELG 404.)
Prerequisite: 201 or RELG 360

***406. Descartes. (3)**

Prerequisite: 202.

***409. Hume. (3)**

Prerequisite: 202.

***410. Kant. (3)**

Prerequisite: 202.

***411. Hegel. (3)**

A close study of Hegel's *Phenomenology* and *Elements of the Philosophy of Right*, emphasizing his conception of the method and aims of philosophy, and the fundamentals of his metaphysics, ethics, and social theory. Prerequisite: 202.

***413. Kierkegaard. (3)**

(Also offered as RELG *413.)
Prerequisite: one course in Philosophy or Religious Studies.

***414. Nietzsche**

A study of Nietzsche's philosophical thought. Topics may include: Nietzsche's ethical critiques; the will to power thesis; agency and free will; truth; meaning; eternal recurrence and the affirmation of life.
Prerequisite: 202.

***421. Early Heidegger. (3)**

Prerequisite: 201 or 202 or 244.

***422. Wittgenstein. (3)**

Prerequisite: 201 or 352 or 354 or 445.

***423. Later Heidegger/Post-Heideggerian Philosophy. (3)**

This course will examine the "later" (post-1937) Heidegger and/or some major critical appropriations of Heidegger's later thinking by Badiou, Baudrillard, Blanchot, Cavell, Derrida, Dreyfus, Foucault, Irigaray, Lacan, Levinas, Marcuse, Rorty, Vattimo, Zizek, or others.
Prerequisite: PHIL 201 or 202 or 244 or 421.

Advanced Undergraduate Courses in Asian Thought***431. Ch'an and Zen. (3)**

(Also offered as RELG *431.) An examination of key writings by Chinese Ch'an teachers (e.g., Huineng and Tung Shan), medieval Japanese Zen teachers (e.g., Eisai and Dogen) and modern Japanese thinkers (e.g., Suzuki and Nishitani).
Prerequisite: 333 or 334 or 336 or RELG 263 or RELG 343.

272 ARTS AND SCIENCES

*434. South Asian Mystical Traditions. (3)

(Also offered as RELG *434.) This course will examine a wide range of mystical thought and experience in South Asia from the first millennium BCE through the medieval period in Hindu and Buddhist traditions.

Prerequisite: 333 or 334 or RELG 263 or RELG 343.

*438. Indian Buddhist Philosophy. (3)

(Also offered as RELG *438.) A survey of Hinayana and Mahayana philosophical thought as it developed in South Asia, together with its religious, historical and social context.

Prerequisite: 333 or 334 or RELG 343.

*440. Summer Seminar in Buddhism. (3 to a maximum of 6) Δ

(Also offered as RELG *440.) Two-week, intensive summer course at Jemez Bodhi Manda Zen Center. Study of both theory and practice with visiting professors from various universities. Opportunity for directed meditation for interested participants.

Prerequisite: 333 or 334 or 336 or RELG 263 or RELG 343..

*448. Comparative Philosophy. (3)

A comparative study of the Buddhist, Chinese, European, Indian and Islamic philosophical traditions with reference to ontology, epistemology, axiology and sociopolitical thought.

Prerequisite: one course in Philosophy.

453. Asian Studies Thesis. (3)

(Also offered as COMP, HIST, POLS, RELG, 453.) Supervised research in one or more disciplines leading to an undergraduate thesis for the major in Asian Studies.

Other Advanced Undergraduate Courses

*441. Topics: Figures and Movements. (3 to a maximum of 12) Δ

Topic varies.

Prerequisite: one Philosophy course 200-level or above.

442. Individual Philosophers. (3 to a maximum of 12) Δ

Figure varies.

Prerequisite: one course in Philosophy.

454/554. Seminar in Metaphysics & Epistemology. (3 to a maximum of 6) Δ

This seminar offers graduate and advanced undergraduate students exposure to contemporary literature and current professional discussion on issues in metaphysics and/or epistemology.

Prerequisite: 15 hours Philosophy coursework.

457/557. Seminar in the History of Philosophy. (3 to a maximum of 6) Δ

A close and critical examination of issues in the history of philosophy. Emphasis may be placed on a particular philosophical figure or on the development of a particular trend in the history of philosophy.

Prerequisite: 15 hours Philosophy coursework.

458/558. Seminar in Moral and Political Philosophy. (3 to a maximum of 9) Δ

A study of advanced topics in ethics. Possible topics include: practical reason; the connection between ethics and agency; metaethics; the nature of normativity.

Prerequisite: 15 hours Philosophy coursework.

462/562. Seminar in American Philosophy. (3 to a maximum of 6) Δ

An intensive study of texts and movements in American philosophy from the eighteenth century to contemporary pragmatism.

Prerequisite: 15 hours Philosophy coursework.

464/564. Seminar in Philosophy of Religion. (3 to a maximum of 6) Δ

(Also offered as RELG 464.) Advanced topics in philosophy of religion.

Prerequisite: 15 hours Philosophy or Religious Studies coursework.

466/566. Seminar in Philosophy of Art and Aesthetics. (3 to a maximum of 6) Δ

An in-depth examination of the genesis of modern aesthetics in the 18th and early 19th centuries, with a special focus on the aesthetic theory of Immanuel Kant.

Prerequisite: 15 hours Philosophy coursework.

568/468. Seminar in Psychoanalytic Theory and Continental Philosophy. (3 to a maximum of 6) Δ

This seminar offers students an in-depth introduction to psychoanalysis considered in relation to philosophy. It focuses on Freudian and/or Lacanian versions of analytic thought and their consequences for various philosophical discussions.

Prerequisite: 15 hours Philosophy coursework.

469/569. Seminar in Continental Philosophy. (3 to a maximum of 6) Δ

This seminar offers graduate and advanced undergraduate students an in-depth engagement with a specific philosopher or philosophical orientation situated in the context of twentieth-century Europe. It focuses on French and/or German philosophies in particular.

Prerequisite: 15 hours Philosophy coursework.

486/586. Seminar on Major Continental Philosopher. (3 to a maximum of 6) Δ

A close reading of a leading figure in contemporary continental philosophy, typically focusing on that thinker's most influential work, such as Sartre's *Being and Nothingness*, Levinas's *Totality and Infinity*, Gadamer's *Truth and Method*, etc.

Prerequisite: 15 hours Philosophy coursework.

497. Honors Seminar. (3 to a maximum of 6) Δ

For departmental honors in philosophy. (Offered upon demand)

498. Reading and Research. (1-3, may be repeated 3 times) Δ

499. Senior Thesis. (3 to a maximum of 6) Δ

For departmental honors. (Offered upon demand)

Graduate Seminars

554/454. Seminar in Metaphysics & Epistemology. (3 to a maximum of 6) Δ

This seminar offers graduate and advanced undergraduate students exposure to contemporary literature and current professional discussion on issues in metaphysics and/or epistemology.

Prerequisite: 15 hours Philosophy coursework.

557/457. Seminar in the History of Philosophy. (3 to a maximum of 6) Δ

A close and critical examination of issues in the history of philosophy. Emphasis may be placed on a particular philosophical figure or on the development of a particular trend in the history of philosophy.

Prerequisite: 15 hours Philosophy coursework.

558/458. Seminar in Moral and Political Philosophy. (3 to a maximum of 9) Δ

A study of advanced topics in ethics. Possible topics include: practical reason; the connection between ethics and agency; metaethics; the nature of normativity.

Prerequisite: 15 hours Philosophy coursework.

562/462. Seminar in American Philosophy. (3 to a maximum of 6) Δ

An intensive study of texts and movements in American philosophy from the eighteenth century to contemporary pragmatism.

Prerequisite: 15 hours Philosophy coursework.

564/464. Seminar in Philosophy of Religion. (3 to a maximum of 6) Δ

(Also offered as RELG 464.) Advanced topics in philosophy of religion.

Prerequisite: 15 hours Philosophy or Religious Studies coursework.

566/466. Seminar in Philosophy of Art and Aesthetics. (3 to a maximum of 6) Δ

An in-depth examination of the genesis of modern aesthetics in the 18th and early 19th centuries, with a special focus on the aesthetic theory of Immanuel Kant.

Prerequisite: 15 hours Philosophy coursework.

526. Seminar in Asian Philosophers. (3)**542. Seminar in Individual Philosophers. (3 to a maximum of 18) Δ****Graduate Seminars in Continental Philosophy****568/468. Seminar in Psychoanalytic Theory and Continental Philosophy. (3 to a maximum of 6) Δ**

This seminar offers students an in-depth introduction to psychoanalysis considered in relation to philosophy. It focuses on Freudian and/or Lacanian versions of analytic thought and their consequences for various philosophical discussions.

Prerequisite: 15 hours Philosophy coursework.

569/469. Seminar in Continental Philosophy. (3 to a maximum of 6) Δ

This seminar offers graduate and advanced undergraduate students an in-depth engagement with a specific philosopher or philosophical orientation situated in the context of twentieth-century Europe. It focuses on French and/or German philosophies in particular.

Prerequisite: 15 hours Philosophy coursework.

586/486. Seminar on Major Continental Philosopher. (3 to a maximum of 6) Δ

A close reading of a leading figure in contemporary continental philosophy, typically focusing on that thinker's most influential work, such as Sartre's *Being and Nothingness*, Levinas's *Totality and Infinity*, Gadamer's *Truth and Method*, etc.

Prerequisite: 15 hours Philosophy coursework.

Other M.A. Courses**504/404. Augustine. (3)**
(Also offered as RELG 504.)**520. Graduate Proseminar in Philosophy. (1-3)**

The course serves as an introduction to graduate study in philosophy at the University of New Mexico. This includes introduction to the faculty and their research interests, as well as an opportunity for scholarly interaction with fellow graduate students. **Offered on a CR/NC basis only.**

551. M.A. Problems. (1-3, may be repeated 6 times) Δ**599. Master's Thesis. (1-6, no limit) Δ**
Offered on a CR/NC basis only.**Ph.D. Seminars/Tutorials in Indian Philosophy****670. Seminar in Sanskrit Philosophical Texts. (3 to a maximum of 6) Δ**

This course is designed to give students at the intermediate to advanced level practice in reading philosophical literature in Sanskrit. The texts chosen will be those that are most relevant to the students' research interests.

675. Seminar in Madhyamaka. (3)

The heart of this course will be a study of Nāgārjuna's *Mūlamadhyamaka-kārikā* and its principal commentaries by comparing several translations with the original Sanskrit texts and key modern interpreters. Knowledge of Sanskrit expected.

676. Seminar in Vasubandhu. (3)

The topic of this course will be the thought of Vasubandhu, excerpts of whose works will be read in Sanskrit or English translation, along with reflections on his work by modern scholars. Knowledge of Sanskrit expected.

677. Seminar in Dignāga and Dharmakīrti. (3)

The thought of Dignāga and Dharmakīrti, excerpts of whose works will be read in Sanskrit or English translation, along with reflections on their work by several modern scholars. Knowledge of Sanskrit expected.

678. Seminar in Nyāya and Vaiśeṣika. (3)

This is a study of major themes of the Nyāya and Vaiśeṣika schools of Indian philosophy based on a reading of the *Vaiśeṣkasūtra*, *Nyāyasūtra* and *Nyāyabhāṣya* in Sanskrit. Knowledge of Sanskrit expected.

679. Seminar in Vedānta. (3)

An in-depth study of major themes of the Vedānta tradition of Brahmanical thought, based on a reading of original Sanskrit texts of the two leading schools, Advaita and Viśiṣṭa Advaita. Knowledge of Sanskrit expected.

Other Ph.D. Courses**651. Ph.D. Problems. (1-3, may be repeated 6 times) Δ**
Offered on a CR/NC basis only.**699. Dissertation. (3-12, no limit) Δ**
Offered on a CR/NC basis only.**PHILOSOPHY-ECONOMICS**

See *Economics-Philosophy*.

PHILOSOPHY-ENGLISH

See *English-Philosophy*.

PHYSICS AND ASTRONOMY

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University Professor

Murray Gell-Mann, Ph.D., Massachusetts Institute of Technology

Distinguished Professors

Carlton M. Caves, Ph.D., California Institute of Technology
V. M. Kenkre, Ph.D., State University of New York
(Stony Brook)

Regents Professor

Wolfgang Rudolph, Ph.D., University of Jena

Professors

Harjit S. Ahluwalia, Ph.D., University of Gujarat
Bernd Bassalleck, Ph.D., University of Karlsruhe
Kevin E. Cahill, Ph.D., Harvard University
Ivan H. Deutsch, Ph.D., University of California (Berkeley)
Jean-Claude Diels, Ph.D., University of Brussels
David H. Dunlap, Ph.D., University of Rochester
Daniel Finley, Ph.D., University of California (Berkeley)
Michael S. Gold, Ph.D., University of California (Berkeley)
Kevin Malloy, Ph.D., Stanford University
John A. J. Matthews, Ph.D., University of Toronto
John T. McGraw, Ph.D., University of Texas
Sudhakar Prasad, Ph.D., Harvard University
Sally C. Seidel, Ph.D., University of Michigan
Mansoor Sheik-Bahae, Ph.D., State University of New York
(Buffalo)

Associate Professors

Douglas Fields, Ph.D., University of Indiana
 Patricia A. Henning, Ph.D., University of Maryland
 Dinesh Loomba, Ph.D., Boston University
 Richard J. Rand, Ph.D., California Institute of Technology
 Gregory B. Taylor, Ph.D., University of California
 (Los Angeles)
 James L. Thomas, Ph.D., Cornell University

Assistant Professors

Rouzbah Allahverdi, Ph.D., University of Alberta
 Steven J. Koch, Ph.D., Cornell University
 Keith Lidke, Ph.D., University of Minnesota
 Yva Pihlström, Ph.D., Chalmers University of Technology

Lecturers

Boye M. Odum, M.S., University of Texas (El Paso)
 Jeff Saul, Ph.D., University of Maryland

Jointly Appointed Distinguished Professors

Steven R.J. Brueck, Ph.D., Massachusetts Institute of
 Technology

Jointly Appointed Professors

Philip H. Heintz, Ph.D., University of Washington
 Ravinder Jain, Ph.D., University of California (Berkeley)
 Christopher Moore, Ph.D., Cornell University
 Marek Osinski, Ph.D., Polish Academy of Sciences

Research Faculty

Mark R. Ackermann, Ph.D., University of New Mexico
 Susan R. Atlas, Ph.D., Harvard University
 Stephen T.P. Boyd, Ph.D., University of California
 (Los Angeles)
 Richard I. Epstein, Ph.D., Stanford University
 Igor Gorelov, Ph.D., Institute for Theoretical and
 Experimental Physics (Moscow)
 Michael P. Hasselbeck, Ph.D., University of Central Florida
 Andrew J. Landahl, Ph.D., California Institute of Technology
 Vasudevan Nampoothiri, Ph.D., Indian Institute of
 Technology (Bombay)
 Paul R. Schwoebel, Ph.D., Cornell University
 John Strologas, Ph.D., University of Illinois (Urbana-
 Champaign)
 Timothy L. Thomas, Ph.D., University of Minnesota
 Imran Yunus, Ph.D., Syracuse University
 Peter Zimmer, Ph.D., University of New Mexico

Professors Emeriti

Seymour S. Alpert, Ph.D., University of California (Berkeley)
 Howard C. Bryant, Ph.D., University of Michigan
 Colston Chandler, Ph.D., University of California (Berkeley)
 Byron D. Dieterle, Ph.D., University of California (Berkeley)
 Stephen A. Gregory, Ph.D., University of Arizona
 McAllister H. Hull, Jr., Ph.D., Yale University
 David S. King, Ph.D., Indiana University
 Christopher P. Leavitt, Ph.D., Massachusetts Institute of
 Technology
 John K. McIver, Ph.D., University of Rochester
 J. A. Panitz, Ph.D., Pennsylvania State University
 R. Marcus Price, Ph.D., Australian National University
 Derek B. Swinson, Ph.D., University of Alberta
 David M. Wolfe, Ph.D., University of Pennsylvania
 Michael Zelik II, Ph.D., Harvard University

Affiliated Faculty

Paul M. Alsing, Ph.D., University of Arkansas
 Charles Nickolas Arge, Ph.D., University of Delaware
 Eli Ben-Naim, Ph.D., Boston University
 John C. Brandt, Ph.D., University of Chicago
 Stanley Cohen, Ph.D., University of New Mexico
 Helene R. Dickel, Ph.D., University of Michigan
 John Dickel, Ph.D., University of Michigan
 Robert V. Duncan, Ph.D., University of California
 (Santa Barbara)
 Steven R. Elliott, Ph.D., University of California (Irvine)
 David Emin, Ph.D., University of Pittsburgh
 Edward R. Flynn, Ph.D., University of New Mexico
 Roberto Fonte, Ph.D., Università di Cantanie
 Christopher A. Fuchs, Ph.D., University of New Mexico
 Eiichi Fukushima, Ph.D., University of Washington

Terrance J. Goldman, Ph.D., Harvard University
 Joyce Ann Guzik, Ph.D., Iowa State University
 James W. Harrington, Ph.D., California Institute of
 Technology
 Gary H. Herling, Ph.D., Yale University
 Dean C. Hines, Ph.D., University of Texas at Austin
 Michael H. Holzschneider, Ph.D., Johannes Gutenberg
 University

Alan J. Hurd, Ph.D., University of Colorado
 William Junor, Ph.D., Victoria University of Manchester
 Namir Kassim, Ph.D., University of Maryland
 Gerd J. Kunde, Ph.D., University of Frankfurt
 Crawford MacCallum, Ph.D., University of New Mexico
 L. Kent Morrison, Ph.D., University of Washington
 Ilya Nenenman, Ph.D., Princeton University
 Stefan Posse, Ph.D., University of Bern
 William C. Priedhorsky, Ph.D., California Institute of
 Technology

Marlan O. Scully, Ph.D., Yale University
 George Skadron, Ph.D., University of Rochester
 Gerard J. Stephenson, Ph.D., Massachusetts Institute of
 Technology
 Steven M. Valone, Ph.D., University of North Carolina
 (Chapel Hill)
 Stephen M. Younger, Ph.D., University of Maryland

Introduction

Students in the Department of Physics and Astronomy at the University of New Mexico find themselves immersed in a stimulating atmosphere arising from their exposure to the teaching and research activities of 27 regular faculty members, another several dozen research, adjunct and part-time faculty members, a dozen postdoctoral research associates, and from their interactions with well over 50 undergraduate majors and over 120 graduate students. The atmosphere is enriched by activities of the Center for Advanced Studies, the Consortium of the Americas for Interdisciplinary Science, the New Mexico Center for Particle Physics, and the Institute for Astrophysics, which are housed in the department; by the Center for High Technology Materials, in which physicists and engineers are at work on understanding and developing optoelectronic materials and devices with novel properties; and by the collaborative projects the faculty and students in the department carry out with neighboring laboratories such as Sandia National Laboratories, the Los Alamos National Laboratory and the Air Force Research Laboratory; with local industries such as CVI, EG & G, BDM, Mission Research and SAIC, and with institutes, universities and other centers of learning in the USA and elsewhere. Outstanding scientists from all over the world visit the department for periods of a few weeks to as long as a year, while seminars and colloquia feature international experts in their fields each week.

The research atmosphere is equally active, with work being pursued in astrophysics and astronomy, optics and photonics, condensed matter physics, quantum information, atomic and subatomic physics, biomedical physics, general relativity and statistical physics. The research is funded at a high level by various external agencies such as the National Science Foundation, the Department of Energy, the Department of Defense, the National Institutes of Health, and NASA.

Application Procedures

Prospective candidates for both undergraduate and graduate degrees should contact the department's academic advisor by mail, phone or e-mail at:

Department of Physics and Astronomy
 Attn: Coordinator, Program Advisement
 MSC07 4220
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 Phone: (505) 277-1514
 E-mail: pandainfo@phys.unm.edu

Prospective candidates should also check the department's website at <http://panda.unm.edu>.

Undergraduate Program

The basic courses PHYC 160, 160L, 161, 161L, 262, 262L and MATH 162, 163 and 264 are prerequisite to all 300-level and higher physics and astronomy courses, and are required prerequisites for major and minor study in physics and in astrophysics for either the B.S. or the B.A. degree. For the B.S. in astrophysics, ASTR 270, 270L, 271 and 271L are also required.

Major Study Requirements

First year students planning to major or minor in physics or astrophysics, if they have the necessary mathematics, usually take PHYC 160, 160L and MATH 162 in their first semester, and PHYC 161, 161L and MATH 163 in their second semester. There is some flexibility in these prerequisites. Academic advisement prior to actual registration is required **each semester** for students majoring in physics or astrophysics.

Students are not allowed to receive credit for both PHYC 151 and 160, nor for both PHYC 152 and 161.

The B.S. degrees are designed as a beginning and foundation for students planning to continue their studies in graduate school and are, therefore, preparatory to professional training in physics or astrophysics.

The B.A. degree is designed for people interested in physics, astrophysics and science in general who are not seeking a career in scientific research. Rather, these students should use the flexibility within the program to choose minors or an additional major in other areas, such as management, education, communications, journalism, economics, history, political science, etc.

For the degree of B.S. in Physics: PHYC 290, 301, 303, 304, 307L, 308L, 330, 405, 406, 491, 492, 493L; and one 3-hour Physics course numbered above 300. PHYC 451 and 452 cannot be substituted for the 3-hour elective course numbered above 300.

Required supportive courses: MATH 311, 312, 316, 321; CHEM 121,123L and 122,124L;

For the degree of B.S. in Physics with a concentration in Optics: For the degree of B.S. in Physics with a concentration in Optics: PHYC 290, 301, 302, 303, 304, 307L, 330, 405, 406. Optics elective number 1: must be chosen as one of PHYC 463, 464, ASTR 426, or ECE 475. Optics elective number 2: must be chosen as one of PHYC 430, 477L, 493L, or 554. In addition, these two electives must be chosen in such a way that one of the Optics electives is either PHYC 430 or ECE 475. Science/Engineering/Math elective number 1: must be at the 200 level or above; Science/Engineering/Math elective number 2: must be at the 300 level or above.

Required supportive courses: MATH 311, 312, 316, 321; CHEM 121,123L, 122,124L;

For the degree of B.S. in Astrophysics: ASTR 421, 422; PHYC 290, 301, 303, 304, 330, 405, and either 406 or 491; 6 hours of Astronomy courses numbered above 399 except for 455.

Required supportive courses: MATH 311, 312, 316.

For the degree of B.A. in Physics and Astrophysics: ASTR 271; PHYC 290; PHYC 330; two courses chosen from PHYC 303, 307L or 405; three additional 3-hour, upper-level courses in Physics or Astronomy, one of which must be in Astronomy, except for any one of the following problems courses: ASTR 455, PHYC 451, 452.

Required supportive courses: MATH 311, 316.

Departmental Honors

The Departmental Honors Program is designed to provide additional depth to the student's knowledge in a special area of contemporary physics, and to ground that knowledge in their understanding of the world around them. As the standard undergraduate curriculum is rather tightly defined and

scheduled, the Honors Program allows each Honors Student the opportunity to be directly involved in the choice of an addition to his/her educational program. In addition, the program offers the student the opportunity to work closely with one or two professors.

During each of the last two semesters of the student's undergraduate program, and upon selecting an original research topic that is accepted by the faculty mentor, the student should register for the 1 credit hour honors course, ASTR/PHYC 456. This registration requires the prior approval of the faculty mentor in question. As an honors award is of a departmental nature, the student and mentor should submit an initial proposal outlining the intended work as early as possible, and certainly before the end of the fourth week of the semester in which the work is begun. The proposal is submitted to the department's Undergraduate Committee for initial approval.

Successful completion will be demonstrated by a **final, formal, written paper as well as an oral presentation by the student.** Approval of the presentation as achieving the level and standard intended for Honors work will be made by a subcommittee of the Undergraduate Committee, thereby providing some uniformity for the department. Finally, the student's overall grade point average must be 3.25 or greater at the time of graduation.

Minor Study Requirements

Physics

Four courses selected from PHYC 290, 301, 302, 302L or 307L, 303, 304, 330, 405, 406; MATH 316.

Astrophysics

The four courses ASTR 271, PHYC 290, 330, MATH 316; one course chosen from PHYC 301, 302, 302L or 307L, 303, 405; 3 hours of Astronomy courses numbered above 399.

Graduate Program

Students wishing to enter the M.S. or the Ph.D. programs in Physics must have an undergraduate degree in physics or its equivalent. Their undergraduate program of studies must have included courses in thermodynamics, electricity and magnetism, quantum mechanics and classical mechanics.

The department also offers the M.S. and the Ph.D. degree in Physics with a concentration in Biomedical Physics. For details, refer to our website at <http://panda.unm.edu>.

The Optical Science and Engineering (OSE) M.S. and Ph.D. programs are multidisciplinary and assume an undergraduate background in physics, optics or a related engineering discipline.

There is no foreign language requirement for graduate degrees in physics or OSE. Proficiency in at least one computer language is encouraged.

Under the terms of an agreement between the University of New Mexico and Los Alamos National Laboratory (LANL), candidates for a doctoral degree in Physics or Optical Science and Engineering may conduct research for the dissertation at LANL. Certain conditions have been specified by LANL for the acceptance of students for research at Los Alamos, and each case is considered on an individual basis. See Center for Graduate Studies at Los Alamos in the General Information Section of this catalog.

Additional information, specific admission criteria, application forms and directions are available online at: <http://panda.unm.edu>.

Application Deadlines

International applicants and students who are seeking financial aid must submit materials no later than:

Fall semester: January 15
Spring semester: August 1

Deadlines for domestic students who are *not* seeking departmental financial aid are:

Fall semester: June 1
Spring semester: October 1

Degrees Offered**M.S. in Physics**

The Master of Science in Physics is offered under either Plan I (with thesis) or Plan II (without thesis). Under Plan I, a minimum of 24 semester hours of graduate work in physics and mathematics (exclusive of thesis) is required. Under Plan II, 32 semester hours of graduate work in physics and mathematics are to be taken. Included in this 32 hours must be at least 4 semester hours in research problems courses (551, 552, 650).

Under both plans, the graduate work offered for the master's degree must include PHYC *466, 503, 505, 511 and 521. In addition, if material equivalent to one of the advanced labs (PHYC *476L, *477L or *493L) is not included in the student's prior education, one of these courses must also be taken for the graduate degree. Details must be discussed with a graduate advisor each semester.

A master's degree program in physics is also offered at the Los Alamos Center for Graduate Studies.

M.S. in Optical Science and Engineering

The Optics Program is jointly administered by the Department of Physics and Astronomy and the Department of Electrical and Computer Engineering. It features an internship option under which a student can apply qualified industrial/government laboratory research along with successfully completed course work toward the degree.

Current research areas: advanced materials, atom optics, biomedical optics, fiber optics, laser physics, lithography, nanostructures, nonlinear optics, optical imaging, optical sensors, optoelectronics, photonic integrated circuits, quantum optics, spectroscopy, and ultra-fast phenomena.

See the Graduate Interdisciplinary Studies section of the catalog for degree requirements. Other program information is available at <http://www.optics.unm.edu>.

Ph.D. in Physics

The Doctor of Philosophy in Physics requires a minimum of 48 semester hours of graduate work **exclusive of dissertation**. These hours must include PHYC *466, 503, 505, 511, 521, 522/ASTR 537, four seminars (PHYC 500 and/or 501), and four electives chosen from a list of courses specified on the Department's website at: <http://panda.unm.edu/Acadady/handbk.html>. Details *must* be discussed with a graduate advisor each semester.

Ph.D. in Optical Science and Engineering

The Optics Program is jointly administered by the Department of Physics and Astronomy and the Department of Electrical and Computer Engineering. Considerable interactions occur with the Center for High Technology Materials and the optical research groups at the Air Force Research Laboratory, Sandia National Laboratories, Los Alamos National Laboratory and

other organizations in Albuquerque that offer extensive opportunities for research work toward the degree.

Current research areas: ultra-fast optics and photonics, laser physics and engineering, optical imaging, quantum optics, optoelectronic devices, fiber lasers and amplifiers, optical communication, optical materials, optical lithography, nonlinear optics, integrated optics, quantum computing, bio-optics, non-photonics, and laser cooling.

See the Graduate Interdisciplinary Studies section of the catalog for degree requirements. Other program information is available at <http://www.optics.unm.edu>.

Nanoscience & Microsystems (NSMS) M.S. & Ph.D. Degree Program

This department participates in the interdisciplinary NSMS program; for more information, see the Graduate Interdisciplinary Studies section of this catalog.

General Interest Courses in Physics and Astronomy**ASTR 101. Introduction to Astronomy. (3)**

Conceptual description of our fascinating universe: early astronomy, Newtonian synthesis, Earth, Moon, planets, asteroids, comets, the sun, our solar system, stars, black holes, galaxies, dark matter, dark energy and cosmological mysteries. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1114).

ASTR 101L. Astronomy Laboratory. (1)

Intended as an adjunct to ASTR 101, this course deals with elementary techniques in astronomical observations. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). Pre- or corequisite: ASTR 101. Two hours lab.

ASTR 109. Selected Topics in Astronomy. (3 to a maximum of 12) Δ

Designed as a follow-up course to 101. This course will focus on one topic in astronomy for an in-depth investigation of its core concepts and implications. May be repeated, but topics must be substantially different from semester to semester. Prerequisite: 101. {Offered upon demand.}

PHYC 102. Introduction to Physics. (3)

Designed to introduce non-science majors to basic concepts, laws and skills in physics, in various applications to ordinary life. Energy, momentum, force, wave phenomena, electric charge and light are discussed; also basic properties of gravitational, electromagnetic and nuclear forces. Selections from relativity, quantum theory, atoms and molecules will be included. See *PHYC 102L* for an optional laboratory. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science.

PHYC 102L. Physics Laboratory. (1)

Students involve themselves in experiments and projects showing basic concepts related to the atom, the environment and the universe. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science. Pre- or corequisite: 102. Two hours lab.

PHYC 105. Physics and Society. (3)

Designed to introduce non-science majors to basic concepts, laws and skills in classical and quantum physics as a basis to discuss the interrelationships of society and physics. Examples where energy, momentum, special relativity, thermal physics, quantum and nuclear physics have important roles are discussed; these could include meteorology, aviation weather, fission and fusion reactors, science policy and ethics, alternative energy sources. {Spring}

PHYC 106. Light and Color. (3)

Designed to introduce non-science majors to basic concepts, laws and skills in classical and quantum physics, in the context of a study of light and color. Light as flow of

energy, propagating rays, vibrating waves and as photons; interactions with matter; in rainbows, sunsets, iridescence; in technology and art: cameras, telescopes, the human eye, color and color perception; lasers and holography. See *PHYC 106L* for an optional laboratory. {Fall}

PHYC 106L. Light and Color Laboratory. (1)

Students involve themselves in experiments and demonstrations with optical phenomena: lenses, mirrors, the eye, interference, polarization, lasers, holography. Pre- or corequisite: 106. Two hours lab. {Fall}

PHYC 107. Problems for Introduction to Physics. (1)

Instructor-led study session for PHYC 102, including problem solving and demonstrations. Corequisite: 102. Offered on a CR/NC basis only.

PHYC 108. Introduction to Musical Acoustics. (3)

Designed to introduce non-science majors to basic concepts, laws and skills in physics, in the context of a study of sound, acoustics and music. Energy and force involved with the physical nature of sound waves; application to harmonics, tone quality, pitch. Sound production, propagation, detection and perception are demonstrated and illustrated by many different musical instruments, building acoustics and the behavior of the voice and the ear. See *PHYC 108L* for an optional laboratory. {Spring}

PHYC 108L. Musical Acoustics Laboratory. (1)

Student involvement in experiments and demonstrations with sound waves, measurements of properties of musical instruments and electronic equipment measuring musical and acoustic properties. Pre- or corequisite: 108. Two hours lab. {Spring}

Physics (PHYC)

For PHYC 102 through 108L, see the general interest courses described above.

110. Introduction to Applied Physics. (3)

Preparatory course to review skills needed for PHYC 151/160. Reviews math skills (vectors, trigonometry, word problems, solving equations, etc.) through applications of physics principles to examples such as cell phones, musical instruments, CD players, driving, tools, projectiles, athletics, and electrical circuits. Prerequisite: MATH 121 or SAT=>570 or ACT=>25. {Second half of Fall and Spring}

151. General Physics. (3)

Mechanics, sound, heat, fluid, waves. The sequence (151, 151L, 152, 152L) is required of pre-medical, pre-dental, and pre-optometry students. Only 151 and 152 are required of pharmacy students. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). Prerequisite: (MATH 123 or Compass Trig Test=>60) and (MATH 150 or MATH 162 or MATH 180 or ACT>27 or SAT>630). {Summer, Fall, Spring}.

151L. General Physics Laboratory. (1)

Mechanics, sound, heat. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). Pre- or corequisite: 151. Three hours lab.

152. General Physics. (3)

Electricity, magnetism, optics. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1124). Prerequisite: 151.

152L. General Physics Laboratory. (1)

Electricity, magnetism, optics. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1124). Pre- or corequisite: 152. Three hours lab.

157. Problems in General Physics. (1)

Problem solving and demonstrations related to 151. Corequisite: 151. Offered on a CR/NC basis only.

158. Problems in General Physics. (1)

Problem solving and demonstrations related to 152. Corequisite: 152. Offered on a CR/NC basis only.

160. General Physics. (3)

Mechanics, sound. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1214). Pre- or corequisite: MATH 162.

160L. General Physics Laboratory. (1)

Mechanics, sound. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1214). Pre- or corequisite: 160. Three hours lab.

161. General Physics. (3)

Heat, electricity, magnetism. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1224). Prerequisite: 160. Pre- or corequisite: MATH 163.

161L. General Physics Laboratory. (1)

Electricity and magnetism. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science (NMCCN 1224). Pre- or corequisite: 161. Three hours lab.

167. Problems in General Physics. (1)

Problem solving and demonstrations related to 160. Corequisite: 160. Offered on a CR/NC basis only.

168. Problems in General Physics. (1)

Problem solving and demonstrations related to 161. Corequisite: 161. Offered on a CR/NC basis only.

262. General Physics. (3)

Optics, modern physics. Prerequisite: 161. Pre- or corequisite: MATH 264.

262L. General Physics Laboratory. (1)

Optics, modern physics. Pre- or corequisite: 262. Three hours lab.

267. Problems in General Physics. (1)

Problem solving and demonstrations related to 262. Corequisite: 262. Offered on a CR/NC basis only.

290. Computational Physics. (3)

Application of computational techniques to problems in physics and astronomy. Topics include: matrices, interpolation, fitting of data, Runge-Kutta techniques, complex math, Fourier techniques. Prerequisite: 262. Pre- or corequisite: Math 316 {Spring}

****300. Topics in Physics & Astronomy. (1-3 to a maximum of 6) Δ**

Advanced study of concepts of physics and astronomy, designed especially for science teachers and other non-traditional students. Cannot be used to satisfy major or minor program requirements for physics or astrophysics degrees. Prerequisite: 102 or ASTR 101 or NTSC 261L.

****301. Thermodynamics and Statistical Mechanics. (3)**

Concepts of heat and thermodynamics; large numbers and probability distributions; spin, oscillator, and gas systems; simple interacting systems, Fermi and Bose statistics. Prerequisite: 330. {Fall}

****302. Introduction to Photonics. (3)**

Geometrical optics; wave optics; lasers, nonlinear optics. {Alternate Years}

****302L. Optics Lab. (3)**

Laboratory experiments in geometrical optics, diffraction, prisms, gratings, microscopy and imaging, polarization, interference and interferometry, and laser operation. {Spring}

****303. Analytical Mechanics I. (3)**

Dynamics of particles and rigid bodies, harmonic motion, gravitation, Lagrange's & Hamilton's equations, moving coordinate systems. Prerequisite: MATH 311 and MATH 316. {Fall}

****304. Analytical Mechanics II. (3)**

Mechanics of continuous media, rotations of rigid bodies, small oscillations, nonlinear and chaotic motions.
Prerequisite: 303 and MATH 312. {Spring}

****307L. Junior Laboratory. (3)**

Experiments in modern physics and experimental methods.
One lecture, 3 hours lab. {Fall}

****308L. Junior Laboratory. (3)**

Contemporary electronics. One lecture, 3 hours lab. {Spring}

311. Problems in Thermodynamics and Statistical Mechanics. (1)

Problem solving and demonstrations related to PHYC 301.
Offered on CR/NC basis only.

313. Problems in Analytical Mechanics I. (1)

Problem solving and demonstrations related to PHYC 303.
Prerequisite: MATH 311 and 316.
Offered on CR/NC basis only.

314. Problems in Analytical Mechanics II. (1)

Problem solving and demonstrations related to PHYC 304.
Prerequisite: 303 and MATH 312.
Offered on CR/NC basis only.

****327. Geophysics. (3)**

(Also offered as EPS 427.) Applications of gravity, magnetics, seismology, heat flow to the structure, constitution and deformation of the earth. Related aspects of plate tectonics and resource exploration.
Prerequisite: 161 and MATH 163 and (EPS 101 or ENVS 101).

****330. Introduction to Modern Physics. (3)**

Special relativity; quantum effects; introductory quantum mechanics; atomic and subatomic physics; instruments of modern physics.
Prerequisite: 262. {Spring}

331. Problems in Introduction to Modern Physics. (1)

Problem solving and demonstrations related to PHYC 330.
Offered on CR/NC basis only.
Prerequisite: 262.

***400. Seminar. (1 to a maximum of 3) Δ**

Student presentations, both extemporaneous and prepared, of undergraduate physics problems. **Offered on CR/NC basis only.**

***405. Electricity and Magnetism I. (3)**

Electrostatics, magnetostatics; theory of dielectric materials; direct and alternating circuit theory.
Prerequisite: MATH 311 and MATH 316. {Spring}

***406. Electricity and Magnetism II. (3)**

Maxwell's equations; propagation, reflection and refraction of plane waves; wave guides; dipole radiation; stress-energy of the fields; relativistic fields.
Prerequisite: 405 and MATH 312. {Fall}

***410. Chemistry and Physics at the Nanoscale. (3)**

(Also offered as NSMS 410/510.) Students study chemical and physical concepts necessary to understand nanoscale materials: Quantum properties, charge confinement, and nanoscale thermodynamics, surface and interfacial forces, nanomachines and nanostructures, self-organization, and scaling. Emphasis on problem-solving skills development. {Fall}

415. Problems in Electricity and Magnetism I. (1)

Problem solving and demonstrations related to PHYC 405.
Prerequisite: MATH 311 and MATH 316.
Offered on CR/NC basis only.

416. Problems in Electricity and Magnetism II. (1)

Problem solving and demonstrations related to PHYC 406.
Prerequisite: 405 and MATH 312.
Offered on CR/NC basis only.

***430. Introduction to Solid State Physics. (3)**

Free electron gas, energy bands, crystals, semiconductors, metals, elementary excitations, superconductivity.
Prerequisite: 330. {Alternate years}

***450. Introduction to Subatomic Physics. (3)**

Introductory topics in elementary-particle physics and nuclear physics, with examples and applications to high-energy physics and astrophysics such as cosmic rays, fixed-target experiments, lepton and hadron colliders, stellar physics, supernovae and cosmology.
Prerequisite: 491. {Alternate Springs}

451./551. Problems. (1-3 to a maximum of 6) Δ

Offered on a CR/NC basis only.

***452. Research Methods. (1-3 to a maximum of 6) Δ**

456. Honors Problems. (1 to a maximum of 2) Δ
(Also offered as ASTR 456.) Independent studies course for students seeking departmental honors. {Fall, Spring}

***463. Advanced Optics I. (3)**

(Also offered as ECE 463.) Electromagnetic theory of geometrical optics, Gaussian ray tracing and matrix methods, finite ray tracing, aberrations, interference. {Fall}

***464. Laser Physics I. (3)**

(Also offered as ECE 464.) Resonator optics. Rate equations; spontaneous and stimulated emission; gas, semiconductor and solid state lasers, pulsed and mode-locked laser techniques. {Fall}

***466. Methods of Theoretical Physics I. (3)**

Complex variables and analysis; differential equations, including Green's functions; transform methods; special functions; linear algebra; matrix analysis; linear integral equations. {Fall}

***467. Methods of Theoretical Physics II. (3)**

Methods of theoretical physics such as tensor analysis, group theory, calculus of variations, and elementary statistics. The actual topic areas will vary and will be defined by the instructor. {Alternate Springs}

468. Problems in Methods of Theoretical Physics I. (1)

Problem solving and demonstrations related to PHYC 466.
Offered on CR/NC basis only.

469. Problems in Methods of Theoretical Physics II. (1)

Problem solving and demonstrations related to PHYC 467.
Offered on CR/NC basis only.

***476L. Experimental Techniques of Optics. (3)**

Diffraction, interference, optical detectors, lens aberrations, lasers, spectra, scattering, optical testing. One lecture, 3 hours lab. {Spring}

***477L. Experimental Techniques of Optics. (3)**

Diffraction, interference, optical detectors, lens aberrations, lasers, spectra, scattering, optical testing. One lecture, 3 hours lab. {Spring}

480. Special Topics in Physics and Astronomy (3 to maximum of 6) Δ

Special topics beyond our standard curriculum, usually involving new areas. The actual topic areas will vary and will be defined by the instructor. Restriction: permission of instructor.

***491. Intermediate Quantum Mechanics I. (3)**

Schrödinger Equations; Heisenberg uncertainty principle; postulates; Dirac notation; one-dimensional potentials; harmonic oscillator; angular momentum; H-Atom.
Prerequisite: 330 and MATH 321. {Fall}

***492. Intermediate Quantum Mechanics II. (3)**

Spin; Pauli principle; perturbation theory; scattering; applications of quantum mechanics. {Spring}
Prerequisite: 491.

***493L. Contemporary Physics Laboratory. (3)**

Spectrographic methods; lasers, atomic structure; high Tc superconductivity; natural and artificial radioactivity; cosmic rays. One lecture, 5 hours lab. {Spring}

***495. Theory of Special Relativity. (3)**

Relativistic kinematics and dynamics, relativistic electromagnetism, application to subatomic physics and astrophysics. {Offered upon demand}

496. Problems in Intermediate Quantum Mechanics I. (1)

Problem solving and demonstrations related to PHYC 491. Prerequisite: 330 and MATH 321.
Offered on CR/NC basis only.

497. Problems in Intermediate Quantum Mechanics II. (1)

Problem solving and demonstrations related to PHYC 492.
Offered on CR/NC basis only.

500. Advanced Seminar. (1-3 to a maximum of 12) Δ

Offered on CR/NC basis only.

501. Advanced Seminar. (1-3 to a maximum of 12) Δ**503. Classical Mechanics I. (3)**

Review of Lagrangian dynamics; two-body central force; rigid-body motion; small oscillations; Hamilton's equations; canonical transformations; Hamilton-Jacobi theory. {Fall}

505. Statistical Mechanics and Thermodynamics. (3)

Review of thermodynamics; classical statistical mechanics; ensemble theory; quantum statistical mechanics with examples. {Spring}

511. Electrodynamics. (3)

Review of electro- and magneto-statics; E&M waves and radiation; covariant electrodynamics; scattering; relativity and covariant collisions. {Spring}

521. Graduate Quantum Mechanics I. (3)

Review of 1-dim. potentials; Dirac formalism; postulates; symmetries and conservation laws; harmonic oscillator; angular momentum and spin; central potentials; approximation methods. {Fall}

522. Graduate Quantum Mechanics II. (3)

More on angular momentum; scattering; identical particles; spectra of atoms and molecules; symmetry and conservation laws; approximation methods; special topics.
Prerequisite: 521. {Spring}

523. Quantum Field Theory I. (3)

Introduction to relativistic quantum mechanics, and quantum mechanics and quantum field theory with applications drawn from quantum electrodynamics and high-energy physics.
Prerequisite: 522. {Alternate Years}

524. Quantum Field Theory II. (3)

A continuation of 523. {Offered upon demand}
Prerequisite: 523.

529. Condensed Matter I. (3)

Band concepts; Bloch functions; phonons and their interactions; superconductivity. {Alternate Falls}

531. Atomic and Molecular Structure. (3)

One-, two-, and many-electron atoms; interactions with E&M radiation; fine and superfine structure; external fields; molecular structure and spectra; collisions; applications of atomic and molecular physics. {Alternate years}

534. Plasma Physics I. (3)

(Also offered as ASTR, CHNE, ECE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, nonlinear effects, applications. {Fall}

535. Plasma Physics II. (3)

Derivation of fluid equations; CGL, MCD; equilibrium in the fluid plasma; energy principle; Rayleigh-Taylor, two-stream, and firehose instabilities; applications to ICF and open- and

closed-line magnetic confinement systems; nonlinear instability theory.

Restriction: permission of instructor. {Alternate Springs}

536. Advanced Astrophysics I. (3)

(Also offered as ASTR 536.) Astrophysical problems as illustrations of classical and statistical mechanics, as well as E&M: expansion of the universe; dark matter; big-bang nucleosynthesis; interiors of white dwarfs and neutron stars; supernova explosions; formation of galaxies. {Alternate Falls}

538. Selected Methods of Theoretical & Computational Physics. (3-4 to a maximum of 6) Δ

Selected topics in methods of theoretical and computational physics. {Offered upon demand}

542. Particle Physics I. (3)

Overview of the standard model, including electroweak interactions, gauge theories, QCD, other selected topics. {Alternate Falls}

545. Introduction to Cosmic Radiation. (3)

Galactic cosmic rays, Stormer theory, secondary cosmic rays in earth's atmosphere and environmental effects, time variations, particle detectors, heliopheric transport, extensive air showers, origin of cosmic rays.
Prerequisite: 406 and 491. Restriction: permission of instructor.

551./451. Problems. (1-4 to a maximum of 16) Δ
Offered on a CR/NC basis only.

552. Problems. (1-4 to a maximum of 16) Δ**554. Advanced Optics II. (3)**

(Also offered as ECE 554.) Diffractions theory, coherence theory, coherent objects, and incoherent imaging, and polarization.
Prerequisite: 463. {Spring}

556. Optical Coherence Theory. (3)

Time dependence of coherent and incoherent light beams, intensity fluctuations of chaotic light, fringe intensity, first order correlation function, higher order correlation functions, photo-electron statistics. {Offered upon demand}

559. Internship in Optical Science and Engineering. (3)

(Also offered as ECE 559.) Students do research and/or development work at a participating industry or government laboratory in any area of optical science and engineering.
Restriction: permission of department.

564. Laser Physics II. (3)

Semiclassical laser theory, mode problems, pulse propagation, self-induced transparency, phase conjugate optics, photon statistics. May include semiconductor lasers, ultrafast phenomena, waveguides.
Prerequisite: 464. {Alternate Springs}

566. Quantum Optics. (3)

Study and manipulation of quantum coherence with electromagnetic fields. Quantum coherent spectroscopy; photon statistics and nonclassical light; open quantum systems; decoherence; special topics. {Alternate Years}

568. Nonlinear Optics. (3)

General concepts, microscopic approach, nonlinear optical effects and devices. {Alternate Springs}

569. Advanced Topics in Modern Optics. (3 to a maximum of 6) Δ

Possible topics include dye lasers, solid-state lasers, novel lasers, interaction between intense lasers and matter, advanced nonlinear optics, spectroscopy. {Offered upon demand}

570. Theory of Relativity. (3)

Einstein's theory of general relativity both as a theoretical model for gravitational forces via curved space times and as applied to various realistic astrophysical situations such as neutron stars, black holes and gravitational waves. {Offered upon demand}

571. Quantum Computation. (3)

(Also offered as CS, NSMS 571.) This course explores the concepts and mathematical techniques underlying quantum computation. Topics include quantum entanglement, quantum cryptography, teleportation, models for quantum computation, quantum algorithms, quantum error correction, and fault-tolerant quantum computation.

572. Quantum Information Theory. (3)

Concepts, applications and mathematical techniques of quantum information theory. Topics include classical information, Hilbert-space formulation of quantum mechanics, quantum states, quantum dynamics and measurements, quantum information, and quantum entanglement.

573. Classical Mechanics II. (3)

Introduction to methods and topics of current interest in classical mechanics, particularly methods of advanced Hamiltonian mechanics and topics related to nonlinear dynamics and chaos in Hamiltonian and dissipative systems.

Prerequisite: 503. {Offered upon demand}

576. Advanced Statistical Mechanics. (3)

Introduction to topics and methods of current areas of interest in statistical mechanics, particularly the area of cooperative phenomena and the area of nonequilibrium (time-dependent) statistical mechanics. {Offered upon demand}

Prerequisite: 505.

580. Advanced Plasma Physics. (3)

(Also offered as CHNE, ECE 580.) Plasma kinetics equations, Vlasov theories of plasma waves and microinstabilities, Landau damping, nonlinear evolution of instabilities, turbulence, applications, transport in fluid plasmas; Fokker-Planck, Krook collision model.

Prerequisite: 534, 535. {Offered upon demand}

581. Advanced Topics in Physics and Astrophysics. (3 to a maximum of 12) Δ **599. Master's Thesis. (1-6, no limit) Δ**

Only 6 hours will count toward the program of studies.

Offered on a CR/NC basis only.

650. Research. (1-12 to a maximum of 24) Δ

May be repeated with any single faculty member.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

Astronomy/Astrophysics (ASTR)

For ASTR 101 through 109 see the general interest courses described above.

270. General Astronomy. (3)

Concepts of astronomy with emphasis on the solar system. Pre- or corequisite: MATH 150 or 162 and any physics course numbered 150 or higher. {Fall}

270L. General Astronomy Laboratory I. (1)

Observations of the moon, planets and stars. Pre- or corequisite: 270. Three hours lab. {Fall}

271. General Astronomy. (3)

Stellar astronomy, the galaxy, extra-galactic systems, cosmology.

Pre- or corequisite: (MATH 150 or 162) and any physics course numbered 150 or higher. {Spring}

271L. General Astronomy Laboratory. (1)

Observations of the moon, planets and stars. Pre- or corequisite: 271. Three hours lab. {Spring}

***421. Concepts of Astrophysics I. (3)**

Gravitation, radiation, relativity, stellar atmospheres, structure, and evolution.

Prerequisite: PHYC 330. {Fall}

***422. Concepts of Astrophysics II. (3)**

Applications of advanced astrophysical concepts to the interstellar medium, star formation, the Milky Way, external galaxies, and cosmology.

Prerequisite: 421. {Spring}

***423. Radio Astronomy. (3)**

Single dish and aperture synthesis radio observations; emission processes at radio wavelengths: synchrotron radiation, thermal bremsstrahlung.

Prerequisite: PHYC 330. {Alternate Springs}

***424. Extragalactic Astronomy and Cosmology. (3)**

Distribution, properties and interactions of galaxies and quasars; large scale clusterings of matter, formation and evolution of the universe; physical cosmology. {Offered upon demand}

***426. Optics and Instrumentation. (3)**

Principles of optics and quantum physics applied to modern astronomical instrumentation (over a wide range of electromagnetic wavelengths), data acquisition and processing. {Offered upon demand}

***427. Topics in Planetary Astronomy. (3)**

Planetary physics; planetary investigation using space vehicles; optical properties of planetary atmospheres. {Offered upon demand}

***445. Introduction to Cosmic Radiation. (3)**

Primary cosmic radiation, Stormer theory, production and detection of secondary cosmic radiation, meteorological and environmental effects, temporal variations, heliospheric transport, extensive air showers and origin of cosmic rays. {Offered upon demand}

***455. Problems. (1-3 to a maximum of 6) Δ** **456. Honors Problems. (1 to a maximum of 2) Δ**

(Also offered as PHYC 456.) Independent studies course for students seeking departmental honors.

534. Plasma Physics I. (3)

(Also offered as CHNE, PHYC, ECE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, nonlinear effects, applications. {Fall}

536. Advanced Astrophysics I. (3)

(Also offered as PHYC 536.) Astrophysical problems as illustrations of classical and statistical mechanics, as well as E&M: expansion of the universe; dark matter; big-bang nucleosynthesis; interiors of white dwarfs and neutron stars; supernova explosions; formation of galaxies. {Alternate Falls}

537. Advanced Astrophysics II. (3)

Astrophysical problems as illustrations of quantum mechanics; hydrogen and other atoms; molecules; spectral lines in the astrophysical environment; Doppler effect; ionized regions surrounding stars; centers of active galaxies; Lyman alpha forest; non-Keplerian rotation of galaxies.

Prerequisite: PHYC 521. {Alternate Springs}

POLITICAL SCIENCE

Mark Peceny, Chairperson
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 Gregory Gleason, Ph.D., University of California (Davis)
 Wendy L. Hansen, Ph.D., California Institute of Technology
 Deborah McFarlane, Dr.P.H., University of Texas
 Mark Peceny, Ph.D., Stanford University
 Andrew L. Ross, Ph.D., Cornell University
 Christine M. Sierra, Ph.D., Stanford University
 William B. Stanley, Ph.D., Massachusetts Institute of Technology

Associate Professors

Christopher K. Butler, Ph.D., Michigan State University
 Timothy B. Krebs, Ph.D., Loyola University Chicago

Assistant Professors

Jillian Medeiros, Ph.D., University of Southern California
 Juan P. Micozzi, Ph.D., Rice University
 Kathy L. Powers, Ph.D., Ohio State University
 Michael S. Rocca, Ph.D., University of California (Davis)
 Gabriel R. Sanchez, Ph.D., University of Arizona

Lecturers

Ellen Grigsby, Ph.D., University of North Carolina (Chapel Hill)
 Peter S. Kierst, J.D., University of New Mexico

Adjunct and Associated Faculty

Larry J. Gordon, M.P.H., University of Michigan
 Constantine Hadjilambros, Ph.D., University of Delaware
 Roger Hagengruber, Ph.D., University of Wisconsin
 Kerry G. Herron, Ph.D., University of New Mexico

Professors Emeriti

Edward K. Fuge, M.A., University of Denver
 F. Chris Garcia, Ph.D., University of California (Davis)
 Fred R. Harris, J.D., University of Oklahoma
 Edwin C. Hoyt, Ph.D., Columbia University
 Peter A. Lupsha, Ph.D., Stanford University
 Martin C. Needler, Ph.D., Harvard University
 Karen L. Remmer, Ph.D. University of Chicago
 Harold V. Rhodes, Ph.D., University of Arizona
 Jay B. Sorenson, Ph.D., Columbia University
 Gilbert K. St. Clair, Ph.D., University of New Mexico
 Harry P. Stumpf, Ph.D., Northwestern University

Introduction

Political Science is the study of politics, power and government, including U.S. and foreign governments, as well as relationships among governments, their actions and policies. Political Science is useful for people seeking careers in law, business, government service, urban planning, education or journalism. It is also a vital part of a liberal arts education.

Major Study Requirements

A total of 36 hours is required for a major in political science. These hours must be distributed among the following:

1. Twelve hours from the core courses (200, 220, 240, 260, 270 and 280), including at least one course from each of the following groups: (200 or 270), (220 or 240) and (260 or 280); and
2. Twenty-one hours from courses numbered 300 or above; and
3. Three additional hours from any level.

NOTE: Students who have already had courses in political science may not count POLS 110 toward a major. A grade of C or better is required in all political science courses counted toward the major. Only three credit hours of POLS 299 is permitted toward the major. However, students may enroll in additional hours of POLS 299 and count them as electives.

Distributed Minor for Political Science Majors

With the consent of the department chairperson, a major may offer an American Studies minor as well as a minor in a single department. For requirements, see *American Studies*.

A political science major may pursue a distributed minor consisting of courses in related disciplines, provided the minor program of courses is approved by the department chairperson.

Minor Study Requirements

A total of 24 hours, including at least three of the core courses and four courses numbered 300 or above, is required for a minor in political science. A grade of C or better is required in all courses counted toward the minor. Only three credit hours of POLS 299 are permitted toward the minor. Additional/excess hours of POLS 299 may be counted as Arts & Sciences electives.

Departmental Honors

Superior sophomore and junior students are invited to apply for admission to the Undergraduate Honors Program, beginning in the junior year. Students participating in this program are eligible to graduate with departmental honors if recommended by the faculty on the basis of outstanding performance. Those enrolled in the honors program are expected to complete the following sequence of courses for a total of 9 hours: 495, 496 (or, with prior approval, another 400-level course) and 497.

Graduate Program**Graduate Advisor**

Timothy B. Krebs

Application Information

Fall admission only.

Priority for admission and financial aid will be given to applications received by January 15. Applications accepted until May 1.

Degrees Offered**M.A. in Political Science
Ph.D. in Political Science**

Concentrations: American politics, comparative politics, international relations, methodology, and public policy.

All applicants for admission to the graduate program must take the Graduate Record Examination aptitude test. The Graduate Committee of the department, following policies established by the faculty, makes all decisions on equivalence to the master's degree.

The M.A. is offered under both Plan I and Plan II under the regulations described earlier in this catalog. General requirements for completion of the Ph.D. are given on earlier pages of this catalog.

Work for the M.A. and the Ph.D. is offered in six areas: American politics, comparative politics, international relations, methodology, political theory and public policy. Students will concentrate in one field of specialization at the M.A. level and two fields of specialization at the Ph.D. level. (Early in the second semester of residence, the graduate student chooses a committee on studies that meets with the student to work out a program of study based on his or her background and interests). Each Ph.D. student must demonstrate proficiency in applied research methods. Advancement to candidacy for the Ph.D. follows upon successful completion of comprehensive examinations and a field research paper.

In addition to the application materials required by the University of New Mexico Office of Graduate Studies, the following items are required for admission to the Department of Political Science: 1) an official report of the student's Verbal, Quantitative and Analytical Graduate Record Examination scores; 2) a short writing sample illustrating analytical ability and stylistic mastery; and 3) a letter of intent; 4) three letters of recommendation. The GRE scores must be mailed directly to the Political Science Department by Educational Testing Services.

Master's (M.A.) Degree Requirements – Plan I (Thesis)

Entrance Requirements: In addition to UNM entrance requirements, the general GRE examination, a writing sample, a letter of intent and three letters of recommendation are required.

Exit Requirements: In addition to UNM exit requirements, Master's (Thesis) students must choose one field of concentration and complete a minimum of 25 credit hours of course work including POLS 580, 581, 582; three pro-seminars (including one in the chosen field of concentration); one research seminar in the chosen field of concentration; and one written comprehensive examination in the chosen field of concentration. All required course work must be completed with a grade of "B" or better, with the exception of 582, which is offered for Credit/No Credit only.

Also required are a minimum of six credit hours of thesis; an oral and written thesis presentation; and degree completion within five years.

Master's (M.A.) Degree Requirements – Plan II (Non-Thesis)

Entrance Requirements: In addition to UNM entrance requirements, the general GRE examination, a writing sample, a letter of intent and three letters of recommendation are required.

Exit Requirements: In addition to UNM exit requirements, Master's (Non-Thesis) students must choose one field of concentration and complete a minimum of 32 credit hours of course work including POLS 580, 581, 582; three pro-seminars (including one in the chosen field of concentration); one research seminar in the chosen field of concentration; and one written comprehensive examination in the chosen field of concentration. All required course work must be completed with a grade of "B" or better, with the exception of 582, which is offered for Credit/No Credit only. Degree must be completed within five years.

Doctoral (Ph.D.) Degree Requirements

Entrance Requirements: In addition to UNM entrance requirements, the general GRE examination, a writing sample, a letter of intent and three letters of recommendation are required.

Exit Requirements: In addition to UNM exit requirements, Doctoral students must choose two fields of concentration and complete a minimum of 18-24 post-Master's hours of course work including POLS 580, 581, 582, 681; three pro-seminars (including one in each of the chosen fields of concentration); one research seminar in the primary field of concentration and one additional course in the secondary field of concentration; and two written comprehensive examinations (one in each of the chosen fields of concentration). All required course work must be completed with a grade of "B" or better, with the exception of 681, and 582 which is offered for Credit/No Credit only.

Also required are a written and oral presentation of a field research paper; a minimum of 18 hours of dissertation; a dissertation-proposal presentation; a written and oral defense

of the final dissertation; and completion of the degree within five years following field paper requirements and advancement to candidacy.

Concentration Course Work Requirements

American Politics: POLS 510, Pro-seminar in American Politics, and POLS 511, Research Seminar in American Politics

Comparative Politics: POLS 520, Pro-seminar in Comparative Politics, and POLS 521, Research Seminar in Comparative Politics

International Relations: POLS 540, Pro-seminar in International Relations, and POLS 541, Research Seminar in International Relations

Methodology: Completion of two additional Methodology courses over and above the Methodology sequence (580-581, 681), and one research seminar employing advanced research methods.

Public Policy: POLS 570, Pro-seminar in Public Policy, and one research seminar with significant policy content.

Political Science (POLS)

Introductory and General Courses

110. The Political World. (3)

An introduction to politics, with emphasis on the ways people can understand their own political systems and those of others. (Students who have already had courses in political science may not count 110 toward a major.) Concurrent enrollment in 110L mandatory. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 1113). {Fall, Spring}

291. Internship. (1-3, to a maximum of 6) Δ

Provides supervised work experience in the practical application of political science skills.

Prerequisite: POLS major or minor students are limited to no more than 3 credit hours. Additional/excess hours above these limits may be counted as A & S electives. Offered on CR/NC basis only. {Fall, Spring}

Restriction: permission of instructor and department chairperson.

299. Introductory Political Topics. (3, no limit) Δ

Special introductory topics of political science which relate contemporary issues to the discipline. Precise topics will be noted in appropriate class schedules prepared for registration. POLS major or minor students are limited to no more than 3 credit hours. Additional/excess hours above these limits may be counted as A & S electives.

*300. Political Topics. (3, no limit) Δ

Special topics of political science which relate contemporary issues to the discipline. Precise topics will be noted in appropriate class schedules prepared for registration.

303. Law in the Political Community. (3)

(Also offered as AMST 303.) Introduction to the role of law, legal actors and institutions in politics and society. {Fall, Spring}

*400. Advanced Political Topics. (3, no limit) Δ

Special advanced topics of political science which relate contemporary issues to the discipline. Precise topics will be noted in appropriate class schedules prepared for registration.

491. Internship. (1-3 to a maximum of 6) Δ

Provides supervised work experience in the practical application of political science skills. POLS major students are limited to 6 credit hours, minor students to 3 credit hours in aggregate. Additional/excess hours above these limits may be counted as A & S electives.

Restriction: permission of instructor. Offered on CR/NC basis only. {Fall, Spring}

495. Junior Honors Seminar. (3)

Restriction: permission of instructor. {Fall}

496. Undergraduate Seminar. (3, no limit) Δ

One section of this course is offered in conjunction with each graduate pro-seminar (510, 520, 525, 540, 560, 570). Open to undergraduate majors with 3.30 GPA and others with permission of instructor.

Restriction: permission of instructor.

497. Senior Thesis. (3)

Restriction: permission of instructor.

499. Independent Study. (1-3)

Open to majors and minors with 3.30 GPA and permission of instructor. POLS major students are limited to 6 credit hours, minor students to 3 credit hours in aggregate. Additional/excess hours above these limits may be counted as A & S electives.

Restriction: permission of instructor.

Core Courses**200. American Politics. (3)**

Survey of American politics, including political behavior of the American electorate, the theory of democracy, the structure and function of American political institutions, and contemporary issues. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 1123). {Fall, Spring}

220. Comparative Politics. (3)

Designed to give students the ability to understand and evaluate political regimes by focusing on the political history, socioeconomic structure and contemporary political institutions and behavior. Includes consideration of European and developing systems. {Fall, Spring}

240. International Politics. (3)

(Also offered as PCST 240). Analyzes significant factors in world politics, including nationalism, "national interest," ideology, international conflict and collaboration, balance of power, deterrence, international law and international organization. {Fall, Spring}

260. Political Ideas. (3)

Introduces many of the enduring political issues in descriptive, analytical and normative terms. Will include discussion of both classical and contemporary political ideas and ideologies. {Fall, Spring}

270. Public Policy and Administration. (3)

Introduces public policy and bureaucracy, including decision-making and implementation. {Fall, Spring}

280. Introduction to Political Analysis. (3)

Discovery of causal patterns in political behavior, evaluation of the effectiveness of political reforms and campaign techniques, analysis of the logic of scientific research and related topics. No knowledge of statistics, computers or research methods assumed. {Fall, Spring}

American Politics**301. The Government of New Mexico. (3)**

Prerequisite: 200.

***302. Comparative State Politics. (3)**

Analysis of the similarities and variations of American state politics with emphasis on policy outputs.

Prerequisite: 200.

***305. Public Opinion and Electoral Behavior. (3)**

Public opinion, its content and measurement, and its relation to public policy and electoral behavior.

Prerequisite: 200 or 280.

***306. Political Parties. (3)**

The American party system, national, state and local.

Prerequisite: 200.

***307. The Politics of Ethnic Groups. (3)**

The ethnic basis of group politics in the U.S.; its historical, sociological and psychological foundations; the role of white ethnics; traditional and nonconventional strategies and tactics; special emphasis on the politics of regional ethnic minorities.

Prerequisite: 200.

***308. Hispanics in U.S. Politics. (3)**

The status, role and activities of Hispanic/Latino Americans in the U.S. political system.

Prerequisite: 200.

309. Black Politics. (3)

(Also offered as AFST 309.) Focus will be on political actions and thoughts of Black America.

***311. The Legislative Process. (3)**

The recruitment, formal and informal procedure and power structure of legislative bodies; their place in contemporary American government.

Prerequisite: 200.

***312. The American Presidency. (3)**

The constitutional base of the office, its roles and responsibilities and its relations with other political institutions.

Prerequisite: 200.

313. Women and the Law. (3)

(Also offered as WMST 313.) A survey of legal issues affecting women. Examines the historical development and current law of equal opportunity, sexual harassment, pay equity, sports, family, reproduction and sexual violence.

Prerequisite: 303.

314. Women's Contemporary Legal Issues. (3)

(Also offered as WMST 314.) This course focuses on legal issues of current concern affecting women, offering more intensive focus than 313. Potential topics include sexual harassment, domestic violence, child support enforcement, lesbian legal issues, pay equity.

Prerequisite: 303.

***315. Constitutional Law: Powers. (3)**

Judicial interpretations of institutional authority, federalism and economic liberties. Also considers role of the Supreme Court in American Politics.

Prerequisite: 200.

***316. Constitutional Law: Liberties. (3)**

Judicial interpretations of incorporation of Bill of Rights, civil liberties (religion, speech, assembly, association, press, expression, privacy) and rights of criminally accused.

Prerequisite: 200.

317. Constitutional Law: Rights. (3)

Judicial interpretations of the constitutional and statutory bases of equal protection under the law. Also considers the implementation of policies designed to implement equal protection in areas such as voting and representation, education, employment, public accommodations and housing rights.

Prerequisite: 200.

318. Civil Rights Politics and Legislation. (3)

(Also offered as AFST 318.) An analysis of the dynamics of the major events, issues and actors in the civil rights movement (and legislation) in view of the theories of U.S. politics.

Prerequisite: AFST 103.

372. Urban Politics. (3)

Study of community power, city government structures, elected officials and city managers, political machines, the reform movement, political participation, urban bureaucracy, and racial and ethnic politics in large U.S. cities.

Prerequisite: 200.

***410. U.S. Campaigns and Elections. (3)**

An examination of the general processes of campaigns and elections in the United States, including the national Presidential and Congressional elections and campaigns and elections for state and local offices in New Mexico.

Prerequisite: 200.

Comparative Politics

150. Introduction to Latin America. (3)

An interdisciplinary introduction to the geography, culture, literature, society, politics, history and international relations of the region. A lecture by faculty members from different departments will be followed by a one half hour discussion session each week.

*320. **Topics in Comparative Politics. (3, no limit) Δ**
Topics will be noted in appropriate class schedules.

*321. **Comparative Politics: Developing Countries. (3)**
Prerequisite: 220.

322. Human Rights and Political Violence. (3)

An exploration of specific cases of human rights violations, the philosophical and legal foundations of human rights, and the ways in which this highly abstract concept, linked to very concrete human tragedies, has affected politics.
Prerequisite: 220.

329. Introduction to African Politics. (3)

(Also offered as AFST 329.) An introductory course in the volatile politics in Africa. The various ideologies that underlie political movements and influence African governments will be explored.

*351. **Western European Politics. (3)**
Government and politics of selected West European countries.
Prerequisite: 220.

*355. **Central American Politics. (3)**
The political dynamics of Central American republics, considered on a country-by-country basis.
Prerequisite: 220.

*356. **Political Development in Latin America. (3)**
Cross-national study of political development in the Latin American region, including topics such as democracy, authoritarianism, dependency, populism and revolution.
Prerequisite: 220.

*357. **Russian and Eurasian Government and Politics. (3)**
A study of the evolution of the Russian political system with emphasis on dynamics and institutional structure.
Prerequisite: 220.

453. **Asian Studies Thesis. (3)**
(Also offered as COMP, HIST, PHIL, RELG, 453.) Supervised research in one or more disciplines leading to an undergraduate thesis for the major in Asian Studies.

*455. **Political Economy of Latin America. (3)**
Study of major Latin American countries from a Political Economy perspective.
Prerequisite: 355 or 356.

International Politics

*340. **Topics in International Politics. (3, no limit) Δ**
Selected problems of international politics.
Prerequisite: 240.

341. **International Conflict and Cooperation. (3)**
Surveys the political science literature on theories of conflict and cooperation.
Prerequisite: 240.

*342. **American Foreign Policy. (3)**
Prerequisite: 240.

*345. **Inter-American Relations. (3)**
Survey of contemporary international politics in the Western Hemisphere. Emphasis on conflict resolution of trade and economic assistance problems, territorial disputes, ideological issues and integration.
Prerequisite: 220 or 240.

346/512. **International Political Economy. (3)**
Examines contemporary issues in international political economy, including competition and cooperation among advanced industrial nations, relations between rich and poor nations, international trade, global finance and production, and globalization.
Prerequisite: 240.

*440. **International Conflict, Arms Control, and Disarmament. (3)**
Systematic examination of political, technological, strategic and economic dimensions of arms control and disarmament in a nuclear missile era.
Prerequisite: 200 and 240.

441. **Civil Wars. (3)**
This course tries to answer four central questions about civil wars: 1) Why do they occur? 2) How are they fought? 3) How do they end? 4) What are their long-term consequences?
Prerequisite: 220 or 240.

442. **International Peacekeeping and Conflict Resolution. (3)**
Examines the increasingly important role of multilateral peacekeeping operations in the post-Cold War world.
Prerequisite: 240.

443. **International Politics of Climate Change. (3)**
This course examines the international politics of climate change, focusing on the question of whether and how countries around the world can cooperate to reduce greenhouse gas emissions.
Prerequisite: 240.

446. **Trade Law and Policy. (3)**
Examines the law, politics and economics of past and current developments in U.S. trade policy, focusing on such issues as why nations trade, the economic effects of trade laws and regulations on U.S. markets and the world, the role of political and legal institutions, and the future of world trade.
Prerequisite: 200 and 240.

*478. **Seminar in International Studies. (3)**
(Also offered as ECON 478.) Designed to provide seniors from any discipline an opportunity to apply an international perspective to their undergraduate training. Each student will present a term project drawing upon his particular background and relating it to international matters. Open only to seniors.

Political Theory

*361. **Ancient and Medieval Political Theory. (3)**
Survey of Political Theory from Greece to medieval times.
Prerequisite: 260.

*362. **Modern Political Theory. (3)**
Survey of Political Theory from 1500 to 1900, with a focus on Hobbes, Locke, Rousseau, Hegel, Marx and Nietzsche.
Prerequisite: 260.

Public Policy

*350. **Public Finance. (3)**
(Also offered as ECON 350.) Taxation, government borrowing, financial administration and public expenditures.
Prerequisite: ECON 300.

373. **Urban Policies and Problems. (3)**
Study of the urban policymaking environment and process, and contemporary urban policy problems. Important issues include school reform, race relations, and the causes and consequences of urban sprawl and metropolitan fragmentation.
Prerequisite: 200.

376. **Health Policy and Politics. (3)**
Analysis of the politics of health care in the U.S. and the development of public health policies.

377. Population Policy and Politics. (3)
 (Also offered as WMST 377) Analysis of U.S. and multinational policies addressing issues of world population growth, including policy tools designed to control population growth.

***475. Environmental Politics. (3)**
 A study of political problems of environmental protection and land use planning.

Graduate Courses

510. Pro-Seminar in American Government and Politics. (3)
 (Offered upon demand)

511. Research Seminar in American Government and Politics. (3, no limit) Δ
 (Offered upon demand)

512. Topics in Government and Politics. (3, no limit) Δ

520. Pro-Seminar in Comparative Politics. (3)
 (Offered upon demand)

521. Research Seminar in Comparative Politics. (3, no limit) Δ
 (Offered upon demand)

525. Pro-Seminar in Latin American Politics. (3)
 Prior course work in Latin American politics required; reading knowledge of Spanish is highly desirable.

530. Pro-Seminar in Health Policy. (1 to a maximum of 10) Δ
 (also offered as PH 540.) An interdisciplinary introduction to the study of health policy and health disparities under the auspices of the Robert Wood Johnson Center for Health Policy at the University of New Mexico. Restriction: permission of instructor.

534. Policy Issues in Education. (3)
 (Also offered as LEAD 534.) This course focuses on current research and debates on critical policy areas relating to PK-12 education. The class examines the role of key decision-makers, ideologies, and implementation constraints in policy conflict resolution.

535. Comparative Public Administration. (3)
 Examination on a comparative basis of national systems of administration in developed and developing countries, focusing on the organization and behavior of public bureaucracies.

540. Pro-Seminar in International Relations. (3)

541. Research Seminar in International Relations. (3, no limit) Δ
 (Offered upon demand)

551–552. Problems. (1-3, 1-3, no limit) Δ

570. Pro-Seminar in Public Policy. (3)
 Review of representative theories of public policy, including policy formation, implementation and impact analysis. (Offered upon demand)

580. Introduction to Empirical Research. (3)
 Provides a systematic examination of the scope and methods of inquiry in the discipline of political science, including the philosophy of science, subfields, intellectual approaches, methodological strategies, research design and ethics of professional conduct. Required of M.A. and Ph.D. students. (Fall)

581. Statistics for Social Research. (3)
 Provides intensive experience and lab instruction in quantitative techniques employed in political science research, including descriptive statistics, statistical inference, hypothesis testing, measures of central tendency, crosstabulation, differences between means, bivariate regression, correlation and multivariate analysis. Required of M.A. and Ph.D. students. (Fall)

582. Survey of Political Science as a Discipline and a Profession. (1)
 Required of all graduate students in political science and recommended to undergraduate majors. Offered on a CR/NC basis only. (Fall)

583. Teaching and the Political Science Profession. (1)
 An examination of questions relating to pedagogy, course preparation and assessment methods, with particular attention to the challenges of teaching undergraduate political science courses. Offered on a CR/NC basis only.

584. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3)
 (Also offered as HIST 689, ECON, SOC 584.)

599. Master's Thesis. (1-6, no limit) Δ
 Offered on a CR/NC basis only.

681. Advanced Statistical Analysis for Social Science Research. (3)
 Focuses on a variety of advanced econometric methods. Beginning with a review of matrix algebra and math for the social sciences, the course provides an in-depth examination of multiple regression and more advanced econometric models. Required for Ph.D. students. (Spring)
 Prerequisite: 581 or equivalent.

699. Dissertation. (3-12, no limit) Δ
 Offered on a CR/NC basis only.



PSYCHOLOGY

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 Gordon K. Hodge, Associate Chairperson for Undergraduate Education
 Timothy E. Goldsmith, Associate Chairperson for Graduate Education
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 Barbara McCrady, Ph.D., University of Rhode Island

Professors
 Harold D. Delaney, Ph.D., University of North Carolina
 Michael J. Dougher, Ph.D., University of Illinois (Chicago)
 Kent Hutchison, Ph.D., Oklahoma State University
 Jane E. Smith, Ph.D., State University of New York (Binghamton)
 Claudia Tesche, Ph.D., University of California (Berkeley)
 Ronald A. Yeo, Ph.D., University of Texas at Austin

Associate Professors
 Angela Bryan, Ph.D., Arizona State University
 Kristina T. Ciesielski, Ph.D., Polish Science Academy (Nencki Institute)
 Vincent Clark, Ph.D., University of California (San Diego)
 Sarah Erickson, Ph.D., Stanford University
 Timothy E. Goldsmith, Ph.D., New Mexico State University
 Gordon K. Hodge, Ph.D., University of California (Los Angeles)
 Kent Kiehl, Ph.D., University of British Columbia
 Geoffrey F. Miller, Ph.D., Stanford University
 Akaysha C. Tang, Ph.D., Harvard University
 David C. Witherington, Ph.D., University of California (Berkeley)

Assistant Professors

Karin M. Butler, Ph.D., Michigan State University
 Derek A. Hamilton, Ph.D., University of New Mexico
 Theresa Moyers, Ph.D., University of New Mexico
 Eric Ruthruff, Ph.D., University of California (San Diego)
 Bruce W. Smith, Ph.D., Arizona State University
 Steven Verney, Ph.D., San Diego State University/University of California (San Diego)
 Elizabeth Yeater, Ph.D., University of Nevada (Reno)
 Kamilla Venner, Ph.D., The University of New Mexico

Distinguished Professor Emeriti

William R. Miller, Ph.D., University of Oregon
 Henry C. Ellis, Ph.D., Washington University

Professors Emeriti

Lynette F. Cofer, Ph.D., Cornell University
 Dennis M. Feeney, Ph.D., University of California (Los Angeles)
 John P. Gluck, Jr., Ph.D., University of Wisconsin (Madison)
 Richard J. Harris, Ph.D., Stanford University
 Peder J. Johnson, Ph.D., University of Colorado
 Eligio R. Padilla, Ph.D., University of Washington
 Samuel Roll, Ph.D., Pennsylvania State University
 Britton Ruebush, Ph.D., Yale University

Research Faculty

Janis Anderson, Associate Professor
 Peder J. Johnson, Professor Emeritus
 Robert Meyers, Research Associate Professor
 Scott Tonigan, CASAA, Research Professor

Visiting Faculty

Milton Strauss, Visiting Professor

Lecturer

Steve Alley

Secondary Appointments

John Lauriello, M.D., The University of New Mexico, Department of Psychiatry
 Erin Milligan, Assistant Professor, The University of New Mexico, Department of Neuroscience
 Roxana Moreno, Assistant Professor, The University of New Mexico, Individual Family Community Education
 Daniel Savage, Professor, The University of New Mexico Department of Neuroscience

Major Study Requirements

Students wanting an introduction to psychology should take PSY 105. Students should then take multiple 200-level courses before registering for more advanced courses. Although the prerequisites for any course may be waived by permission of the instructor, it is strongly advised that students take the prerequisites in order to be adequately prepared for the course.

Acceptance of any transferred credits toward a major or minor in psychology must be approved by the Associate Chairperson for Undergraduate Education.

Bachelor of Arts

To obtain a B.A. in Psychology a student must satisfactorily complete (i.e., a grade of C or better) 36 credit hours in Psychology (35 credit hours if an upper-division lab is taken. See item 6 below), and should minor in an Arts and Sciences Department. The 36 credit hours of Psychology must include:

1. PSY 105 (3 credits)
2. PSY 200 (3 credits)
3. Four courses (12 credits) selected from our five 200 level core courses: PSY 220, 240, 260, 265, 271, and 280
4. PSY 302 (3 credits)
5. Four psychology electives at the 300/400 level (12 credits)
6. One psychology elective (3 credits). Students may elect to take an upper-division psychology lab (2 credits).

Bachelor of Science

To obtain a B.S. in Psychology a student must complete a minor in, or distributed among (see distributed minor policy): Biology, Chemistry, Computer Science, Mathematics, Statistics, Physics or Anthropology (Evolutionary Concentration) and complete (i.e., a grade of C or better) 35 credit hours in Psychology

The 35 credit hours of Psychology must include:

1. PSY 105 (3 credits)
2. PSY 200 (3 credits)
3. Four courses (12 credits) selected from our six 200-level core courses: PSY 220, 240, 260, 265, 271, and 280
4. PSY 302 (3 credits)
5. Four psychology electives at the 300/400 level (12 credits)
6. One upper-division (300/400) psychology lab (2 credits)

Basics in Addiction Counseling (BAC) Concentration (B.A./B.S.)

This concentration within the psychology major is for a select group of undergraduates who are interested in a career in the alcohol/drug counseling field. In addition to the standard psychology major requirements, it involves a series of specialized addiction courses, as well as a multi-semester field placement at a substance abuse agency. The BAC Concentration is designed to meet the educational requirements for a Licensed Alcohol/Drug Abuse Counselor (LADAC). Entrance into the concentration is competitive (see below).

Requirements:

All applicants are required to be Psychology Majors and meet the following requirements:

1. Are enrolled in the equivalent of the 4th semester of full-time coursework toward a college degree.
2. Have a minimum cumulative GPA of 3.0 or a Psychology GPA of 3.5.
3. Are committed to a career in the alcohol/drug counseling field.
4. Have interpersonal skills appropriate for a counseling career.
5. Have the ability to meet the program standards (with or without reasonable accommodation), and
6. Have read and acknowledged understanding of the New Mexico Counseling and Therapy Practice Board standards for licensure.

Procedures:

1. Interested applicants will provide:
 - a. Letter of interest
 - b. Current resume (work and academic experience)
 - c. At least two letters of recommendation that address the qualifications, character, and motivation of the applicant. These letters may come from employers, professors, or supervisors; these are not personal references
 - d. College transcripts
2. Applications should be submitted in the spring semester for acceptance into the BAC concentration for the following fall semester.
3. All applications will be reviewed by an admissions committee.
4. Selected applicants will be interviewed; interviews will query any aspect of program requirements described above

To obtain a B.S. or B.A. in Psychology with a concentration in Basics in Addiction Counseling a student must complete 47 credit hours in Psychology and an approved College of Arts & Sciences minor (see B.A. & B.S. requirements).

The 47 credit hours of Psychology must include:

- PSY 105 (3 credits)
 PSY 200 (3 credits)
 PSY 240 (3 credits)

Three other courses (9 credits) selected from our five 200-level core courses: PSY 220, 260, 265, 271, and 280 PSY 302 (3 credits)

Four required electives (12 credits): PSY 332 (3 credits); PSY 347 (3 credits); PSY 430 (3 credits); PSY 411 (3 credits)

PSY 335L or PSY 480L or other pre-approved laboratory experience

PSY 311 (1 credit)

PSY 312 (1 credit)

PSY 313 (1 credit)

PSY 412 (9 credits total)

Distributed Minor

A distributed minor is appropriate when a combination of courses from different departments better serves the student's career objectives and overall program of education than does a minor in a single department. Distributed minor petitions must be approved by the Associate Chairperson for Undergraduate Education. See Department Advisor for details.

The requirements for a distributed minor with a Psychology major are:

1. A minimum of 30 hours of coursework in related departments
2. At least 15 hours of those included in the student proposed distributed minor shall be at the 300 or 400 (upper-division) level
3. At least one advanced (300+) course in each of two or more areas
4. Approved petition

For the B.S. degree, the minor must be distributed among biology, chemistry, computer science, mathematics, or physics.

Minor Study Requirements

To obtain a minor, students must complete 18 credit hours in Psychology.

PSY 105 (3 credits)

15 credit hours in psychology

One quarter of Psychology hours (6 credits) must be taken while in residence at the University of New Mexico.

Departmental Honors

Superior sophomore students, especially those anticipating graduate study in psychology or interested in research training, are invited to apply for admission to the Undergraduate Honors Program to begin in the Fall semester of the junior year. Students participating in this program are eligible to graduate with departmental honors if recommended by the faculty on the basis of outstanding performance.

The Honors program requires 33 hours beyond 3 hours of general psychology, including 200, 302, 391, 392, 491, 492 and four courses from the five 200-level core courses. The usual requirement of an upper-division lab for B.S. majors is waived for honors majors.

NOTE: Students enrolling in PSY 391, *Junior Honors Seminar*, must have taken PSY 200 and either PSY 260 or 265 as prerequisites and PSY 302 as a prerequisite or corequisite.

Graduate Program

Application Deadlines

Fall semester: January 15 for full consideration. After that date comparison of candidates and extension of offers of admission and of financial aid will begin and will continue until May 1 or until all positions have been filled.

Spring semester: None accepted.

Summer session: None accepted.

Only those applications received and completed by January 15 are guaranteed to receive consideration. Early applications are strongly encouraged.

Degrees Offered

Ph.D. in Psychology with M.S. Enroute

Concentrations: clinical, cognitive/learning, developmental, health psychology, evolutionary, behavioral neuroscience, cognitive neuroscience, and quantitative/methodology. Each student is required to select a concentration.

Emphasis: health psychology. The health psychology emphasis is not required but is optional for students in any concentration except for the health psychology concentration.

Students interested in the Graduate Program are advised to have had at least 15 semester hours of college credit in psychology, including one course in psychological statistics and either a laboratory course or independent research in psychology.

Although the Department awards the M.S. degree (with thesis) under Plan I according to the regulations set forth in earlier pages of this catalog, all screening of new applicants is done in terms of entry for the Ph.D. program. The department will admit new students to the graduate program only for the fall semester of each year; exceptions to this procedure are rare. Since competition for the few available openings each year is strong, only students with excellent academic records as well as first-rate letters of recommendation are likely to succeed in gaining admission.

Graduate Record Examination (GRE) scores, including the Psychology Subject Test, are required as part of the application procedure.

General requirements for the Ph.D. are set forth in earlier pages of this catalog. Regulations include a minimum of 48 hours of graduate credits (precise requirements depend upon area) with a grade point average of 3.0 (B) or better, exclusive of thesis and dissertation; satisfactory performance on the doctoral comprehensive examination; and a dissertation accepted by the final oral examining committee.

The Department of Psychology considers both teaching and research to be essential aspects of doctoral training and, therefore, requires that all candidates have such experiences during their tenure. These requirements apply regardless of whether remuneration for such activities is received.

Required Core Courses (All Concentrations)

The following core courses are required in addition to any courses required in the student's concentration.

FALL TERM OF FIRST YEAR

PSY 501 Advanced Statistics (3 hrs.)

PSY 503L Advanced Statistics Lab (1 hr.)

PSY 505 Research Seminar (1 hr.)

PSY 551 Graduate Problems (1–3 hrs.)

SPRING TERM OF FIRST YEAR

PSY 502 Design and Analysis of Experiments (3 hrs.)

PSY 504L Design and Analysis of Experiments Lab (1 hr.)

PSY 505 Research Seminar (1 hr.)

PSY 551 Graduate Problems (1–3 hrs.)

Additional required course that is sometimes taken during the first year:

PSY 511 History and Systems of Psychology (3 hrs.)

Note: This course does *not* have to be taken during a student's first year, but it does have to be taken prior to a student's comprehensive exams.

Clinical Concentration

Clinical students begin their core sequence in clinical psychology during their first year. The clinical core sequence is presented in the department's Guidelines for Graduate Students.

Beyond the departmental required courses, clinical students are required to complete the following courses:

Course	Title	Credit Hours
PSY 634	Ethics and Professional Issues in Clinical Psychology	3
PSY 532	Seminar in Psychopathology	3
PSY 533	Psychological Evaluation: Cognitive and Neuropsychology Functions	3
PSY 534	Psychological Evaluation Practicum	3
PSY 535	Psychological Evaluation: Personality Functions	3
PSY 538	Introduction to Clinical Science	3
PSY 636	Diversity/Multicultural Perspectives	3
PSY 637	Empirically Supported Treatments	3
PSY 610	Case Conference Practicum	1
PSY 600	Clinical Interviewing Practicum	1
PSY 602	Pre-Clinical Practicum	1
PSY 603	Case Formulation Practicum	3
PSY 631	Psychotherapy Practicum	1-3
PSY	Plus three approved Clinical Electives	9

There are additional courses required to satisfy the American Psychological Association (APA) foundation requirements. Current APA foundation requirements along with courses that may be used to satisfy them are presented in the department's Guidelines for Graduate Students.

While students in all concentrations are encouraged to take courses in concentrations other than their own, non-clinical students ordinarily are not permitted to enroll in clinical practicum courses (600L). Non-clinical students who wish to enroll in this clinical course must discuss this with the Director of Clinical Training and the course instructor. There will be additional requirements for meeting training requirements of the American Psychological Association (APA). Please see the Director of Clinical Training for additional information.

Health Psychology Concentration

Beyond the departmental required courses Health Psychology students will be required to complete three courses from Category A and two courses from Category B.

Required courses:

- PSY 512 Advanced Health Psychology
- PSY 513 Emotion and Health
- PSY 514 Health Psychology Interventions

Category A:

- PSY 512 Advanced Health Psychology
- PSY 513 Emotion and Health
- PSY 514 Health Psychology Interventions
- PSY 515 Social Psychology of Health Promotion

Category B:

- PSY 530 Alcoholism
- PSY 532 Seminar in Psychopathology
- PSY 547 Drugs and Behavior Public Health Courses
- PH 501 Principles of Public Health
- PH 504 Rural Health
- PH 505 Cultural, Social and Behavioral Theory and Health
- PH 507 Health Care systems
- PH 562 Women's Health Issues

Developmental Concentration

Beyond the departmental required courses, all Developmental students are required to complete the following requirements: Completion of three courses which a student may elect from the following list:

- PSY 650 Seminar Development
 - PSY 523 Social Development
 - PSY 528 Seminar in Cognitive Development
- Completion of one 3 hour course in Social or Personality area.

Evolutionary Concentration

Beyond the departmental core requirements, all Evolutionary Psychology students will be required to complete five courses. These courses should include:

- PSY 650 Special Topics: Evolutionary Psychology

Four other courses on evolutionary analysis of behavior.

At least one course must be offered in the Department of Psychology. Appropriate courses include Behavior Genetics (PSY 650), Evolution and Cognition (PSY 650) and Evolutionary Social Psychology (PSY 650).

At least two of these courses should be taken in the Department of Biology or the Department of Anthropology. Appropriate courses include Advanced Behavioral Ecology (BIOL 521), Topics in Behavioral Ecology (BIOL 502), Advanced Human Evolutionary Ecology (ANTH 562), Advanced Topics in Human Evolutionary Ecology (ANTH 560), and Seminar: Human Reproductive Ecology and Biology (ANTH 561). Any other course must be approved by the Committee of Studies.

Quantitative Methodology Concentration

Beyond the departmental core requirements, all Quantitative Methodology students will be required to complete PSY 601 (Multiple Measures) and four other courses. At least two of these four courses must be selected from the following list of quantitative courses offered in our Department:

- PSY 506 Seminar in Mathematical Psychology
- PSY 650 Quasi-Experimental Design
- PSY 650 Program Evaluation Research
- PSY 650 Structural Equation Modeling
- PSY 650 Computer Simulation
- PSY 650 Computer Experimental Control

At least one, but not more than two, of these courses must be selected from courses in quantitative methods offered by other University of New Mexico departments. The Quantitative Committee will maintain a list of extra-departmental courses that may be used to satisfy this requirement; any other course a student wishes to count toward this extra-departmental requirement must be approved by the Quantitative Committee.

Cognition, Brain and Behavior

The Cognition, Brain and Behavior area reflects a unique opportunity for training in experimental psychology. We believe that immediate, hands-on experience, coupled with comprehensive course work, builds competent, confident students capable of developing a competitive research profile. Students enter under a faculty mentor and begin active research in the first year.

Cognitive/Learning Concentration

Fifteen credit hours in cognitive.

This will include two cognitive area core courses:

- PSY 561 Cognitive Processes I
- PSY 562 Cognitive Processes II

Three electives.

Cognitive Neuroimaging Concentration

Beyond the departmental required courses all cognitive neurosciences students will be required to complete five courses in concentration. Three of these five required courses must be chosen from the following:

- PSY 540 Biological Bases of Behavior
- PSY 650 Special Topics in Functional Neuroimaging I
- PSY 650 Special Topics in Functional Neuroimaging II
- PSY 641 Seminar in Cognitive Neuroimaging (once a year)

The remaining two courses must be chosen from the following:

- PSY 650 Special Topics in Biological Bases of Cognition
- PSY 650 Special Topics in Developmental Neuroscience

- PSY 650 Special Topics in Clinical Neuroimaging
 PSY 650 Special Topics in Psych Program Methods
 BIOM 533 Neurophysiology and Neuroanatomy

Behavioral Neuroscience Concentration

Beyond the departmental required courses, all behavioral neuroscience students will be required to complete five courses. Two of these five required courses will be the following:

- PSY 540 Biological Bases of Behavior
 PSY 641 Seminar in Physiological Psychology
 (once a year)

The remaining three courses must consist of one course from each of the following three areas:

- Neuropsychology
 PSY 650 Advanced Neuropsychological Assessment
 PSY 650 Biological Bases of Memory
 PSY 650 Neuropsychology of Individual Differences
 PSY 650 Human Neuropsychology
 PSY 650 Neural Basis of Cognitive Development

Neurobiology

- PSY 542 Seminar in Recovery of Function and Epilepsy
 BIOM 531 Nervous System Organization, Plasticity and Development
 BIOM 532 Neurochemistry
 BIOM 533 Neurophysiology and Neuroanatomy

Psychopharmacology

- PSY 547 Drugs and Behavior
 PSY 650 Neural Basis of Addiction

Health Psychology Emphasis

The purpose of the health psychology emphasis is to provide specialized training in the application of psychology physical health and medical problems. This emphasis is optional but not required for students in any concentration except the health psychology concentration. Beyond the courses required for the department and for their concentration, students must complete at least two courses from category A and at least one courses from category B:

Category A

- PSY 512 Advanced Health Psychology
 PSY 513 Emotion and Health
 PSY 514 Health Psychology Interventions
 PSY 515 Social Psychology of Health Promotion

Category B

- PSY 530 Alcoholism
 PSY 532 Seminar in Psychopathology
 PSY 547 Drugs and Behavior
 PH 501 Principles of Public Health
 PH 504 Rural Health
 PH 505 Cultural, Social and Behavioral
 Therapy & Health
 PH 507 Health Care systems
 PH 562 Women's Health Issues

Additional Doctoral Requirements

In addition to course work in the concentration, all doctoral students must complete 9 hours (generally three graduate courses) of approved course work in an additional area outside of the concentration. Clinical students will satisfy this requirement through training requirements of APA.

The Breadth Requirement

To ensure a breadth of training all students are required to complete a 12 hour (generally four graduate courses) breadth requirement. History and Systems (511) will count toward the breadth requirement. The other courses can be taken inside or outside the Department, but they must be outside the concentration, and they must be scholarly in nature.

The Collateral Requirement

To satisfy the departmental requirement of a foreign language or comparable alternative requirement, students may use the computer labs (503L and 504L) associated with the Statistics (501) and Experimental Design (502) courses, respectively.

Psychology (PSY)

105. General Psychology. (3)

Overview of the major content areas in psychology. Topics to be covered include learning, cognition, perception, motivation, biological systems, social and abnormal psychology, development, personality and approaches to psychotherapy. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.

200. Statistical Principles. (3)

Presentation of the basic principles of the description and interpretation of data. Provides an acquaintance with statistical principles appropriate to a liberal arts education, as well as a basis for further work in data analysis. Students planning graduate study in any field are advised to take 300 and 302 as well.

Prerequisite: 105.

220. Developmental Psychology. (3)

Overview of the physical, perceptual, motor, cognitive, emotional and social development of children from infancy through adolescence.

Prerequisite: 105.

231. Psychology of Human Sexuality. (3)

(Also offered as WMST 231.) Exploration of the physiological, cultural, social and individual factors that influence sexual behavior, sex roles and sex identity.

Prerequisite: 105.

240. Brain and Behavior. (3)

A general survey of the biological foundations of behavior. Emphasis is on the central nervous system.

Prerequisite: 105 or BIOL 110 or BIOL 123.

250. Special Topics in Psychology. (1-3, no limit) Δ

Study of any psychological topic not otherwise included in the curriculum upon expression of mutual interest by students and faculty. May be repeated for credit provided the subject matter varies.

260. Psychology of Learning and Memory. (3)

Survey of the variety of laboratory learning situations, with an emphasis on the application of principles to practical situations. Topics range from simple processes, such as conditioning, to complex processes, such as transfer, memory and concept formation.

Prerequisite: 105.

265. Cognitive Psychology. (3)

Study of the cognitive processes involved in the encoding, storage, retrieval and use of knowledge including attention, memory, comprehension, categorization, reasoning, problem solving and language.

Prerequisite: 105.

271. Social Psychology. (3)

Study of social influence: perception of oneself and others, attitudes, conformity, attraction, altruism, aggression, and groups.

Prerequisite: 105.

280. Health Psychology. (3)

This course introduces Health Psychology. The course will cover the role of stress in illness, coping with chronic illness, stress, and pain, and the role of health behavior in health and disease.

Prerequisite: 105.

300. Intermediate Statistics. (3)

Complex analysis of variance designs (factorial, mixed-model, Latin square, unequal-n) and nonparametric tests.

Prerequisite: 200.

290 ARTS AND SCIENCES

302. Psychological Research Techniques. (3)

Application of the concepts covered in 200. Includes discussion of basic principles of research design and scientific methodology as applied to psychology.
Prerequisite: 200.

306. Peace and Conflict. (3)

This course addresses peace and conflict issues arising from the global search for scarce mineral resources and indigenous communities and cultures threatened by extractive industries.

311. Clinical Evaluation in Addictions. (1)

This course teaches how to screen for and assess substance abuse problems, evaluate addiction tests, determine if someone meets diagnostic criteria, and assess suicidality.
Prerequisite: 332 and (347 or 411 or 430). Restriction: permission of instructor.

312. Legal, Ethical and Professional Issues in Addictions. (1)

This course provides an introduction to the ethical standards in the New Mexico Professional Code of Ethics, including the rights and responsibilities of clients, confidentiality, etc.
Prerequisite: 332 and (347 or 411 or 430). Restriction: permission of instructor.

313. Case Management in Addictions. (1)

This overview of the role of case management in the addictions field will examine the relationship of the 12 core functions to service coordination.
Prerequisite: 332 and (347 or 411 or 430). Restriction: permission of instructor.

322L. Developmental Psychology Lab. (2)

Research projects related to topics in 324, 328, 329.
Prerequisite: 220 and (324 or 328 or 329).

323/523. Social Development. (3)

An advanced course that presents theory and research focusing on social dynamic processes and relationship-formation within cultural settings throughout development.
Prerequisite: 105 and 200.

324. Infant Development. (3)

An advanced course that presents theory and research on the physical, cognitive, social, emotional, perceptual and motor development in the first two years of life.
Prerequisite: 220.

328. Cognitive Development. (3)

An advanced course that presents theory and research on the development of cognition, from memory and representation to spatial reasoning and concept formation.
Prerequisite: 220.

329. Adolescent Psychology. (3)

Empirical study of adolescent development from different theoretical perspectives. Organization of individual social patterns through cultural and historical transitions and interplay between risk and protective factors in healthy development as well as deviant behaviors.
Prerequisite: 200 and 220.

331. Psychology of Personality. (3)

Survey of theory, research and applications of both classical and contemporary approaches to the study of personality.
Prerequisite: 200 and 220.

332. Abnormal Behavior. (3)

Review of the historical, scientific and ethical issues in the field of psychopathology. Categorization of deviant behavior, theories of abnormal behavior, systems of therapy and relevant research are covered.
Prerequisite: 105.

335L. Clinical Psychology Lab. (2)

This laboratory course is designed to offer students exposure to the wide variety of research that is typically conducted in the field of clinical psychology. It will teach students how to

read and critique the relevant literature in an area and how to design solid studies to answer specific research questions.
Prerequisite: 200 and 332.

341L. Behavioral Neuroscience Lab. (2)

A laboratory course designed to introduce students to basic techniques in neuroanatomy, functional imaging and neurosurgery.
Prerequisite: 240.

342. Evolution, Brain and Behavior. (3)

A survey of contemporary research and theory derived from an evolutionary perspective on behavior.
Prerequisite: 240.

343. Developmental Neuroscience. (3)

Conceptual, empirical and methodological issues involved in studying the processes of pre- and post-natal brain growth. Experimental, neurobiological and genetic factors in normal and abnormal development will be considered.
Prerequisite: 240.

344. Human Neuropsychology. (3)

The analysis of brain-behavior relationships regarding affect and higher cognitive functions (language, memory, spatial reasoning) in humans.
Prerequisite: 240.

347. Drugs and Behavior. (3)

Study of the pharmacological action and physiological and psychological effects of drugs of abuse including stimulants, depressants, narcotics and hallucinogens.
Prerequisite: 240.

360. Human Learning and Memory. (3)

How humans acquire and use knowledge. Theoretical and applied issues discussed around the topics of memory structures, attention, forgetting, mnemonics, imagery and individual differences in memory.
Prerequisite: 260 or 265.

362L. Human Learning and Memory Laboratory. (2)

Laboratory projects related to topics in 360.
Prerequisite: 200 and 360.

364/564. Psychology of Perception. (3)

Study of the methods organisms use to gain information about objects. The sensory processes are discussed as a basis for description of more complex perceptual phenomena.
Prerequisite: 260 or 265.

365. Applied Experimental Psychology. (3)

Application of theory, methods and data from experimental psychology to topics such as training, education, assessment, design of human-machine interfaces, the legal profession, consumerism and environmental systems.
Prerequisite: 265.

****367. Psychology of Language. (3)**

(Also offered as LING 367/567.) Theoretical and methodological issues in psycholinguistics, including comprehension, speech perception and production, language acquisition, bilingualism, brain and language, reading.
Prerequisite: 220 or 240 or 260 or 265 or 271 or LING 101 or LING 301 or ANTH 110.

374. Cross-cultural Psychology. (3)

Impact of culture on human behavior, learning, personality and other selected topics is examined. Course emphasizes critical analysis, discussion and writing about cross-cultural research and theory.
Prerequisite: 220 or 271.

375. Psychology of Women. (3)

(Also offered as WMST 375.) Survey of research and theory on gender-role stereotypes and gender differences in such contexts as interpersonal relations, the family, the work force, mass media, mental and physical health.
Prerequisite: 105.

375L. Social Psychology Laboratory. (2)

Laboratory projects with discussion of research issues unique to social psychology. Four hours lab.
Prerequisite: 200 and 378.

378./578. Social Interaction. (3)

In-depth examination of interpersonal and group processes such as conformity, cooperation, competition, prejudice, conflict resolution and the sharing of limited resources. Includes discussion of formal (algebraic, computer-simulation) models.
Prerequisite: 271.

391. Junior Honors Seminar. (3)

Discussion of the history and systems of psychology, philosophy of science and research methodology, particularly as related to current topics in psychology.
Prerequisite: (260 or 265) and 302. Restriction: permission of instructor. {Fall}

392. Junior Honors Seminar. (3)

Continuation of 391. {Spring}
Prerequisite: 391.

***400. History of Psychology. (3)**

An introduction to the major developments and individuals in the history of psychology.
Prerequisite: any 300-level psychology course.

***405. Crisis Worker Practicum. (1 to a maximum of 6) Δ**

Training and experience at Agora Crisis Center. Can lead to national certification. Some weekend, evening and holiday hours required. Minimum commitment: two semesters, weekly four hour shift. Must be 18 and deemed eligible by the Agora Executive Committee.
Restriction: permission of instructor.

411. Evidence-Based Treatment of Addictions. (3)

This course will provide an overview of evidence-based approaches to the treatment of alcohol and other substance use disorders.
Prerequisite: 105 and 332 and (347 or 430).

412. Applied Clinical Experience in Addictions Counseling (Field Work). (1-6 to a maximum of 9) Δ

This field experience at an addiction agency teaches students to apply classroom learning to practice situations. A licensed counselor supervises. **Offered on a CR/NC basis only.**
Prerequisite: 311 and 312 and 313 and 411. Restriction: permission of instructor.

421./521. Advanced Developmental Psychology. (3)

Investigation of the theoretical bases and critical issues in the area of developmental psychology.
Prerequisite: 324 or 329.

422./522. Child Language. (3) Morford, John-Steiner

(Also offered as LING 460.) Theories, methodologies and findings in child language, from birth to late childhood. Emphasizes implications of child language data for linguistic and psycholinguistic theories. Topics: biological foundations; pre-linguistic communication; phonological, syntactic, semantic and pragmatic development; bilingualism.
Prerequisite: 324 or 328 or 360 or 367 or LING 367.

430./530. Alcoholism. (3)

Causes, course, prevention and treatment of problem drinking.
Prerequisite: 332.

434. Behavior Therapies. (3)

A survey of clinical behavior therapies, including techniques based upon learning theory, self-control, cognitive and social psychological principles. Emphasis is upon treatment outcome research and the practical application of methods to clients' life problems.
Prerequisite: 332.

436./536. Family Psychology. (3)

Focuses on the major theoretical approaches to family dysfunction and examines family influences on the development and maintenance of deviance, including juvenile delinquency,

substance abuse, anorexia nervosa, depression and schizophrenia.
Prerequisite: 332.

439./539. Child Psychopathology. (3)

Theories and practices related to an understanding of children and adolescents who deviate from normal development either intellectually, educationally, emotionally, physically or in some combination. Relevant family variables are considered.
Prerequisite: 220 and 332.

442. Neuronal Plasticity and Behavior. (3)

Emphasis on experimental studies of behavioral recovery after brain injury.
Prerequisite: 240.

450./650. Special Topics in Psychology. (1-3, no limit)

Δ
Study of any psychological topic not otherwise included in the curriculum upon expression of mutual interest by students and faculty.

***469L. Experimental Psycholinguistics. (3)**

(Also offered as LING 469L and 569L.) Laboratory course in psycholinguistics; review of classic issues and research. Provides an opportunity to learn basic research methods in experimental psycholinguistics and gain skills necessary to conduct independent research.
Prerequisite: 367 and (302 or STAT 145)

480L. Health Psychology Lab. (2)

This laboratory course exposes the research that is conducted in Health Psychology. It includes methods of research and student experience in evaluating and critiquing Health Psychology research.
Prerequisite: 105.

491. Senior Honors Seminar. (3)

Experimental methods and laboratory techniques. Senior thesis based on independent research.
Prerequisite: 392. Three hours lab. {Fall}

492. Senior Honors Seminar. (3)

Continuation of 491. Three hours lab. {Spring}
Prerequisite: 491.

499. Undergraduate Problems. (1-3 to a maximum of 6) Δ

Restriction: permission of instructor.

501. Advanced Statistics. (3)

Frequency and probability distributions; sampling distributions and point estimation; central tendency, variability and z scores; the normal distribution and the central limit theorem; the logic of hypothesis testing; correlation and regression; multiple regression. {Fall}
Corequisite: 503L.

502. Design and Analysis of Experiments. (3)

Introduction to the logic of experimental design and to experimental designs commonly used in psychology and the corresponding analyses. {Spring}
Corequisite: 504L.

503L. Advanced Statistics Laboratory. (1)

Computational techniques for statistical methods introduced in 501. Emphasis placed on the use of a computerized statistical package, e.g., SPSS®.
Corequisite: 501. {Fall}

504L. Design and Analysis of Experiments Laboratory. (1)

Practical issues related to material introduced in 502. Emphasis placed on use of a computerized statistical package, e.g. SPSS®.
Corequisite: 502. {Spring}

505. Research Seminar. (1 to a maximum of 3) Δ

Facilitates development of active research in first-year graduate students. Presentations include 1) research lectures by faculty and graduate students; and 2) research proposals by class members, critiqued by instructor and classmates.

506. Seminar in Mathematical Psychology. (3)

Discussion of recent research in various areas of mathematical psychology, including behavioral decision theory and mathematical learning theory.

511. History and Systems of Psychology. (3)

Survey of historic and contemporary systematic issues and conceptual viewpoints in psychology.

512. Advanced Health Psychology. (3)

This course will examine research and theory on important issues in health psychology including stress, health behaviors, and managing chronic disease. Learning tools include analyzing, synthesizing, and integrating these readings and discussing them in class.

513. Emotion and Health. (3)

This will examine theory and research regarding emotion and health at a graduate level. The areas covered include the psychology of emotion, emotion and mental and physical health, emotional intelligence, and emotion-focused psychological interventions.

514. Health Psychology Interventions. (3)

This course will examine research and theory on the application of psychological interventions to health problems including coping with illness and health behavior change. The interventions will include stress management, meditation, and cognitive behavior therapies.

515. Social Psychology of Health Promotion. (3)

This is an overview of health Psychology from a social psychological perspective. The focus is the design, implementation, and evaluation of theory-based interventions to improve healthy behavior (e.g. increase exercise, engage in safer sexual behavior).

****521/421. Advanced Developmental Psychology. (3)**

Investigation of the theoretical bases and critical issues in the area of developmental psychology.

522/422. Child Language. (3)

(Also offered as LING 560.) Theories, methodologies and findings in child language, from birth to late childhood. Emphasizes implications of child language data for linguistic and psycholinguistic theories. Topics: biological foundations; pre-linguistic communication; phonological, syntactic, semantic and pragmatic development; bilingualism.

523/323. Social Development. (3)

A seminar that integrates theory and research focused on social dynamic processes and relationship-formation within cultural settings throughout development.

528. Seminar on Cognitive Development. (3)

A seminar covering theory and research on the development of cognition, organized around Piaget's constructivist model of cognitive development and subsequent challenges, both theoretical and empirical, to that model.

530/430. Alcoholism. (3)

Causes, course, prevention and treatment of problem drinking.

531. Professional Issues in Clinical Psychology. (3)

An exploration of the professional contexts that have led to the development of modern clinical psychology and a review of the ways professional issues are relevant to practice and research in psychology.

532. Seminar in Psychopathology. (3)

A research-based course that provides a comprehensive study of abnormal behavior. It stresses diagnosis and assessment of psychopathology and examines various theories of etiology. Recommended treatments are mentioned briefly.

533. Psychological Evaluation: Cognitive and Neuropsychology Functions. (3)

Provides an introduction to intelligence testing, contemporary factors influencing intellectual performance, and clinical interpretation of cognitive tests. The neuropsychological implica-

tions of cognitive deficits are reviewed, along with different approaches to neuropsychological assessment.

534. Psychological Evaluation Practicum. (3)

Practicum experience in the administration and interpretation of cognitive and personality tests.

535. Psychological Evaluation: Personality Functions. (3)

This course examines: 1) psychometric principles involved in the development and evaluation of psychological tests; 2) major means of personality inventory construction; and 3) the general logic of major personality assessment procedures, including MMPI and Rorschach.

****536/436. Family Psychology. (3)**

Focuses on the major theoretical approaches to family dysfunction and examines family influences on the development and maintenance of deviance, including juvenile delinquency, substance abuse, anorexia nervosa, depression and schizophrenia.

538. Introduction to Clinical Science. (3)

This course is intended to serve as an introduction to the issues and literature concerned with the science of clinical psychology.

****539/439. Child Psychopathology. (3)**

Theories and practices related to an understanding of children and adolescents who deviate from normal development either intellectually, educationally, emotionally, physically or in some combination. Relevant family variables are considered.

540. Biological Bases of Behavior. (3)

Provides an introduction to basic aspects of neuroscience; e.g., historical perspectives, neurocytology, neurophysiology, neurochemistry, neuropharmacology, neuroanatomy. In depth critical discussion of fundamental and current topics.

541. Introduction to Functional Neuroimaging. (3)

Provides an introduction to functional neuroimaging, from its history to the present. Technical aspects of commonly used neuroimaging methods will be discussed, along with their interpretation and application to questions in psychology and medicine.

Restriction: Psychology graduate students only.

542. Seminar in Recovery of Function and Epilepsy. (3)

Focuses on the literature and current experiments on epilepsy and functional recovery, the two major problems following traumatic brain injury or stroke. Mechanisms of these processes and clinical advancements will be discussed.

547. Drugs and Behavior. (3)

Study of the pharmacological action and physiological and psychological effects of drugs of abuse including stimulants, depressants, narcotics and hallucinogens. Course may be used towards major.

551. Graduate Problems. (1-3, no limit) Δ**554. Positive Psychology. (3)**

This will examine theory and research regarding the development of human strengths at the graduate level. The course will focus on strengths that may promote better functioning, including creativity, optimism, wisdom, courage, love, and spirituality.

561. Cognitive Processes I. (3)

Surveys the major topics and issues in lower order cognitive processes. Includes coverage of fundamental theoretical and empirical work in sensory detection, attention, perception, and motor control.

562. Cognitive Processes II. (3)

Surveys the major topics and issues in memory and higher order cognitive processes. Includes coverage of fundamental theoretical and empirical work in memory, concept learning, problem solving and language. (Every other Fall)

563. Seminar in Human Memory. (3)

In-depth coverage of recent studies concerned with the theoretical and applied issues around the topics of memory structures and processes, forgetting, mnemonics, imagery, prospective vs. retrospective remembering and individual differences in memory.

****564./364. Psychology of Perception. (3)**

Study of the methods organisms use to gain information about objects. The sensory processes are discussed as a basis for description of more complex perceptual phenomena.

565. Seminar in Thought and Language. (3)

(Also offered as LING, EDPY 565.)

566. Psychology of Bilingualism. (3)

(Also offered as LING 566.) Examination of psycholinguistic research relating to adult and childhood bilingualism. Topics include: bilingual memory and lexical representation, language separation and interaction in production, code switching and mixing, neurolinguistics, childhood bilingualism. Prerequisite: LING, PSY 367.

569. Seminar in Psycholinguistics. (3, no limit) Δ

(Also offered as LING 568.)

578./378. Social Interaction. (3)

In-depth examination of interpersonal and group processes such as conformity, cooperation, competition, prejudice, conflict resolution and the sharing of limited resources. Includes discussion of formal (algebraic, computer-simulation) models.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

600. Clinical Interviewing Practicum. (1-3 to a maximum of 3) Δ

Restriction: PSY major. Offered on a CR/NC basis only.

602. Pre-Clinical Practicum. (1)

This course is a companion to and continuation of the Interviewing Practicum, which students take in the first semester of their first year.

603. Case Formulation Practicum. (3)

An intensive introduction into the empirical and clinical bases of case formulation. The course is an integration of empirically-derived case formulation systems representing several theoretical orientations, clinical examples, and a critical approach to case formulation. Prerequisite: 532.

610. Case Conference Practicum. (1, no limit) Δ

A bimonthly seminar learning experience where clinical graduate students meet with faculty to present and discuss ongoing, interesting or challenging cases.

Offered on a CR/NC basis only.

630. Seminar in Psychoanalytic Psychotherapy. (3)**631. Psychotherapy Practicum. (1-3, no limit) Δ**

Offered on a CR/NC basis only.

632L. Practicum in Psychotherapy with Adults II. (1-3, no limit) Δ

Offered on a CR/NC basis only.

633. Systems of Psychotherapy. (3)

This course surveys major alternative systems of psychotherapy. Also included is consideration of criteria for differential selection of therapy approach, familiarization with treatment outcome research and basics of program evaluation.

634. Ethics and Professional Issues in Clinical Psychology. (3)

This seminar is principally concerned with ethics in psychology research, service delivery, training and teaching. Topics in career development and contemporary controversies in professional psychology are also dealt with.

635. Child Assessment Practicum. (1-3 to a maximum of 3) Δ

Supervised experience conducting psychological evaluations of children and adolescents in clinical settings. Both test administration and report writing will be emphasized.

Prerequisite: 533 or 535. Restriction: PSY major.

636. Diversity Multicultural Perspectives in Clinical Psychology. (3)

This course provides an overview of multicultural counseling including the principles of understanding one's values and biases, understanding and respecting the client's worldview, and using culturally appropriate interventions.

637. Empirically Supported Treatments. (3)

The purpose of the seminar is to provide a broad overview of the empirically-supported treatments movement and to teach student how to effectively deliver empirically-supported treatments for specific psychological disorders.

641. Seminar in Cognition, Brain and Behavior. [Seminar in Physiological Psychology.] (2, no limit) Δ

Critical examination of recent empirical and theoretical articles on behavioral/cognitive neuroscience topics selected by students.

650./450. Special Topics in Psychology. (1-3, no limit) Δ

Study of any psychological topic not otherwise included in the curriculum upon expression of mutual interest by students and faculty. (Offered upon demand)

691. Clinical Internship. (1-6)

Available only to students who have successfully completed their dissertations. This is a one-year, full-time external clinical internship in which students provide treatment, assessment, and other relevant professional services under intensive and direct professional supervision.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

RELIGIOUS STUDIES

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John Bussanich, Philosophy
Michael Candelaria, Religious Studies
Harold Delaney, Psychology
Sharon Erickson Nepstad, Sociology
Cynthia Geppert, Psychiatry
Timothy C. Graham, History
Richard P. Hayes, Philosophy
Anita Obermeier, English
Paul Watson, Biology

Lecturers

Michael Candelaria
Lisa Gerber
Joachim Oberst
Daniel Wolne

Associated Faculty

Harjit Ahluwalia, Physics & Astronomy
Justine Andrews, Art & Art History
Ruth Bombaugh, Education
Judith Brillman, Emergency Medicine
Scott Burchiel, College of Pharmacy
Andrew Burgess, Philosophy

294 ARTS AND SCIENCES

Katharine Burleson, Cardiology
Laurence Cole, Obstetrics/Gynecology
Patricia Covarrubias, Communication & Journalism
Edward De Santis, University Honors Program
Nick Flor, Business
Denise Fort, Law Administration
Kathy Fraser, Psychiatry
Joseph Galewsky, Earth & Planetary Science
Cynthia Geppert, Psychiatry
Timothy Graham, History
Linda Hall, History
Richard Hayes, Philosophy
M.J. Hewlett, Univ of Arizona: Molecular & Cellular Biology
Deirdre Hill, Epidemiology
Elizabeth Hutchison, History
Darra Kingsley, Family & Community Medicine
Richard Kitchen, Education Specialities
Richard Kozoll, School of Medicine
Enrique Lamadrid, Chicana/o Studies
Miguel Lopez, Spanish & Portuguese
Nancy McLoughlin, History
Sheri Metzger, University Honors College
Jennifer Moore, Law
David Mullen, Psychiatry
Mary Anne Newhall, Theater & Dance
Rob Orlando, Biochemistry & Molecular Biology
Grace Park, Emergency Medicine
Yehuda Patt, Oncology
Susan Pearson-Davis, Theater & Dance
Linda Penalzoza, Pediatrics
Deanna Pennington, Biology
Noel Pugach, History
Patricia Pisso, History
Rob Schwartz, Law Administration
Sally Severino, Psychiatry
Scott Sibbett, Chemical & Nuclear Engineering
Bruce Smith, Psychology
Warren S. Smith, Foreign Languages
Ferenc Szasz, History
John Taber, Philosophy
Charles Tatlock, Surgery Dental Services
Mona Ternus, College of Nursing
Iain Thomson, Philosophy
Gautam Vora, Anderson School of Management
Jean Welles, Gallup, Health Careers Center
Tom White, Family & Community Medicine
Bruce Williams, Internal Medicine
Richard L. Wood, Sociology
Reema Zeineldin, Chemical & Nuclear Engineering

Introduction

The Religious Studies Program is an interdisciplinary unit within the College of Arts & Sciences, with participation from faculty and students from across the entire University, including the various colleges, professional schools, branch campuses, and the evening/weekend program. Our undergraduate program provides both an introduction to the scholarly study of religion and broad training in the liberal arts. We study religion in its own right and as a lens through which to view the human condition, contemporary human societies, intellectual and social history, spirituality, and ethics. Students major or minor in religious studies in order to pursue careers as educators or scholars of religion, to work toward becoming clerical or lay ministers in a variety of traditions, to prepare for professional school, to pursue graduate education in allied humanities or social science disciplines and/or to explore their own deepest interests.

Major Study Requirements

The major requires 33 hours in Religious Studies, of which at least 18 must be at the upper-division level. Required are 230, 232, 263, 264; and 447 or another seminar at the 400 level. In addition to the four lower-division required courses, the student must also take at least one other course in each of the four distributional areas: Asian Religions, Western Religions, Sacred Texts and Religion in America.

In order to provide flexibility of scheduling, the "Asian religions" distributional requirements (263 and another Asian religions course) and the "Western religions" distributional requirements (264 and another Western religions course) may also be met by appropriate pairs of general courses that together cover Asian and Western religions respectively. Thus, for example, the "Asian religions" requirements may also be met by taking two courses, one in Hinduism and one in Buddhism; and the "Western religions" requirements may also be met by taking two courses, each covering one of the three major Western traditions, Judaism, Christianity or Islam.

Classes in Religious Studies are divided among the four distributional areas (classes offered under topics course numbers 247, 347 and 447 are assigned to one of these areas as appropriate). The courses for each area are:

1. **Asian Religions:** 107, 407, 408, 438, 440, 442, 448, 453, 457, 481.
2. **Western Religions:** 105, 306, 323, 324, 326, 327, 360, 361, 365, 404, 413, 426, 450, 452, 457, 465, 475, 481.
3. **Sacred Texts:** 103, 104, 106, 109, 230, 231, 463; 407, 408, 440.
4. **Religion in America:** 303, 308, 333, 387, 389, 390, 392, 422, 430, 441, 482, 483, 490, 491.

List of distributional courses is not exhaustive. Topics and seminar courses may also apply.

Dual Major Requirements

Students may combine a major in Religious Studies with another major. For students with such dual majors, the total number of hours required for the Religious Studies major is reduced from 33 to 30, while the other requirements for the major remain the same.

Minor Study Requirements

The minor requires 18 hours in Religious Studies, of which at least 9 must be in courses with a RELG prefix.

Additional Information

With the permission of the Director of the Religious Studies Program, a student may include among courses for a major or minor a limited number of courses in such languages as Classical Chinese, Classical or Biblical Greek, Latin, Biblical Hebrew, Arabic and Sanskrit, when these courses include a study of religious texts and are integrated with a program of advanced studies of sacred texts.

Religious Studies undergraduate courses count with Group II (Humanities) in the Arts and Sciences group requirements. Concentrations in Religious Studies are also offered through the engineering and management colleges.

Honors in Religious Studies

Students wishing to work for Honors in Religious Studies should contact the Director of the Religious Studies Program during their junior year. Honors students sign up for two consecutive semesters of RELG 497, in which they prepare an Honors thesis under the direction of a committee.

Religious Studies (RELG)

103. Introduction to Bible. (3)
Survey of Bible in historical context.

104. Beginning New Testament Greek. (3)
(Also offered as GREK 104.) Introduction to New Testament Greek.

105. Religion and the Arts. (3)

Introduction to the relationship between religion and culture as reflected in the arts.

106. Intermediate New Testament Greek. (3)

(Also offered as GREK 106.) A continuation of the introductory course. Recommended is one semester of Greek or some equivalent instruction. Goal of the course is an independent and self-confident dialogue with the Greek language and the rediscovery of biblical texts.

107. Living World Religions. (3)

Introduction to major living world religions, such as Buddhism, Christianity, Hinduism, Islam and Judaism.

109. Biblical Hebrew I. (4)

(Also offered as MLNG 109.) Introduction to the language of the Hebrew Bible.

230. Hebrew Scriptures. (3)

Pentateuch and the historical books of the Old Testament. {Fall}

231. Hebrew Prophets. (3)

Prophetic books and later Hebrew scriptural writings.

232. Christian Scriptures. (3)

New Testament and early Christian history.

247. Studies in Religions. (3) Δ

Elementary topics in the study of world religions. Course may be repeated up to three times provided the topics vary.

263. Eastern Religions. (3)

A study of major Asian traditions, such as Taoism, Hinduism and Buddhism. {Fall}

264. Western Religions. (3)

A study of major Western traditions, such as Christianity, Islam and Judaism. {Spring}

303. Introduction to Black Liberation and Religion. (3)

(Also offered as AFST 303.) Students will be introduced to the Black experience, which necessitates the redefinition of God and Jesus Christ in the lives of Black people as the struggle for transcendental and political freedom.

306/506. Reformation Era, 1500–1600. (3)

(Also offered as HIST 306.) Religious revolution and concurrent development in European politics, society and culture.

308. The Jewish Experience in American Literature and Culture. (3)

(Also offered as ENGL 308.) A comprehensive survey of the cultural and historic relationship between Jews and American culture and character as a whole.

323. History of the Jewish People to 1492. (3)

(Also offered as HIST 323.) Survey of Jewish history in Ancient and Medieval times, stressing major religious, intellectual, political and social developments. Traces the transformation of the Hebrews into the Jews and Israelite religion into Judaism. Highlights the Rabbinic era and the diaspora experience in the Islamic and Christian worlds. {Fall}

324/524. Modern History of the Jewish People. (3)

(Also offered as HIST 324.) Survey in ethnic history stressing political, religious and social developments from the expulsion from Spain (1492) to the present. Concentrates on European Jewry but will include consideration of American Jewish community, modern anti-semitism and rise of the state of Israel. {Spring 2004 and alternate years}

326. History of Christianity to 1517. (3)

(Also offered as HIST 326.) The history of Christianity from its beginnings in Palestine to the eve of the Protestant Reformation. Primary focus will be on the rich variety of forms—doctrinal, liturgical and institutional—that Christianity assumed through the Medieval centuries. Also of concern will be its contributions and significance as a civilizing force. {Fall}

327. History of Christianity, 1517 to Present. (3)

(Also offered as HIST 327.) The development of Christianity from the Protestant Reformation into the modern world, including biography, doctrine, liturgy, institutions and religious practice, together with the interaction of Christianity with society at large. {Spring}

333/533. Ritual Symbols and Behavior. (3)

(Also offered as ANTH 333.) Ethnographic studies and a variety of anthropological approaches to ritual are read to examine the defining characteristics of ritual activity and its contemporary significance in peoples' lives.

343. Buddhist Philosophy. (3)

(Also offered as PHIL 333.) This course traces the evolution of such topics as karma and rebirth and the nature of the liberated mind as discussed in the Buddhist traditions of India, Tibet, East Asia and the modern West. Prerequisite: one course in Philosophy.

347. Topics in Religious Studies. (3, may be repeated 3 times) Δ

Studies in major religious figures or movements. Topic varies.

350. Religion and Literature. (3)

An introduction exploring relationships between the literary and religious traditions. {Fall}

360. Classical Christian Thought. (3)

(Also offered as PHIL 360.) A study of major writings in the Christian tradition, written by such persons as Origen, Augustine, Aquinas, Luther, Calvin and Teresa of Avila. Prerequisite: one course in Religious Studies or Philosophy.

361. Modern Christian Thought. (3)

(Also offered as PHIL 361.) Background of the intellectual issues facing Roman Catholic and Protestant traditions today. Prerequisite: one course in Religious Studies or Philosophy.

365. Philosophy of Religion. (3)

(Also offered as PHIL 365.) Philosophic analysis of some major concepts and problems in religion. Prerequisite: one course in Religious Studies or Philosophy.

389. Latin American Thought I. (3)

(Also offered as HIST, PHIL 389.) Pre-Columbian thought through independence ideologies. Prerequisite: one course in Philosophy.

390. Latin American Thought II. (3)

(Also offered as HIST, PHIL, SOC 390.) Positivism through contemporary thought. Prerequisite: one course in Philosophy.

392. Black Liberation and Religion. (3) Okunor

(Also offered as AFST 392.) Introduction to some traditional western religious schools of thought as a basis for intensive examination of the works of prominent Black liberation theologians.

***407. Sanskrit I. (3)**

(Also offered as LING, MLNG 407.) An introduction to the Sanskrit language in conjunction with readings from classical Sanskrit literature in translation.

***408. Sanskrit II. (3)**

(Also offered as LING, MLNG 408.) The continuation of Sanskrit I: the completion of the study of Sanskrit grammar and an introduction to the reading of Sanskrit texts.

***413. Kierkegaard. (3)**

(Also offered as PHIL *413.) Prerequisite: one course in Religious Studies or Philosophy.

***422. Sociology of Religion. (3)**

(Also offered as SOC 422.) Study of belief, commitment, and practice within religious and spiritual traditions and institutions, with a focus on contemporary United States, Latin America, and the Middle East. Prerequisite: 107 or 263 or 264 or SOC 101. {Spring}

- 426/626. History of the Holocaust. (3)** Pugach
(Also offered as HIST 426.) An examination of the motives, methods and execution of the destruction of the Jews by Nazi Germany and the responses of Jews, Western Powers, the Churches and Righteous Gentiles in the context of Jewish and world history.
- *430. American Religious Communication. (3)**
(Also offered as CJ 430.) This course examines the roles of religious communication during the Puritan period, the first and second awakenings and the period of media evangelism. The course examines various types of communicators, messages, audiences and channels of persuasion.
- *431. Ch'an and Zen. (3)**
(Also offered as PHIL *431.) An examination of key writings by Chinese Ch'an teachers (e.g., Huineng and Tung Shan), medieval Japanese Zen teachers (e.g., Eisai and Dogen) and modern Japanese thinkers (e.g., Suzuki and Nishitani).
Prerequisite: 263 or 343 or PHIL 333 or PHIL 334 or PHIL 336.
- *434. South Asian Mystical Traditions. (3)**
(Also offered as PHIL *434.) This course will examine a wide range of mystical thought and experience in South Asia from the first millennium BCE through the medieval period in Hindu and Buddhist traditions.
Prerequisite: 263 or 343 or PHIL 333 or PHIL 334.
- *438. Indian Buddhist Philosophy. (3)**
(Also offered as PHIL *438.) A survey of Hinayana and Mahayana philosophical thought as it developed in South Asia, together with its religious, historical and social context.
Prerequisite: 343 or PHIL 333 or PHIL 334.
- *440. Summer Seminar in Buddhism. (3 to a maximum of 6) Δ**
(Also offered as PHIL *440.) Two-week intensive summer course at Jemez Bodhi Manda Zen Center. Study of both theory and practice with visiting professors from various universities. Opportunity for directed meditation for interested participants.
Prerequisite: 263 or 343 or PHIL 333 or PHIL 334 or PHIL 336.
- 441/641. History of Religion in America. (3)** Szasz
(Also offered as HIST 441.) This class will cover the rise and development of the nation's religious groups, from first contact to the present day. The focus will be on the social impact of the groups and how they influenced the development of American life.
- *447. Seminar in Religious Studies. (1-3, may be repeated 3 times) Δ**
Major religious figures or movements. Topic varies.
Prerequisite: one RELG course.
- *448. Seminar in Hindu Tradition. (1-3, may be repeated 3 times) Δ**
The origins and development of the traditional religion of India.
- *450. Spanish Mysticism. (3)**
(Also offered as SPAN 450.) A study of Teresa of Avila and John of the Cross in the contexts of the Renaissance, mystical theology and the history and culture of Spain.
- *452. Medieval English Mystics. (3)**
(Also offered as COMP 452.) A study of the literary and religious aspects of the English contributions to Christian mystical theology in the works of the anonymous author of *The Cloud of Unknowing* and similar works.
- 453. Asian Studies Thesis. (3)**
(Also offered as COMP, HIST, PHIL, POLS, 453.) Supervised research in one or more disciplines leading to an undergraduate thesis for the major in Asian Studies.
- *457. Seminar in Islamic Tradition. (3 to a maximum of 12) Δ**
Topics in classical and contemporary Islamic thought and life. Course may be repeated up to three times provided the topics vary. Prerequisite: 107 or 264.
- *463. Seminar in Biblical Studies. (3 to a maximum of 6) Δ**
Topics in the literary and historical analysis of Biblical texts.
Prerequisite: 230 or 231 or 232.
- 464. Seminar in Philosophy of Religion. (3 to a maximum of 6) Δ**
(Also offered as PHIL 464.) Advanced topics in philosophy of religion.
Prerequisite: 15 hours Philosophy or Religious Studies coursework.
- 465. C. S. Lewis. (3)**
Treats of the literary and theological writings of this 20th-century thinker.
- 467. Seminar in Philosophy of Religion. (3)**
(Also offered as PHIL 464.) Advanced topics in philosophy of religion.
Prerequisite: 15 hours Philosophy or Religious Studies course work.
- *475. Dante in Translation. (3)**
(Also offered as ITAL 475.) Principally the *Vita Nuova* and the *Divine Comedy*.
- 481/661. Islam. (3)**
(Also offered as HIST 481.) Topics include the development of: Islamic law and theology; philosophy and mysticism; ritual and art. The political, social and economic ramifications of Islam will be emphasized.
- *482. New Mexico Hispanic Religious Arts. (3)**
Religion-related material culture fashioned by New Mexico Hispanics (painting, sculpture, architecture) in the context of ethnohistory.
- *483. New Mexico Hispanic Ritual. (3)**
Religious rituals and customs enacted by New Mexico Hispanics (songs, plays, ceremonies) in the context of ethnohistory.
- *490. Black Liberation and Religion. (3)**
(Also offered as AFST 490.) Introduction to some traditional western religious schools of thought as a basis for intensive examination of the works of prominent Black liberation theologians.
- *491. African-American Religious Traditions. (3)**
(Also offered as AFST 491.) This course will examine the bipolarity of religion in African-American history, showing how Black religion in the U.S. has served as an institution both for acculturation and also for self and cultural assertion.
- 497. Independent Studies. (1-3, may be repeated 2 times) Δ**
Restriction: permission of program chairperson.
- 506/306. Reformation Era, 1500–1600. (3)**
(Also offered as HIST 506.) Religious revolution and concurrent development in European politics, society and culture.
- 507. Teaching World Religions. (3)**
Preparation for teaching courses about living world religions. Includes teaching experience in 107.
- 524/324. Modern History of the Jewish People. (3)**
(Also offered as HIST 524.) Survey in ethnic history stressing political, religious and social developments from the expulsion from Spain (1492) to the present. Concentrates on European Jewry but will include consideration of American Jewish community, modern anti-semitism and rise of the state of Israel. (Spring 2004 and alternate years)

533/333. Ritual Symbols and Behavior. (3)
 (Also offered as ANTH 533.) Ethnographic studies and a variety of anthropological approaches to ritual are read to examine the defining characteristics of ritual activity and its contemporary significance in peoples' lives.

547. Advanced Seminar in Religious Studies. (3 to a maximum of 6) Δ

551. M.A. Problems. (1-6 to a maximum of 12) Δ
 Tutorial arrangement with a member of the graduate faculty.

560/360. Christian Classics. (3)
 (Also offered as PHIL 560.) A study of major writings in the Christian tradition, written by such persons as Origen, Augustine, Aquinas, Luther, Calvin and Teresa of Avila. Prerequisite: one course in Religious Studies.

626/426. History of the Holocaust. (3) Pugach
 (Also offered as HIST 626.) An examination of the motives, methods and execution of the destruction of the Jews by Nazi Germany and the responses of Jews, Western Powers, the Churches and Righteous Gentiles in the context of Jewish and world history.

641/441. History of Religion in America. (3) Szasz
 (Also offered as HIST 641.) This class will cover the rise and development of the nation's religious groups, from first contact to the present day. The focus will be on the social impact of the groups and how they influenced the development of American life.

661/481. Islam. (3)
 (Also offered as HIST 661.) Topics include the development of: Islamic law and theology; philosophy and mysticism; ritual and art. The political, social and economic ramifications of Islam will be emphasized.

Introductory Departmental Studies 187 and the culminating Departmental Studies 498 courses or, in unique situations, approved substitutions. The remaining courses are to be chosen from three groups of electives, with at least one course from each group. Of the 20 hours, 11 must be upper-division. Engineering and Science majors may receive limited credit for major discipline courses.

Required Courses

Departmental Studies 187: *Introduction to Science, Technology and Society* (3 credits)

This seminar course, taken early in the student's career, is designed to introduce the student to the various issues addressed by the program. Fundamental concepts in terms of the structure and methodology of science/technology will be addressed. Appropriate courses may be substituted for this introductory class with the approval of the STS Coordinator.

Departmental Studies 498: *Independent Research or Internship* (2-3 credits)

Research Component

The culminating course, taken towards the end of the student's undergraduate career, is designed to help the student synthesize STS issues by combining additional readings with the writing of a substantial paper in the student's area of interest under the direction of a University faculty member.

Internship Component

In lieu of independent research, the student can elect to do an internship with environmental groups, local industry, state agencies, etc. The student will select a faculty member to work with during the internship. A final summary paper dealing with the internship experience is expected.

Groups of Elective Courses

Group I: Historical Development
 Courses in this group look at particular developments in the history as well as culture of science and/or technology. By this method, new insights can be gained into how we have arrived at the complexities involved in the modern world view.

Group II: Philosophical Issues
 Courses in this group look at the basis of scientific knowledge, e.g., at the empirical, rational and societal elements that shape scientific theories.

Group III: Social Dimensions
 Courses in this group look at the interaction of science and technology with contemporary societies and address questions concerning ethical and societal impacts on these enterprises.

RUSSIAN STUDIES

See *International Studies*.

SCIENCE, TECHNOLOGY AND SOCIETY

Ronald Reichel, Richard Mead, Co-Directors
 University Honors Program
 University Honors Center
 Room 19D, University College
 MSC06 3890
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 (505) 277-4211

Introduction

Established in 1989, STS Studies is an interdisciplinary minor under the College of Arts and Sciences which endeavors to create an awareness of the historical, social, philosophical and ethical dimensions of our scientific and technological enterprises. The program draws on faculty in disciplines from across the University of New Mexico campus to engage in fruitful dialogue with interested students concerning the crucial issues that face humanity and its planetary environment. This goal is achieved within the framework of a structured program. The program is administered by the STS Coordinator in collaboration with an advisory board made up of faculty from numerous disciplines that offer courses directly applicable to the STS Minor.

Minor Study Requirements

The minor in Science, Technology and Society requires the completion of 20 credit hours: 5 of these hours must be the

SOCIOLOGY

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Professors
 Beverly H. Burriss, Ph.D., New York University
 Richard M. Coughlin, Ph.D., University of California (Berkeley)
 Phillip B. Gonzales, Ph.D., University of California (Berkeley)
 George A. Huaco, Ph.D., University of California (Berkeley)
 Philip A. May, Ph.D., University of Montana

ARTS AND SCIENCES

Sharon Erickson Nepstad, Ph.D., University of Colorado–Boulder

John M. Roberts, Ph.D., Cornell University
Susan B. Tiano, Ph.D., Brown University
Howard Waitzkin, Distinguished Professor, Ph.D., M.D., Harvard University

Associate Professors

Lisa Broidy, Ph.D., Washington State University
Robert A. Fiala, Ph.D., Stanford University
Jane C. Hood, Ph.D., University of Michigan
Roberto Ibarra, Ph.D., University of Wisconsin (Madison)
Nancy Lopez, Ph.D., City University of New York
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Assistant Professors

Christopher Lyons, Ph.D., University of Washington
Maria Velez, Ph.D., Ohio State

Assistant Research Professor

Aki Roberts, Ph.D., The University of New Mexico

Lecturer III

Wayne Santoro, Ph.D., Ohio State

Professors Emeriti

Dodd H. Bogart, Ph.D., University of Michigan
Pedro David, Ph.D., Indiana University
Gary D. LaFree, Ph.D., Indiana University
Gilbert W. Merx, Ph.D., Yale University
Arthur St. George, Ph.D., University of California (Davis)
Paul D. Steele, Ph.D., University of Texas
Nelson P. Valdes, Ph.D., The University of New Mexico

Adjunct

Keiko Nakao, Ph.D., University of California (Irvine)

Introduction

The student interested in sociology and related specializations should take both 101 and 280. These courses are recommended for all beginning students and are required for a major or minor in sociology and a major in criminology. Most higher level courses specify one or both of these introductory courses as prerequisites.

Normally, students should follow the introductory courses with at least one or two 200-level courses before attempting more advanced courses. In some areas there is a progression from less to more advanced courses and following such progressions is strongly recommended even when the lower level course is not explicitly listed as a prerequisite for the higher level course.

Note that courses applied toward a major degree may not be used for any of the minor degree programs. In cases of overlapping required or elective courses, students must take additional courses as approved by the sociology undergraduate advisor.

Major Study Requirements

Major in Sociology

All sociology majors must complete at least 37 hours of course work, including the following 19 hours of required courses: 101, 280, 371, 381, 471 and 481L. The 18 elective hours (six courses) are drawn from all sociology courses not specifically required above but must include at least 12 hours (four courses) at the 300 or 400 level. The student may select from a number of designated courses that provide a concentration in one of the following subfields of sociology:

1. **Pre-Law.** Provides background for careers or further training in police, correctional or legal institutions.
2. **Human Services and Social Policy.** Appropriate for future work in public and private agencies, as preparation for law school or for graduate study in social work, public administration and business administration.

Pre-Law Concentration

The concentration in Pre-Law is designed for students interested in law school or other careers in the legal field, and highlights those aspects of law that overlap with crime and criminal justice. The concentration provides students with an introduction to the causes of crime and deviance as well as social and institutional responses to this behavior. Students can choose from courses focusing on the personal and social forces that give rise to crime, as well as courses that examine the role of the legal and criminal justice systems in dealing with criminals and reducing crime rates. To complete this concentration, students must complete 12 hours from the following list (Note: 9 of these hours must be selected from the 300/400 level courses listed below):

SOC 205	Crime, Public Policy and the Criminal Justice System
SOC 211	Social Problems
SOC 213	Deviance
SOC 312	Causes of Crime and Delinquency
SOC 313	Social Control
SOC 412	Sociology of Police and Social Control
SOC 414	Sociology of Corrections
SOC 416	Sociology of Law
SOC 418	Selected Topics in Criminology
SOC 423	Gender and Crime
SOC 424	Race, Class, and Crime
SOC 425	From Youthful Misbehavior to Adult Crime
SOC 426	Drugs, Crime, and Social Control
SOC 488	Field Observation and Experience
SOC 491	Directed Study in Criminology

Human Services and Social Policy Concentration

The concentration is designed for students interested in pursuing a graduate degree or a career in human services, social work, social policy, health care, mental health, or education (K-12 and post-secondary). The concentration aims to provide broad thematic coverage of these fields by drawing upon elective courses that address topics critical to understanding the context within which welfare, health, mental health, and educational institutions operate, including social problems, race/ethnic relations, and socio-economic inequality. Students must complete 12 hours from the courses listed below. (Note: 9 of these hours must be selected from the 300/400 level courses listed below.) This concentration is recommended as an alternative to the Social Welfare minor for students majoring in Sociology. Students majoring in fields other than Sociology but who have an interest in social work, social policy, health care, mental health, or education are encouraged to pursue a minor in Social Welfare.

SOC 200	Foundations of Social Welfare
SOC 211	Social Problems
SOC 216	Dynamics of Prejudice
SOC 225	Marriage, Family, and Their Alternatives
SOC 300	Social Welfare: Programs and Policies
SOC 303	Sociology of Political Behavior
SOC 308	Sociology of Gender
SOC 310	Sociology of Aging and the Aged
SOC 340	Sociology of Medical Practice
SOC 342	Social Epidemiology
SOC 345	Youth and Society
SOC 400	The Welfare State
SOC 415	Social Stratification
SOC 420	Race and Cultural Relations
SOC 421	Sociology of Education
SOC 441	Complex Organizations
SOC 445	Sociology of Work
SOC 488	Field Observation and Experience
SOC 490	Directed study (limited to topics approved for the concentration)

Further details are available on each concentration from the Department of Sociology and undergraduate advisors in the Department.

The Department will accept the grade of C- in required and elective Sociology courses as counting toward graduation but requires that the student achieve a minimum grade

point average of 2.00 in the Sociology major or minor and a 2.00 overall grade point average. A cumulative grade point average of 2.25 or better in all courses completed is required for regular admission to the sociology major.

Major in Criminology

The Sociology Department offers a specialized program in criminology, designed to give students a comprehensive introduction to the field. Courses focus on the characteristics and causes of crime and deviance and on the origins, nature and consequences of societal reactions to crime and deviance, giving particular attention to the criminal justice system. Basic instruction is also given in sociological theory and research methods.

The Department will accept the grade of C- in required and elective courses in the Criminology major and minor as counting toward graduation but requires that the student achieve a minimum grade point average of 2.00 in the Criminology major or minor and a 2.00 overall grade point average. A cumulative grade point average of 2.25 or better in all courses completed is required for regular admission to the criminology major.

The program is particularly appropriate for students wishing to pursue one of the following career options:

- graduate work in the social sciences with a special emphasis on criminology or criminal justice
- a career in criminal justice (e.g., law enforcement, corrections, crime prevention), especially in agencies or departments involved in planning and evaluation
- a career in law, social work or counseling

Students must complete 40 hours of course work in criminology—34 hours core and 6 hours of pertinent electives as advised.

Core courses: 101; 205; one of 211 or 213; 280; 312; 313; one of 371 or 471; 381; two of 412, 414, 416, 418, 423, 424, 425, 426; and 481L. Generally, students should follow core courses in sequence, beginning with 100-level requirements, proceeding to 200-level requirements, and so on. Electives: students must choose electives from an approved list available from the Department of Sociology. Students may not count the same course as both a core course and an elective. Some upper-division electives require other courses as prerequisites.

Minor Study Requirements

Minor in Sociology

A sociology minor requires 21 hours (seven courses). The core courses are 101, 280 and either 371 or 471. The 12 elective hours (four courses) are drawn from all sociology courses not specifically required above but must include at least 6 hours (two courses) at the 300 and 400 level. If desired, a student may use 371 for the specific requirement and 471 as an elective. If 481L is chosen as an elective, the total number of elective hours will be 13, and the total in the minor will be 22.

Criminology majors may **not** minor in sociology **without** a specially approved degree plan constructed in consultation with the undergraduate advisor.

Minor in Social Welfare

The minor in social welfare is designed to accompany a major in criminology, political science, economics, psychology and disciplines other than sociology. Sociology majors with a strong interest in social welfare and related topics should pursue the Human Services & Social Policy Concentration offered as part of the sociology major.

A social welfare minor requires at least 21 hours. The core courses are 101, 200, 300, and 400. In addition, students must choose at least 9 hours of electives from the following list of courses.

Sociology

- 211 Social Problems
- 213 Deviant Behavior
- 216 The Dynamics of Prejudice
- 225 Marriage, Family and Their Alternatives
- 230 Sociology and Personality
- 303 Sociology of Political Behavior
- 308 Sociology of Gender
- 310 Sociology of Aging and the Aged
- 326 Sociology of New Mexico
- 340 Sociology of Medical Practice
- 342 Social Epidemiology
- 345 Youth and Society
- 351 The Urban Community
- 415 Social Stratification
- 420 Race and Cultural Relations
- 488 Field Observation and Experience
- 490 Directed study (limited to topics approved for the concentration)

Anthropology

- 345 Spanish-speaking peoples of the SW

Economics

- 331 Economics of Poverty & Discrimination
- 335 Health Economics
- 341 Urban & Regional Economics

Political Science

- 270 Public Policy & Administration
- 372 Urban Politics
- 470 Public Policy Analysis

Psychology

- 220 Developmental Psychology
- 231 Psychology of Human Sexuality
- 331 Psychology of Personality
- 332 Abnormal Behavior

Substitution of a course not on the elective list is possible only with the approval of a sociology undergraduate advisor.

Students minoring in social welfare must adhere to all prerequisite requirements attached to the electives. Finally, courses applied toward a student's major may not be applied toward a minor in social welfare.

Minor in Criminology

The criminology minor requires a total of 21 hours (seven courses). The core courses are 101; one of 205, 211 or 213; 312; 313; and one of 412, 414, 416, 418, 423, 424, 425 or 426 (one of these is required, but additional courses from the set may be used as electives). The 21 hours must also include 6 hours from a list of *designated electives* approved by the department.

Departmental Honors

Superior sophomore or junior students majoring in sociology or criminology with a GPA of 3.5 in the major and 3.25 overall are invited to apply for admission to the department's six-credit Undergraduate Honors Thesis Program, beginning in their junior year. Students participating in this program are eligible to graduate with departmental honors if recommended by the faculty on the basis of outstanding performance. Honors students are required to take Sociology 399 (Advanced Workshop in Sociology) in the Spring term to be followed by 499 (Senior Honors Thesis) in a subsequent semester. See the Department's Honors Coordinator for specific requirements.

Graduate Program

Graduate Advisor

Nancy Lopez

Review of Applications

Contact department for information on deadline.

Degrees Offered

The graduate program in sociology leads to a Master of Arts degree and/or to a Ph.D. degree. Admission to graduate work for the M.A. degree in sociology is independent and separate from admission to graduate work for the Ph.D. in sociology. The M.A. degree in sociology is offered under the regulations described earlier in this catalog.

The M.A. Program

Admission to the sociology M.A. program depends on a strong record of academic performance at the undergraduate level. While the entire application is considered, and no precise GPA cutoff is used, competitive applicants generally have at least a B average (3.0 in a 4.0 system) in previous academic work. GRE scores (general test) are also evaluated as part of the application procedure. Applicants are also asked to submit a letter of intent, three letters of recommendation and two writing samples.

We recommend that entering graduate student have had 12 hours of advanced undergraduate sociology courses, especially including satisfactory performance in sociological research methods and theory. We also recommend college level algebra or its equivalent. A graduate student admitted with deficiencies in any of these may be required to satisfactorily complete (with a grade of at least B-, 3.0) the appropriate undergraduate course work. Credit hours earned in courses taken to remove such deficiencies do not apply to the minimum hours required for a masterSection 0s degree.

Plan I: Under this plan, the M.A. degree requires 24 hours of course work, 6 hours of thesis, a written thesis and passing the Final examination for the Thesis. Students need to maintain a cumulative GPA of at least 3.0, and all required courses must be completed with a grade of at least B-. After completing 12 hours of course work, and in consultation with the major advisor, students must file a Program of Studies with the Office of Graduate Studies. Before writing a thesis, students must appoint a thesis committee consisting of a chairperson and at least two additional faculty members. At least two of the committee members must hold regular full-time faculty appointments at The University of New Mexico. Plan I is the normal track for students interested in pursuing a Ph.D. in sociology.

Plan II: Under this plan, the M.A. degree requires 26 hours of course work, 6 hours of professional paper course work, a professional paper and passing the Final Examination for the Professional Paper. Students need to maintain a cumulative GPA of at least 3.0, and all required courses must be completed with a grade of at least B-. After completing 12 hours of course work, and in consultation with the major advisor, students must file a Program of Studies with the Office of Graduate Studies. Before writing a professional paper, students must appoint a committee consisting of a chairperson and at least two additional faculty members. At least two of the committee members must hold regular full-time faculty appointments at The University of New Mexico.

Core course requirements for all students seeking a master's degree in sociology consist of (i) 3 hours of graduate sociological theory Sociology 500 Classical Sociological Theory (ii) Sociology 523 Proseminar (students should take this as early in their career as possible); (iii) Sociology 580 Methods of Social Research I, (iv) Sociology 581 Advanced Social Statistics I; and (v) at least 12 hours of substantive courses in the social sciences, as approved by the Department's Graduate Committee.

In addition to these 22 core hours required of all M.A. students, Plan I students must complete at least 8 more hours of course work, including 6 hours of thesis credit (Sociology 599). Plan II students must complete at least 10 more hours of course work, including 6 hours of professional paper credit (Sociology 596). Note that once enrolled in Sociology 596 or 599, candidates must stay continuously enrolled in that course each semester, including the semester (Fall, Spring or Summer) in which they complete degree requirements.

The Ph.D. Program

The department admits a small number of well-qualified candidates to its Ph.D. Program each year. Successful applicants must in addition to University Requirements, submit current (within the last 3 years) GRE General Test scores, three letters of recommendation, two writing samples, and a letter of intent. The Sociology Department recommends applicants have 12 hours of advanced undergraduate sociology courses, including statistics and methods courses (or the equivalents). We also recommend college level algebra or its equivalent. In addition, such factors such as the University's commitment to affirmative action, the applicant's non-academic experience, and the ability of the department to provide faculty guidance and courses in the applicant's areas of interest are considered. Continued progress toward the Ph.D. degree is contingent upon successful completion of the M.A. degree (Plan I or Plan II) and a post-M.A. review. Upon completion of the M.A. degree, the graduate committee will conduct a review before the student can continue in the Ph.D. program. The review will examine the student's overall performance in the graduate program (including but not limited to coursework and thesis/professional paper) and three letters of recommendation from faculty members. Students who have positive reviews will be allowed to continue working toward the Ph.D.

General requirements for the Ph.D. are set forth in earlier pages of this catalog. The Ph.D. degree requires 48 hours of course work and 18 hours of dissertation. Students must also pass comprehensive examinations and write and successfully defend a dissertation. Specific requirements for all students seeking a Ph.D. in Sociology include: SOC 500 Classical Social Theory; One of the following courses in Contemporary Theory: SOC 513 Constructing and Analyzing Contemporary Sociological Theory (Contemporary Social Theory I); OR SOC 514 20th Century European Theory (Contemporary Social Theory II); SOC 523 Proseminar (students should take this course as early in their careers as possible); Sociology 580 Methods of Social Research; SOC 581 Advanced Social Statistics I; SOC 582 Advanced Social Statistics II; and another quantitative or qualitative methods course approved by the Graduate Advisor; 18 units of SOC 699 Dissertation; passing all required courses with at least a grade of B-; Comprehensive Examinations (written and oral); a Ph.D. dissertation and passing the Final Examination for Doctorate. Prior to taking the comprehensive examinations, a Committee of Studies must be appointed which consists of at least three University of New Mexico faculty members approved for graduate instruction. The chairperson must be a regular faculty member approved by the student's graduate unit. A doctoral student must apply for and be admitted to doctoral candidacy after completing all course work and passing the comprehensive examination. The Dissertation Committee will consist of at least four members approved for graduate instruction: two members must hold regular, full-time faculty appointments at the University of New Mexico; one member must be from the student's graduate unit; the dissertation chairperson must be a regular (tenured or tenure-track), full-time member of the University of New Mexico faculty; a required external member must hold a regular full-time appointment outside the student's unit/department at the University of New Mexico. This member may be from the University of New Mexico or from another accredited institution; one member may be a non-faculty expert in the student's major research area. Doctoral candidates must be enrolled during the semester in which they complete degree requirements, including the summer session.

Sociology (SOC)

101. Introduction to Sociology. (3) Fiala, Lopez, Tiano
Basic concepts, topics and theories of contemporary sociology. Meets New Mexico Lower-Division General Education Common Core Curricular Area IV: Social/Behavioral Sciences (NMCCN 1113).
Prerequisite for more advanced courses in sociology.

200. Foundations of Social Welfare. (3) Coughlin
 Overview of social welfare institutions in Western societies related to social change, stratification, economy, politics, dependency, poverty, wealth, and unemployment in U.S. and other countries; examines social work and related human service occupations.
 Prerequisite: 101.

205. Crime, Public Policy and the Criminal Justice System. (3) Broidy, Lyons
 The study of crime, the criminal justice system and crime-related public policy. Discussion of key criminological concepts, measurement of crime and delinquency, its distribution in society, victimization, public opinion, the criminal justice system, crime control strategies and policies.
 Prerequisite: 101.

211. Social Problems. (3) Coughlin, Schrank
 Description and analysis of major social problems facing American society. Foci may include: poverty, homelessness, alcohol and drug problems, race and ethnic relations, aging and mental illness.
 Prerequisite: 101.

213. Deviance. (3) Broidy, Lyons, Tiano
 Survey of major forms of norm-violating behavior in American society, such as drug and alcohol abuse, mental illness, criminal behavior and sexual deviance. Discussion of sociological explanations of the causes of, and attempts to address, these behaviors.
 Prerequisite: 101.

216. The Dynamics of Prejudice. (3) Gonzales, Ibarra, Lopez
 The study of prejudice and discrimination, including their historical and contemporary sources and prospects for their reduction, with applications to American institutions.
 Prerequisite: 101.

221. Global Issues. (3) Tiano, Schrank
 (Also offered as PCST 221). The global context of patterns of development in nation-states with an emphasis on industrializing countries. Selected topics of social, economic and cultural change. Inequality, war, reform and revolution in global perspective. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.
 Prerequisite: 101.

225. Marriage, Family and Their Alternatives. (3) Hood
 Comparative analysis of contemporary family and household forms such as dual-worker, single-parent and homosexual couple households. Focus on links between large-scale social changes and changing family composition and interaction patterns. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 2213).
 Prerequisite: 101.

230. Society and Personality. (3)
 The social psychology of personalities, relationships, small groups and organizations.
 Prerequisite: 101. (Offered upon demand)

280. Introduction to Research Methods. (3) Hood, J. Roberts, Santoro
 A survey of the major methods of social research: foundations of social research, research design, sampling and measurement, quantitative and qualitative research methods and data analysis.
 Prerequisite: 101.

300. Social Welfare: Policies and Programs. (3) Coughlin
 The development and operation of the U.S. social welfare programs (Social Security, Medicare, Medicaid), unemployment insurance, workers compensation, public assistance, and political ideologies shaping the public debate and attitudes toward social programs.
 Prerequisite or Corequisite: 200.

303. Sociology of Political Behavior. (3) Coughlin, Fiala
 Examination of the social bases of political behavior. Major topics include the character and expansion of the state, the social bases of various forms of political rule and political change in the contemporary world.
 Prerequisite: 101. (Offered upon demand)

305. Environmental Sociology. (3)
 Examination of humans and the environment from an ecological perspective. Focus on industrial and economic growth, natural resources development, environmental values and movements, resource management, and comparative perspective on people's relationship to the environment.
 Prerequisite: 101.

306. Peace and Conflict. (3)
 This course addresses peace and conflict issues arising from the global search for scarce mineral resources and indigenous communities and cultures threatened by extractive industries.

308. Sociology of Gender. (3) Burris, Hood, Lopez
 (Also offered as WMST 308.) How and why societies create gender categories. How do definitions of "masculinity" and "femininity" vary? What are the costs and benefits of being male or female in contemporary American society?
 Prerequisite: 101.

310. Sociology of Aging and the Aged. (3)
 Descriptive and theoretical study of the social situation of older persons in contemporary industrial societies; the impact on societal institutions of an increasing percentage of older citizens.
 Prerequisite: 101. (Offered upon demand)

312. Causes of Crime and Delinquency. (3) Broidy, Lyons, M. Velez, Wood
 A survey of criminological theories exploring why some people are more likely to engage in crime than others and why crime rates vary over time and space and across social groups. Attendant policy issues will also be discussed.
 Prerequisite: 205 or 211 or 213.

313. Social Control. (3) Broidy, Lyons, Wood
 The study of informal and formal social control strategies for guiding and monitoring individual behavior and social interaction. Discussion of key social control agents and institutions, including the family, schools, peers, media, religion and the criminal justice system.
 Prerequisite: 205 or 211 or 213.

326. Sociology of New Mexico. (3) Ibarra
 New Mexico as a social system; the infrastructure of communities and ethnic groups, stratification, major social institutions, deviance and inter-group relations.
 Prerequisite: 101.

331. Collective Behavior. (3) Gonzales, Santoro
 The study of riots, disturbances, social movements and other forms of contentious collective behavior. Strategies of conflict and conflict resolution are considered.
 Prerequisite: 101.

334. Sustainability Practicum to Benefit the Campus or Community. (3)
 (Also offered as SUST 334.) A collaborative hands-on local sustainability project directly benefiting the campus or community, designing creative approaches to satisfy basic needs (such as food, health, energy, transportation) in a future-sustaining way.
 Prerequisite: SUST 134.

335. Sociology of Mass Communication. (3)
 (Also offered as CJ 335.) Mass communication in society with emphasis in Western industrial societies, impact of mass communication on social movements and on sectors of the social structure; social psychology of mass communication. (Offered upon demand)

340. Sociology of Medical Practice. (3) Waitzkin

An introduction to the delivery of health care in the U.S. and selected other countries is pursued with an emphasis on the interaction of patients, professionals and health care institutions.

342. Social Epidemiology. (3)

Examines the influence of social variables on human's health, illness and death. The complex role of lifestyle, socioeconomic status, marriage, occupation, culture and other variables are examined as they are related to survival.

Prerequisite: 101. {Offered upon demand}

345. Youth and Society. (3)

An assessment of the creation and dynamics of childhood and youth in human societies. Consideration of historical and cross-cultural material; and issues such as deviance and popular culture.

Prerequisite: 101. {Offered upon demand}

350. Rural Society in Latin America. (3)

Analysis of agricultural modes of production—including the relationship of crop, tenancy and land ownership patterns and social institutions stemming from them, from Spanish colonial times to the present. Effects of the commercial revolution and agrarian reforms.

Prerequisite: 101. {Offered upon demand}

351. The Urban Community. (3)

The forms and development of urban community; demographic, spatial, functional and temporal patterns; metropolitan development and city-hinterland relations.

Prerequisite: 101. {Offered upon demand}

371. Classical Sociological Theory. (3) Burriss, Fiala,

Huaco

The study of 19th century sociological theory, with particular emphasis on Marx, Durkheim and Weber.

Prerequisite: 101. {Fall, Spring}

381. Sociological Data Analysis. (3) Fiala, A. Roberts,

J. Roberts

An introduction to the basic statistics (both descriptive and inferential) employed in the analysis of quantitative sociological data.

Prerequisite: 280.

390. Latin American Thought II. (3)

{Also offered as HIST, RELG, PHIL 390.} Positivism through contemporary thought. {Offered upon demand}

398. Special Topics in Sociology. (3, no limit) Δ**399. Advanced Undergraduate Workshop in Sociology. (3)** Hood, Coughlin

First of a six-credit Sociology Honors Thesis Program; students develop skills to write an honors thesis proposal; culminates in the completion of a senior honors thesis written in SOC 499.

Prerequisite: 280. Restriction: permission of Department's Honors Coordinator.

400. The Welfare State. (3) Coughlin

Social, economic, and political aspects of programs and policies of the modern welfare state, from Europe to other industrialized nations; the future of the welfare state related to economic, political, and demographic changes.

Prerequisite: 200. {Spring}

412. Sociology of Police and Social Control. (3) Wood

Study of the relationship between society and law enforcement agencies, including the societal context of policing and how law enforcement impacts society. Discussion of law enforcement practices, training and management; the interface of police and communities; historical and contemporary models of policing; and efforts at police reform.

Prerequisite: 312 and 313. {Fall, Spring}

***414. Sociology of Corrections. (3)**

Study of the perspectives of corrections, its relationship to other criminal justice agencies, various forms sentencing and punishment, corrections administration and issues in the field. Visits may be made to several facilities.

Prerequisite: 312 and 313. {Fall, Spring}

***415. Social Stratification. (3)** Burriss

Structure and dynamics of class, status and power in society; social consequences of stratification.

Prerequisite: 312 and 313. {Offered upon demand}

416. Sociology of Law. (3) Broidy

Social science perspectives of the law, legal institutions and the impact of law on behavior. Topics include theories of law and legality; comparative legal systems; lawyers, judges and juries; and the use of social science in the courts.

Prerequisite: 312 and 313.

***418. Selected Topics in Criminology. (3 to a maximum of 6) Δ** Broidy, Lyons, Velez, Wood

This course will explore in detail some aspects of research on the causes or characteristics of crime, such as juvenile delinquency, drug and alcohol-related behavior or child abuse.

Prerequisite: 312 and 313.

420. Race and Cultural Relations. (3) Gonzales, Lopez

Comparative and structural analysis of intergroup relations in the United States and/or other countries and regions.

Prerequisite: 101 and 216.

421. Sociology of Education. (3) Fiala, Ibarra, Lopez

Structure and functioning of educational institutions in the United States and other societies.

Prerequisite: 101.

422. Sociology of Religion. (3) Wood

{Also offered as RELG 422.} Study of belief, commitment, and practice within religious and spiritual traditions and institutions, with a focus on contemporary United States, Latin America, and the Middle East.

Prerequisite: 101 or RELG 107 or RELG 263 or RELG 264.

423. Gender and Crime. (3) Broidy

This course will outline similarities and differences in offending patterns across males and females and discuss various explanations for these differences. Discussions will also focus on the dynamics of female offending, the formal social control of female offenders and the role of women in the correctional system.

Prerequisite: 312 and 313.

424. Race, Class and Crime. (3) Lopez, Lyons, Velez

This class will examine the relationships between race, ethnicity, socio-economic status and involvement in criminal behavior, focusing on the influence of structural, cultural and historical influences. We will also explore contemporary criminal justice issues pertaining to race and class.

Prerequisite: 312 and 313.

425. From Youthful Misbehavior to Adult Crime. (3)

Broidy

Causes and consequences of offending at various stages in the life course, focusing on the ways in which adolescent and adult roles, responsibilities and opportunities shape aggregate and individual level patterns of involvement in juvenile delinquency and adult criminality.

Prerequisite: 312 and 313.

426. Drugs, Crime and Social Control. (3) Lyons

Study of the development of social policies concerning illicit substance use; its impact on social behavior; strategies for prevention and intervention with substance use; investigation, adjudication and supervision of drug offenders; and the relationship between criminal justice, education, public health and government policies.

Prerequisite: 312 and 313.

428. Sociology of Mexican Americans. (3) Gonzales, Lopez
The historical, comparative and contemporary study of the Mexican American in the U.S. Race and ethnic relations theories and the Chicano Movement.
Prerequisite: 101. (Offered upon demand)

***441. Complex Organizations. (3)** Burris
Structure and functional dynamics of formal organizations; the role of bureaucracy in modern social organization.
Prerequisite: 101. (Offered upon demand)

***445. Sociology of Work. (3)** Burris, Hood
Overview of the field of sociology of work (historical, classical and contemporary theoretical perspectives) and empirical studies of different kinds of work and workplaces (technology/work, family/work, gender/race segregation, the corporation and globalization).
Prerequisite: 101.

***450. Urban Society in Latin America. (3)**
Causes, processes and consequences of urbanization from Spanish colonial times to present; changes in class, status, power, population growth and social relations in urban society.
Prerequisite: 350. (Offered upon demand)

***461. Social Dynamics of Global Change. (3)** Schrank, Tiano
A sociological perspective on economic, political and social trends worldwide. Implications of global change for individuals, organizations and societies. (Offered upon demand)

471. Contemporary Sociological Theory. (3) Burris, Huaco, Tiano
Comparative analysis of major contributions to sociological theory in the 20th century: Functionalism, Phenomenology, French Structuralism, Analytical Marxism.
Prerequisite: 101.

***478. Seminar in International Studies. (3)**
(Also offered as ECON 478.) Designed to provide seniors from several disciplines an opportunity to apply an international perspective to their undergraduate training. Each student presents a term project drawing upon his or her major disciplinary background and related to international concerns. Open only to seniors. (Offered upon demand)

481L. Research Methods in Sociology. (4) Coughlin, Fiala, A. Roberts, J. Roberts
Use of the computer as a tool of social research; utilization of data archives; problems of research design, instrumentation and analysis of empirical data.
Prerequisite: 280 and 381. Three lectures, 1 hour lab.

***484. The Cuban Revolution, 1959 to Present. (3)**
(Also offered as HIST 475 and 655.) Background to revolution since 1898; emphasis on period since 1959. (Offered upon demand)

488. Field Observation and Experience. (3 to a maximum of six) Δ Coughlin, Velez
An opportunity for Sociology/Criminology students to work in a criminal justice or social service agency for course credit. Students must have a 3.0 GPA or higher in the major.
Restriction: upper-division standing and permission of instructor.

490. Directed Study. (1-3 to a maximum of 6) Δ
Tutorial arrangement with a member of the sociology faculty. Specific arrangements must be made with a member of the sociology faculty responsible for supervising the work. Arrangements normally made at least one semester in advance.

491. Directed Study in Criminology. (1-3 to a maximum of 6) Δ
Tutorial arrangement for investigation of selected issues in criminology. Specific arrangements must be made with a member of the sociology faculty responsible for supervising the work.

499. Senior Honors Thesis. (3)
For departmental honors students only. By arrangement with department Honors and Awards Committee and approval of the chairperson.

500. Classical Sociological Theory. (3) Burris, Huaco, Lopez
Advanced study of selected classical theorists.

505. Complex Organizations. (3) Schrank
Survey of the empirical literature and theory related to complex organizations. Attention to organizational structure, conflict, problem solving, development and ecology.

506. Seminar: Comparing Nations. (3) Coughlin, Fiala, Schrank
The demography, social structure and value systems of the developed and developing societies. The particular theme and concerns of the course will vary each time offered.

507. Topics in Sociological Theory. (3, no limit) Δ

508. Latin American Development and Planning. (3)
(Also offered as CRP, LTAM 578.) Interdisciplinary seminar focusing on area topics in Latin American planning, development and urbanization. It is the core course for the LAS/MCRP dual-degree program.

509. Gender and International Development. (3) Tiano
Focus on women in Africa, Asia and Latin America, exploring their historical and current circumstances in light of the changing global political-economy.

510. Social and Political Movements. (3) Gonzales, Santoro, Wood
Examination of historical, theoretical and empirical materials on the character and dynamics of social and political movements. Includes consideration of the global context of contemporary social and political movements.

513. Constructing and Analyzing Contemporary Sociological Theory. (3) Fiala, Huaco
Survey of contemporary theory, with a focus on constructing theory. Includes analysis of functional, interactionist, institutional and world-systems theory.

514. 20th Century European Theory. (3) Huaco
Analytical Marxism, Nietzsche, Spengler, Sociobiology, Foucault, Sartre, Lukacs, The Frankfurt School.

520. Racial and Ethnic Relations. (3) Gonzales, Lopez
Historical and comparative analysis of race and ethnic relations in the U.S., with comparative reference to Western Europe, Latin America, Asia. Origins and maintenance of slavery; minority community development; causes and consequences of prejudice.

521. Sociology of Education. (3) Lopez, Ibarra
Examination of the character and dynamics of education in human societies. Focus is on the organization and expansion of modern educational systems and the effects of education on individuals and society.

523. Proseminar. (1) Lopez, Wood, Roberts
Introduces incoming graduate students to each of the department's regular faculty members and their work.

528. Sociology of Mexican Americans. (3) Gonzales
The historical, comparative and contemporary study of the Mexican American in the U.S. Race and ethnic relations theories and the Chicano Movement. (Offered upon demand)

530. Sociology of Work. (3) Burris, Hood
A graduate seminar designed to provide a more in-depth study of the sociology of work, using theoretical and empirical analyses to explore different kinds of work and workplaces and how they have changed over time.

531. Sociology Teaching Practicum. (2) Wood, Roberts
Provides a survey of pedagogical methods and classroom teaching experience for prospective sociology instructors.
Offered on a CR/NC basis only.

532. Sociology of Religion. (3) Wood

Course content of 422 plus attention to the nature of religious behavior, structure of religious organizations, and socioreligious change in contemporary societies through the works of Weber, Freud, Marx, Bellah, Geertz, Wuthnow and others.

540. Medical Sociology and Health Policy. (3) Waitzkin

A review of major theories and research in medical sociology with special attention to health policy; focus on health and mental health problems of underserved populations; analysis of the U.S. health care system in comparative perspective.

551–552. Problems. (2-3, 2-3, no limit) Δ

Tutorial arrangement with a member of the graduate faculty.

570. Sociological Research: Special Topics. (3, no limit) Δ**580. Methods of Social Research I. (3)** Hood, A.

Roberts, J. Roberts

Analytical examination of traditional methodological issues including measurement, experimental design, sampling, theory construction, role of statistics and nature of probability.

581. Advanced Social Statistics I. (3) A. Roberts, J.

Roberts

Examines theory (assumptions, properties of estimators) and application of multiple regression. Introduces matrix notation and generalized least squares.

Prerequisite: 481L.

582. Advanced Social Statistics II. (3) A. Roberts, J.

Roberts

Additional methods for quantitative social research: regression diagnostics, logit and Poisson regression, principal components, correspondence analysis.

Prerequisite: 581.

583. Special Topics in Advanced Social Statistics. (3, no limit) Δ Roberts

A close examination of the properties and application of a single quantitative method (or a few related methods). Possible topics include structural equation models, log linear models, dynamic models, scaling.

Prerequisite: 582.

584. Interdisciplinary Seminar on Problems of

Modernity in Latin America. (3) Valdez
(Also offered as HIST 689, ECON, POLS 584.)

585. Sociological Fieldwork Methods: Ethnography, Interviews, Focus Groups. (3)

Intensive practicum on research fieldwork, including research design, human subjects review, the ethics/politics of fieldwork, and fieldwork implementation. Focuses on ethnographic and interview methods; some attention to focus groups and archives.

Prerequisite: 580.

595. Special Topics in Sociology. (3, no limit) Δ**596. Professional Paper. (1-6, no limit) Δ**

Student works under faculty supervision toward completion of the professional paper requirement for a Plan II master's degree. Paper must be of professional quality and in a format suitable for publication. **Offered on a CR/NC basis only.**

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

SPANISH AND PORTUGUESE

Enrique Lamadrid, Interim Chairperson

Department of Spanish and Portuguese
MSC03 2100

1 University of New Mexico

Albuquerque, NM 87131-0001

(505) 277-5907, 277-5908, FAX (505) 277-3885

Professors

Anthony J. Cárdenas-Rotunno, Ph.D., University of Wisconsin–Spanish

Enrique R. Lamadrid, Ph.D., University of Southern California–Spanish

Tey Diana Rebolledo, Ph.D., University of Arizona–Spanish

Associate Professors

Kimberle López, Ph.D., University of California (Berkeley)–Spanish

Miguel López, Ph.D., University of California (Berkeley)–Spanish

Kathryn McKnight, Ph.D., Stanford University–Spanish

Margo Milleret, Ph.D., University of Texas at Austin–Portuguese

Susan D. Rivera, Ph.D., The University of New Mexico–Spanish

Eleuterio Santiago-Díaz, Ph.D., Brown University–Hispanic Studies

Catherine Travis, Ph.D., La Trobe University–Linguistics

Assistant Professors

Leila Lehnen, Ph.D., Vanderbilt University–Spanish and Portuguese

Anna Nogar, University of Texas, Austin–Hispanic Literature

Mary B. Quinn, Ph.D., University of California (Berkeley)–Hispanic Language and Literature

Julie Sykes, University of Minnesota–Hispanic Linguistics

Director Language Learning Center

Neddy Vigil, Ph.D., The University of New Mexico–Spanish

Professors Emeriti

Garland D. Bills, Ph.D., University of Texas–Spanish

Ruben Cobos, Ph.D., The University of New Mexico–Spanish

Pelayo Fernández, Ph.D., Salamanca University–Spanish

Rosa Fernández, Ph.D., The University of New Mexico–Spanish

Dick Gerdes, Ph.D., University of Kansas–Spanish

María Dolores Gonzales, Ph.D., University of New Mexico–Spanish

Erlinda Gonzales-Berry, Ph.D., The University of New Mexico–Spanish

Tamara Holzapfel, Ph.D., University of Iowa–Spanish

Raymond MacCurdy, Ph.D., University of North Carolina–Romance Languages

Alfred Rodríguez, Ph.D., Brown University–Spanish

Jon M. Tolman, Ph.D., The University of New Mexico–Portuguese

Introduction

The mission of the Department of Spanish and Portuguese is to promote quality teaching and research that integrate the languages, literatures, linguistics and cultures of the Spanish- and Portuguese-speaking worlds. We share our expertise with the university community, the city of Albuquerque and the state of New Mexico. We are especially committed to revitalizing the Spanish language in New Mexico and to studying the interactions between cultures in the Southwest.

Faculty and students work together in the classroom, in the community, and in study abroad to develop understanding, sensitive communication and critical thinking about our diverse and interconnected world. The Department prepares its students with the skills, knowledge, and values necessary to lead productive and fulfilling lives as citizens and life-long learners.

Group Requirements

Literature courses in translation are not accepted for fulfillment of foreign language group requirements.

Language Learning Center

Work in the Language Learning Center is assigned in connection with the lower-division language courses and does not carry extra credit.

Spanish Language Instruction Program

Language instruction courses develop grammar, vocabulary, the four language skills—listening, speaking, reading and writing—and culture.

Sabine Ulibarri Spanish as a Heritage Language (SHL) Program

Spanish courses 111, 112, 211, 212 are reserved for students who grew up in a Spanish-speaking environment. The objective of these classes is to build upon the language base which the students already possess. All four language skills—listening, speaking, reading and writing—are stressed, but time is not spent drilling aspects with which students are already familiar. All students who speak or understand some Spanish as a result of having heard it at home or from grandparents are urged to enroll in these classes. A placement evaluation is required before entering these classes. (See Department for times and dates.)

Spanish as a Second Language (SSL) Program

This program is designed for students of Spanish whose native home language is not Spanish. A placement evaluation is required before entering these classes. (See Department for times and dates.)

Required Placement Evaluation

All University of New Mexico students who choose Spanish to fulfill their language requirement are required to take the Spanish Placement Evaluation for placement in the appropriate level. This evaluation is administered in the Language Learning Center located in 124 Ortega Hall.

To Challenge a Course

If you place into a higher-level Spanish course, you not only advance faster, but also have the option to challenge the lower-level Spanish course(s) for graduation credit (challenging means you earn credit—grade of B or better—at a higher level and, upon paying regular tuition for lower level courses, may receive credit for them). You can also test out of a Spanish class and earn credit by taking the Spanish CLEP test (check the Web site <http://www.unm.edu/~testctr/clep.htm> for information on CLEP testing).

Undergraduate Programs

Undergraduate Advisor for Spanish
Kate Merrill (505) 277-7364, kateem@unm.edu

Undergraduate Advisor for Portuguese
Margo Milleret, (505) 277-8613, milleret@unm.edu

Major Study Requirements

Spanish

Thirty hours in Spanish courses numbered 300 or above. In addition, work in another foreign language at the 202 or 276 level (or equivalent skill level) must be completed. Required courses: a) 301; b) 302; c) 307; d) 352; e) one of the following: 350 or 351; f) one of the following: 411 or 412; g) one of the following: 431 or 432; and h) at least 9 elective hours above 307, 3 of which must be at the 400 level. Only 3 hours of 301 are applicable toward the major. A student may follow a general course of studies or a group of courses in the following areas: Spanish Peninsular Literature, Spanish American Literature, Southwest Hispanic Studies or Hispanic Linguistics. Students planning to major in Spanish should consult with the Department's Undergraduate Advisor for Spanish. All grades must be C or better.

Portuguese

Thirty hours in Portuguese courses numbered 276 or above. Required courses: 275-276 or 277. Two of the following: 301, 311, 312. Up to 18 additional hours at the 300-400 level. Courses in another foreign language at the 202 or 276 level (or equivalent) must be completed. All grades must be at C or better. Students planning to major in Portuguese should consult with the Department undergraduate adviser.

Second Major Study Requirements

Spanish: Twenty-four hours in Spanish courses numbered 300 or above.

Required Courses: 301, 302, 307.

-and-

15 elective hours, 6 of which must be above 307, and 6 hrs at the 400 level. Students have the option of applying a second 301 Topics course toward the second major (repetition allowed as topics change). All grades must be "C" or better.

Portuguese: 24 hours in Portuguese courses numbered 276 or above. Students planning to second major in Portuguese should consult with the Department undergraduate adviser. All grades must be "C" or better.

Minor Study Requirements

Spanish: 18 hours in Spanish courses numbered 300 or above.

Required Courses: 301, 302, 307.

-and-

9 elective hours, 3 of which must be above 307. Students have the option of applying a total of three 301 Topics courses toward the minor (repetition allowed as topics change). All grades must be "C" or better.

Portuguese: 18 hours in courses numbered 276 or above. Students planning to minor in Portuguese should consult with the Department undergraduate adviser. All grades must be "C" or better.

Graduate Program

Graduate Advisor
Martha Hurd, (505) 277-2974, marthah@unm.edu

M.A. Application Deadlines

Fall semester:	January 15 (with financial aid)
	July 15 (without financial aid)
Spring semester:	November 15 (without financial aid)
Summer session:	May 10 (without financial aid)

Deadline for Ph.D. Application: January 15

NOTE: Early application is recommended.

Degrees Offered

M.A. in Spanish or Portuguese

Spanish:

Prerequisite for entrance into the M.A. Spanish program is an undergraduate degree with a Spanish major, or the equivalent. The M.A. in Spanish at The University of New Mexico has three concentrations: Hispanic Literature, Hispanic Linguistics, and Hispanic Southwest Studies. All students in the Spanish M.A. program will choose one of the above areas of concentration.

Portuguese:

Prerequisite for entrance into the M.A. Portuguese program is an undergraduate degree with a Portuguese major or the equivalent.

The M.A. in Spanish or Portuguese is offered under Plan I (thesis) and Plan II (course work). Plan I requires a minimum of 27 hours of course work, comprehensive examination and a thesis. Plan II requires 33 hours of course work and comprehensive examinations. Under Plan I, a thesis proposal must be submitted to the student's thesis committee no later than the beginning of the fourth semester of study when the student will register for 6 hours of thesis credit. Minimum semester hour requirements for TAs under both plans are 9, 9, 9, 6.

1. Requirements for the Concentration in Hispanic Literature

- 18 hours of Hispanic Literature evenly divided between Spanish American and Peninsular Spanish courses. SPAN 601 (Literary Theory) may be included.
- 3 hours of Hispanic Linguistics (teaching methodology class, e.g., SPAN 541 may not be included).
- 3 hours of Portuguese or Hispanic Southwest Studies.
- SPAN 502 Research and Critical Methods.
- SPAN 541 Recent Research on the Teaching of Spanish (required of TAs).
- 3-6 hours (depending on whether teaching methodology class, e.g., SPAN 541, is taken) of electives or thesis.
- All coursework must be at the 500-level or above with the exception of SPAN *423 (Cervantes' *Quijote*) and SPAN *438 (Mexican Literature). **Relevant electives outside of the Department may be taken only if pre-approved by the departmental Graduate Committee.**

2. Requirements for the Concentration in Hispanic Linguistics

- 21 hours in Hispanic Linguistics (teaching methodology class, e.g., SPAN 541, may not be included).
- 3 hours of Hispanic Literature.
- 3 hours of Portuguese or Hispanic Southwest Studies.
- 6 hours of electives or of thesis.
- All Spanish course work counted toward M.A. credit requirements must be in courses approved by the Department at the 500-level or above with the exception of SPAN *423 (Cervantes' *Quijote*), and SPAN *438 (Mexican Literature). **Relevant electives outside the Department may be taken only if pre-approved by the departmental Graduate Committee.**

3. Requirements for the Concentration in Hispanic Southwest Studies

- 6 hours of Hispanic Linguistics (must include at least one course on Southwest Spanish; teaching methodology class, e.g., SPAN 541, does not satisfy Hispanic Linguistics requirement).
- 12 hours of Hispanic Southwest Studies taken in the Department of Spanish and Portuguese.
- SPAN 502 Research and Critical Methods.
- 6 Hours of Hispanic/Portuguese literature from outside the Southwest.
- SPAN 541 Recent Research on the Teaching of Spanish (required of TAs).
- 3-6 hours of relevant electives (depending on whether teaching methodology class, e.g., SPAN 541, is taken) in the Department or outside (e.g., History, Linguistics, Social Sciences) or thesis as approved by the departmental Graduate Committee.

- All course work must be at the 500-level with the exception of SPAN *423 (Cervantes' *Quijote*), and SPAN *438 (Mexican Literature).

Requirements for the M.A. in Portuguese

- 15 hours in Portuguese at 400-level or above.
- 12 hours of Hispanic/Southwest/Portuguese Literature AND/OR Hispanic/Southwest/Portuguese Linguistics.
- 6 hours of electives or thesis.
- All Portuguese course work must be at the PORT 400-level or above. Spanish course work must be at the 500-level or above with the exception of SPAN *423 (Cervantes' *Quijote*) and SPAN *438 (Mexican Literature).

Spanish or Portuguese Language Requirement

- Research at the graduate and professional levels is enhanced by the mastery of several languages. Students are advised to consider their professional research goals in selecting a language to fulfill the department's requirement.
- All M.A. Spanish or Portuguese candidates must demonstrate proficiency equivalent to one year of university-level study in one language apart from English and the student's language of major study. This proficiency is normally demonstrated by completing in consultation with the department graduate advisor a second-semester or above numbered language course with a grade of B or better. This requirement can be met through course work done as part of the B.A.

Ph.D. in Spanish and Portuguese

The Department offers a Ph.D. in Spanish and Portuguese, with a concentration in one of the following fields: Literature or Linguistics.

Degree Description

The Ph.D. in Spanish and Portuguese at the University of New Mexico requires a minimum of 63 hours of graduate courses (not including dissertation hours), which may include up to 30 hours of M.A. coursework. The degree consists of a departmental concentration and twelve additional hours in a supporting field; a double concentration may be taken in lieu of the coursework in the supporting field, with 48 hours of post-M.A. coursework required (total hours required, including M.A. = 78). All coursework in Spanish must be at the 500- or 600-level, with the exception of Mexican Literature (SPAN *438), and Cervantes' *Quijote* (SPAN *423).

1. **Departmental Concentration.** The two concentrations are Literature and Linguistics. The concentrations require a minimum of 24 hours. The concentration in Literature will consist of a group of courses in a genre (narrative, poetry, theater) and a period (Medieval, Renaissance/Golden Age/Colonial, 18th and 19th Centuries, 20th Century). In addition to the 24 hours in the concentration an additional 12 hours in a supporting field is required.
2. **Required Courses.** Either SPAN 542 (History of the Spanish Language) or PORT 561 (History of the Portuguese Language) is required of linguistics majors; SPAN 601 (Literary Theory) is required of the literature concentration. In addition 6 hours of Portuguese at the *400-level or above is required of the literature concentration.
3. **Language Requirement*.** Research at the graduate and professional levels is enhanced by the mastery of several languages. Students are advised to consider their professional research goals in selecting a language to fulfill the department's requirement. Due to the linguistic similarities between Spanish and Portuguese as well as the strong cultural links between Spanish America and Brazil, coursework in Portuguese is strongly encouraged by the Department of Spanish and Portuguese.

All Ph.D. candidates must demonstrate proficiency equivalent to two years of university-level study in a language apart from English and the student's language of major study. This proficiency is normally demonstrated by completing, in consultation with the department graduate advisor, a fourth-semester or above numbered language course with a grade of B or better. Alternately, the student may complete the requirement by demonstrating proficiency equivalent to one year of university-level study in two foreign languages, by completing second semester or above numbered language courses in both languages with a grade of B or better. This requirement can be met through coursework done as part of the B.A. and/or M.A.

4. **Comprehensive Examination.** The doctoral examination encompasses both the concentration and the coursework in the supporting field and a reading list developed by the candidate in consultation with his or her Chair of Committee on Studies. The examination consists of three parts:
 - a. A 72-hour written examination.
 - b. An assigned research essay in the student's concentration developed in collaboration with the Committee on Studies. The research question is generally geared to prepare the student to work on the projected dissertation topic. The student will have two weeks to complete the essay.
 - c. A comprehensive oral examination to be scheduled within two weeks after the conclusion of the written examination.
5. **Ph.D. Dissertation.** Follow the information and requirements specified by Graduate Studies in the University of New Mexico Catalog. A dissertation proposal should be presented to the Dissertation Committee within six weeks of passing the comprehensive examination and must be officially approved by the end of the semester following the semester in which the exams were taken. An approved copy of the dissertation proposal must be turned in to the departmental office.

Spanish or Portuguese Ph.D. Language Requirement

Research at the graduate and professional levels is enhanced by the mastery of several languages. Students are advised to consider their professional research goals in selecting a language to fulfill the department's requirement.

All Ph.D. candidates must demonstrate proficiency equivalent to two years of university-level study in a language apart from English and the student's language of major study. This proficiency is normally demonstrated by completing in consultation with the department graduate advisor a fourth-semester or above numbered language course with a grade of B or better. Alternately, the student may complete the requirement by demonstrating proficiency equivalent to one year of university-level study in two foreign languages, by completing second semester or above numbered language courses in both languages with a grade of B or better. This requirement can be met through course work done as part of the B.A. and/or M.A.

The Portuguese language, as well as Brazilian literature and culture, share many similarities with the Spanish language and Spanish American literatures and cultures. Coursework in Portuguese will enhance students' understanding and appreciation of both languages and of the literatures and cultures of Latin America.

Detailed information for all these graduate degrees may be obtained from the Department Web pages at <http://www.unm.edu/~spanport/>.

Portuguese (PORT)

101. Elementary Portuguese I. (3)

Development of all four language skills. Emphasis on listening, speaking, and cultural understanding.

102. Elementary Portuguese II. (3)

Continued development of four language skills. Emphasis on listening, speaking, and cultural understanding. An introduction to Portuguese for Spanish speakers.

201–202. Intermediate Portuguese I–Intermediate Portuguese II. (3)

Intermediate Portuguese for students who have completed one year of beginning language study or its equivalent. Review of grammar and expansion of conversational and composition skills.

275. Intensive Beginning Portuguese. (6)

An intensive one-semester introductory multimedia course using authentic models of introductory communication in Portuguese. Students may not receive credit for this accelerated course and the regular sequence (101-102).

276. Intensive Intermediate Portuguese. (6)

An intensive one-semester intermediate multimedia course using authentic models of communication in Portuguese. Prerequisite: 102 or 275.

277. Intensive Portuguese for Spanish Speakers. (6)

An accelerated multimedia class designed for natives or advanced level Spanish speakers that uses authentic models of communication in Portuguese. Students may not receive credit for this class and the accelerated sequence (275-276).

301. Conversation and Pronunciation. (3)

Practice of spoken Portuguese with an introduction to the phonetic systems and with comparisons to Spanish pronunciation. Discussions of topics from Portuguese-speaking world. Prerequisite: 276 or 277.

311./511. Culture and Composition. (3)

Students develop their vocabulary and improve their writing skills through the study of readings, films and music from the Portuguese-speaking world and through practice writing compositions. Prerequisite: 276 or 277.

312./512. Culture and Conversation. (3)

Students improve skills in oral communication, including pronunciation and intonation, through the study and performance of dramatic scenes, and the filming and editing of those scenes. Prerequisite: 276 or 277.

335. Brazilian Popular Culture. (3)

Through the lens of Brazilian daily activities and ritual expressions, this course provides the student with an introduction to Brazilian history, culture and society. Prerequisite: 276 or 277.

414./514. Topics in Luso-Brazilian Literature and Culture. (3, no limit) Δ

An advanced language course emphasizing interdisciplinary themes in Luso-Brazilian literature and culture. Prerequisite: 311 or 312.

416./516. Brazilian Cinema. (3)

Survey of Brazilian cinema concentrating on the Cinema Novo movements of the 1950s and 1960s. Cinema is presented as an expression of national identity and is understood in relationship to literature and other cultural expressions.

417./517. Popular Brazilian Music. (3)

Survey of Brazilian popular music from 1950 to 2000 concentrating on contemporary sounds from the cities of Rio de Janeiro and Sao Paulo as well as new music from Brazil's other regions. Prerequisite: 311 or 312.

421./521. Brazilian Theater. (3)

A survey of 19th- and 20th-century drama by Brazil's best known playwrights. Includes the study of plays and their performances, key moments and individuals in theater history and foreign influences. Prerequisite: 311 or 312.

308 ARTS AND SCIENCES

457/557. Encounters with the New World I. (3)

Thematic study of history, culture, and literature based on key moments and movements in Brazil from 16th to 19th centuries.
Prerequisite: 311 or 312.

458/558. Encounters with the New World II. (3)

Thematic study of the history, culture, and literature based on key moments and movements in Brazil during 20th and 21st centuries.
Prerequisite: 311 or 312.

*461. Topics in Brazilian Literature. (3, no limit) Δ

Individual authors, genres and periods of Brazilian Literature.
Prerequisite: 311 or 312.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ

Restriction: permission of instructor.

498. Reading and Research for Honors. (3)

Work under direction of faculty to conduct research in preparation for writing honors thesis.
Restriction: juniors and seniors approved by Honors Committee.

499. Honors Essay or Teaching. (3)

Write essay or teach undergraduate course under the direction of a faculty member.
Restriction: juniors and seniors approved by Honors Committee.

511/311. Culture and Composition. (3)

Students develop their vocabulary and improve their writing skills through the study of readings, films and music from the Portuguese-speaking world and through practice writing compositions.

512/312. Culture and Conversation. (3)

Students improve skills in oral communication, including pronunciation and intonation, through the study and performance of dramatic scenes, and the filming and editing of those scenes.

514/414. Topics in Luso-Brazilian Literature and Culture. (3, no limit) Δ

An advanced language course emphasizing interdisciplinary themes in Luso-Brazilian literature and culture.

516/416. Brazilian Cinema. (3)

Survey of Brazilian cinema concentrating on the Cinema Novo movements of the 1950s and 1960s. Cinema is presented as an expression of national identity and is understood in relationship to literature and other cultural expressions.

517/417. Popular Brazilian Music. (3)

Survey of Brazilian popular music from 1950 to 2000 concentrating on contemporary sounds from the cities of Rio de Janeiro and Sao Paulo as well as new music from Brazil's other regions.

521/421. Brazilian Theater. (3)

A survey of 19th- and 20th-century drama by Brazil's best known playwrights. Includes the study of plays and their performances, key moments and individuals in theater history and foreign influences.

551. Graduate Problems. (1-6 to a maximum of 6) Δ

Restriction: permission of instructor.

557/457. Encounters with the New World I. (3)

Thematic study of history, culture, and literature based on key moments and movements in Brazil from 16th to 19th centuries. .

558/458. Encounters with the New World II. (3)

Thematic study of the history, culture, and literature based on key moments and movements in Brazil during 20th and 21st centuries.

561. History of the Portuguese Language. (3)

The phonological, grammatical, and lexical development from Latin to Portuguese.

570. Seminar in Luso-Brazilian Literature and Culture.

(3, no limit) Δ

Examines works of literature and/or culture and the scholarship written about them from a national or comparative framework.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

601. Literary Theory. (3)

(Also offered as SPAN 601.) This course will offer either an overview of critical theory or an in-depth treatment of a critical school or individual theorist.

Spanish (SPAN)

I. Language

101. Elementary Spanish I. (3)

Beginning Spanish for students with no previous exposure to Spanish. Development of all four language skills, with emphasis on listening and speaking.

102. Elementary Spanish II. (3)

Beginning Spanish for students who have completed 101 or equivalent. Continued development of four skills with emphasis on listening and speaking.

103–104. Elementary Spanish Conversation I–Elementary Spanish Conversation II. (1, 1)

Supplementary courses to Spanish 101–102 for students interested in additional practice in speaking. **Offered on CR/NC basis only.**

Pre- or corequisite: 101 or 102 or 111 or 112 or 275.

111. Elementary SHL I. (3)

Beginning Spanish for students who grew up in a Spanish-speaking environment. Will build upon the language base which the students already possess. Development of all four language skills: reading, writing, listening and speaking.

112. Elementary SHL II. (3)

Beginning Spanish for heritage language students who have completed 111 or equivalent. Continued development of the four skills with an emphasis on reading and writing, vocabulary building and review of grammar.

200. Intermediate Spanish Abroad. (3)

Intensive language study with emphasis on culture in an immersion situation. Tied to the University of New Mexico programs in Spain and Spanish America.

201. Intermediate Spanish I. (3)

Intermediate Spanish for students who have completed 102 or equivalent. Review of grammar and further development of all four skills.

202. Intermediate Spanish II. (3)

Intermediate Spanish for students who have completed 201 or equivalent. Continued development of all four skills with emphasis on reading.

203. Spanish Conversation. (3)

For students who have completed or are currently enrolled in Spanish 201, 202 or 276. Small classes designed to increase skills in speaking Spanish. Not for native speakers.
Pre- or corequisite: 201 or 202 or 211 or 212 or 276.

211. Intermediate SHL I. (3)

Intermediate Spanish for heritage language students who have completed 102 or equivalent. Review of grammar and continued development of the four skills with an emphasis on literacy and speaking.

212. Intermediate SHL II. (3)

Intermediate Spanish for heritage language students who have completed 201 or equivalent. Further development of all four skills, with an emphasis on reading authentic materials, on practical writing needs and communicating with other native speakers.

275. Accelerated Beginning Spanish. (6)

Intensive one-semester course designed for language enthusiasts who want a review or can devote the time required to cover two semesters in one. Equivalent to 101 and 102.

276. Accelerated Intermediate Spanish. (6)

Intensive one-semester course designed for language enthusiasts who want a review or can devote the time required to cover two semesters in one. Equivalent to 201 and 202. Prerequisite: 102 or 112 or 275.

301. Topics in Hispanic Culture and Language. (3, no limit) Δ

Taught in Spanish (required for major study). Emphasis on oral and written expression based on a theme or language related topics (literature, culture, civilization, translation, commercial, etc.)

302. Developing Spanish Writing Skills. (3)

Taught in Spanish (required for major study). Emphasis on developing Spanish written expression.

****395. Spanish Reading for Graduate Students I. (3)**

Accelerated course for graduate reading requirements. Emphasizes fundamentals of grammar. Will not satisfy A&S language requirement. Undergraduates must have permission of instructor.

****396. Spanish Reading for Graduate Students II. (3)**

Accelerated course for graduate reading requirements. Emphasizes readings in sciences and humanities. Will not satisfy A&S language requirement. Undergraduates must have permission of instructor.

II. Linguistics, Philology and Methodology

****350. Spanish Phonetics. (3)**

A study of the Spanish sound system and an identification of the pronunciation problems of non-native speakers. Prerequisite: 301. Pre- or corequisite: 302.

351. Introduction to Spanish Linguistics. (3)

An introduction to the phonology, morphology, syntax and dialectology of the Spanish language. Prerequisite: 302.

****352. Advanced Grammar. (3)**

Required for Spanish majors. Taught in Spanish. Analysis of morphological and syntactic structure. Pre- or corequisite: 302.

371. Spanish of the Southwest. (3)

Attention to formal aspects of the Spanish of the Southwest as well as to historical and social factors affecting its status. Prerequisite: 350 or 351.

449. Topics in Hispanic Linguistics. (3, no limit) Δ

Deals with different areas, approaches and issues.

541. Recent Research on the Teaching of Spanish. (3)

Study of the latest research in first and second language acquisition. Focus is placed on the practical application of its results to the teaching of Spanish. Required of all Spanish Teaching Assistants.

542. History of the Spanish Language. (3)

The phonological, grammatical and lexical development from Latin to Spanish. Prerequisite: 351 or LING 301.

545. Spanish Phonology. (3)

The main tenets of contemporary phonological theory as applied to Spanish, including the evolution of phonological analysis, as well as current research trends. Prerequisite: 351 or LING 301.

546. Seminar in Hispanic Sociolinguistics. (3, no limit)

Δ Linguistic variation in relation to internal, social, regional and situational factors. Topics include variation theory, language contact, language and gender, and language planning. The practical application of sociolinguistic approaches will be introduced.

Prerequisite: 351 or LING 301.

547. Seminar in Southwest Spanish. (3)

Research seminar covering all aspects of Chicano Spanish: linguistic structure, regional and social variation, bilingualism, maintenance and shift, English influence, etc.

Prerequisite: 351 or LING 301.

549. Seminar in the Language of Spain or Spanish America. (3, no limit) Δ

An advanced course providing students with the opportunity to develop expertise in linguistic analysis. A broad range of branches are covered, including sociolinguistics, discourse analysis, phonetics, morphosyntax, semantics and psycholinguistics.

Prerequisite: 351 or LING 301.

III. Literature

307. Introduction to Hispanic Literature. (3)

Examination of selected Spanish and Spanish-American literary texts representing old and new literary currents. Special attention will be given to stylistics and the analysis of style and literary language.

Prerequisite: 301. Pre- or corequisite: 302.

502. Proseminar: Research and Critical Methodology. (3)

Introduction to fundamentals of literary analysis: defining a research question; gaining access to resources; selecting approaches to texts; citing bibliographic data according to current MLA guidelines.

601. Literary Theory. (3)

(Also offered as PORT 601.) This course will offer either an overview of critical theory or an in-depth treatment of a critical school or individual theorist.

A. Peninsular Literature

324. Spanish Literature in Translation. (3)

Major Spanish (Peninsular) works in translation. Topics will vary. Does not count for Spanish major or minor.

****411. Survey of Spanish Peninsular Literature I. (3)**

A survey of Spanish literature from the 11th to the 17th century.

Prerequisite: 302 and 307.

****412. Survey of Spanish Peninsular Literature II. (3)**

A survey of Spanish literature from the 18th, 19th and 20th centuries.

Prerequisite: 302 and 307.

***423. Cervantes: The Quijote. (3)**

Detailed analysis of the Quijote and treatment of its place in world literature.

Prerequisite: 302 and 307.

****429. Topics in Spanish Peninsular Culture and Literature. (3, no limit) Δ**

Topics will deal with individual authors, genres or periods.

Prerequisite: 302 and 307.

***450. Spanish Mysticism. (3)**

(Also offered as RELG 450.) A study of Teresa of Avila and John of the Cross in the contexts of the Renaissance, mystical theology, and the history and culture of Spain.

515. Spanish Medieval Paleography. (3)

Methodology required to produce an edition—everything from locating an editable text to actually producing the edition. Main emphasis is on deciphering gothic script (13th–17th centuries) and resolving textual problems.

310 ARTS AND SCIENCES

519. Medieval Literature. (3)

A survey of major Spanish masterpieces from the Jarchas to the Celestina.

520. Seminar in the Spanish Peninsular Picaresque Novel. (3)

The study of Lazarillo de Tormes, Guzmán de Alfarache, El buscón and other 17th-century picaresque novels.

522. Seminar in Spanish Peninsular Poetry. (3, no limit) Δ

Courses ranging from post-Romanticism (Becquer, Castro), the "Generation of '98" (Machado, Unamuno), Jiménez's "pure poetry," the fusion of tradition and avant-garde aesthetics in the "Generation of '27," to the post-war poets and more recent tendencies.

523. Renaissance and Baroque Poetry. (3)

A study of major Spanish poets of the 16th and 17th centuries.

526. Seminar in Twentieth-Century Spanish Peninsular Theater. (3)

Modern and contemporary drama of Spain from Benavente to the present. Close study of the works of major playwrights and trends in dramatic criticism and theatrical production. Readings in theater theory.

529. Spanish Peninsular Post-War Novel. (3)

The resurgence of the novel following the repressive Civil and post-Civil War years (1936–1939). Includes the introduction of *tremendismo* (Cela, Laforet), neo-realist novels, experimental ones and the initial boom of women writers (Martín Gaité and Tusquets).

629. Seminar in Spanish Peninsular Literature. (3, no limit) Δ

Topics may include, but are not limited to, Medieval Witchcraft, Golden Age Prose, Love and Death in Spanish Literature, 19th-Century Novel, Generation of 1898 Prose, Women in Literature and Film, Women Writers.

B. Spanish American Literature

**430. Spanish American Short Story. (3)

Spanish American short story from 19th century to contemporary period. Intensive development and discussion of theoretical bibliography.
Prerequisite: 302 and 307.

**431. Spanish American Literature Survey I. (3)

A historical survey of the literary canon in Spanish America from Colonial times through 19th-century Romanticism.
Prerequisite: 302 and 307.

**432. Spanish American Literature Survey II. (3)

Continuation of 431. A survey of the literary canon in Spanish America from *Modernismo* through contemporary times.
Prerequisite: 302 and 307.

**433. Modern Spanish American Poetry. (3)

A survey course covering Spanish American poetry from Modernism to the present.
Prerequisite: 302 and 307.

**435. Modern Spanish American Fiction. (3)

Study of narrative tendencies in Spanish American fiction between 1915 and 1940, including *regionalismo*, *indigenismo*, *crítica social*, *urbanismo*, *existencialismo* and *meta-escritura*.
Prerequisite: 302 and 307.

*438. Mexican Literature. (3)

Study of readings in Mexican literature emphasizing Mexico's contribution to Hispanic American literature from pre-Colombian to contemporary times. Examination of diverse genres in Mexico's literature.
Prerequisite: 302 and 307.

**439. Topics in Spanish American Culture and Literature. (3, no limit) Δ

Topics will deal with individual authors, genres or periods.
Prerequisite: 302 and 307.

504. Seminar in Ibero-American Studies. (3, no limit) Δ

(Also offered as LTAM 504.)

531. The Modernist Movement in Spanish American Poetry. (3)

An overview of Modernism in Spanish America from 1870–1920. Writers studied include José Martí, Rubén Darío, Julián del Casal, Manuel Gutiérrez Nájera, Leopoldo Lugones, Julio Herrera y Reissig, María Eugenia Vaz Ferreira and Delmira Agustini.

532. Seminar in Twentieth-Century Spanish American Fiction. (3, no limit) Δ

536. Colonial Literature. (3)

Main authors, periods and problems of textual representation in the New World from 1492 to 1830. Emphasis on the 16th-century European-Amerindian African encounter and on 17th-century treatment of gender and ethnicity.

631. Latin American Vanguard Poetry. (3)

Latin American (Brazilian and Spanish American) vanguard poetry, from the experimental period of the 1920s to the 1950s.

633. Spanish American Poetry Since 1950. (3)

Intensive study of contemporary Latin American poets such as Octavio Paz, Pablo Neruda, Nicanor Parra, Ernesto Cardenal, Rosario Castellanos and Nicolás Guillén.

639. Seminar in Spanish American Literature. (3, no limit) Δ

Topical seminars geared to doctoral students, emphasizing the literature of one country or region (e.g., Argentine novel), one genre (e.g., romantic poetry), the literary essay, essential or complete works of one author or trend (e.g., the dictator novel).

IV. Southwest Hispanic Studies

370. Survey of Chicano Literature. (3)

Study of the major genres of Chicano literature (novel, short story, essay, poetry and drama), with emphasis on post-1960s literature.
Prerequisite: 302 and 307.

375. Southwestern Hispanic Folklore. (3)

Folkways of Spanish-speaking people of American Southwest: language, customs, beliefs, music, folk sayings.
Prerequisite: 301. Pre- or corequisite: 302.

377. Southwestern Hispanic Folk Ballads and Songs. (3)

Narrative and lyric musical traditions from the *Romancero Nuevomexicano* to the contemporary *corrido* and *nueva canción*.
Prerequisite: 301. Pre- or corequisite: 302.

**479. Topics in Southwest Folklore/Literature. (3, no limit) Δ

Study of literary genres and periods, including Chicano theater, Hispanic New Mexican literature, Chicano writers, poetry, folk music, orality in folk and Chicano narrative.
Prerequisite: 302 and 307.

578. Topics in Southwest Hispanic Literature. (3, no limit) Δ

Study of literary genres and periods, including Chicano theater, narrative, poetry, women's writing, etc.

579. Topics in Southwest Culture & Folklore. (3, no limit) Δ

Study of oral genres and folkways of Spanish-speaking people of the American Southwest and appropriate theoretical approaches.

V. General

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ
Restriction: permission of instructor.

498. Reading and Research for Honors. (3)
Open to juniors and seniors approved by Honors Committee.
Restriction: permission of instructor.

499. Honors Essay. (3)
Open only to seniors enrolled for departmental honors.
Restriction: permission of instructor.

551. Graduate Problems. (1-6 to a maximum of 6) Δ
Restriction: permission of instructor.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

699. Dissertation. (3-12, no limit) Δ
Offered on CR/NC basis only.

SPEECH AND HEARING SCIENCES

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Philip S. Dale, Ph.D., The University of Michigan
Amy B. Wohler, Ph.D., Northwestern University

Associate Professors

Amy T. Neel, Ph.D., Indiana University
Janet L. Patterson, Ph.D., The University of New Mexico
Barbara Rodriguez, Ph.D., The University of Washington

Assistant Professors

Cathy A. Binger, Ph.D., The Pennsylvania State University
Phyllis M. Palmer, Ph.D., The University of Iowa

Clinic Director

Sandra Nettleton, Ph.D., CCC-SLP, Louisiana State University

Clinic Instructors

Katharine Blaker, M.S., CCC-SLP, The University of New Mexico
Elizabeth Meek, M.S., CCC-SLP, The University of New Mexico
Jennifer Williams, M.S., CCC-SLP, The University of Iowa

Emeritus Faculty

Linda L. Cullivan, Ph.D., Memphis State University
Richard B. Hood, Ph.D., Stanford University
Lloyd Lamb, Ph.D., Purdue University
Bruce Porch, Ph.D., Stanford University

Honorary Consultants

Gare Fabila de Zaldo, Ph.D., Universidad Nacional Autonoma de Mexico
Raul de Zaldo Galina, M.B.A., Technological Institute of Monterrey

Introduction

The Bachelor's degree in Speech and Hearing Sciences is a pre-professional degree program which prepares students for graduate study in either Speech-Language Pathology or Audiology. Professionals in these fields must earn certification and/or licensure, which usually require a graduate

degree in the field of specialization. Courses are, however, open to students in other fields.

Audiologists are professionals with master's or doctoral degrees specializing in prevention, identification, and assessment of hearing impairment. They also provide habilitation and rehabilitation of persons with hearing loss and fit hearing aids.

Speech-language pathologists are professionals with master's or doctoral degrees who assess and treat communication disorders such as stuttering, delayed language development, aphasia, voice disorders, and articulation problems.

Audiologists and speech-language pathologists work in schools, hospitals, rehabilitation centers, nursing homes, research laboratories, government agencies, universities, and private practices.

The program offers a foundation for understanding normal and disordered communication across cultures. It meets the recommendations of the American Speech-Language-Hearing Association and fulfills entrance requirements for a graduate program in speech-language pathology or audiology.

Advisement

Undergraduate Advisors:

Cathy Binger, Ph.D.
Amy T. Neel, Ph.D.

All 400 and 500 level courses are restricted. Students are encouraged to contact the Department of Speech and Hearing Sciences for advisement prior to registration (505-277-4453).

Major Study Requirements

- Thirty-six hours in required courses: Speech and Hearing Sciences 302, 303, 310, 321, 330, 425, 428, 430, 431, 450, 458 and 459.
- Twenty-one hours in required support courses*:
 - Three credit hours in basic human communication processes. Required: LING 301.
 - Three credit hours in biological sciences. Recommended: BIOL 123.
 - Three credit hours in physical sciences. Recommended: PHYC 108.
 - Three credit hours in college level mathematics. Required: MATH 121 (College Algebra) or more advanced (e.g., MATH 123, 150, 162, 180).
 - Three credit hours in college level statistics. Required: PSY 200.
 - Six credit hours in behavioral and/or social sciences (normal/abnormal human behavior, development across the life span, social interaction and issues of culturally diverse populations). Recommended: PSY 105, 220, SOC 101, ANTH 110, 130, 160.
*Prerequisites or corequisites may exist. Check with department listing in this catalog. These courses may also be used to meet Core Curriculum requirements.
- A grade of at least C must be earned in all required SHS courses and required support courses. The credit/no credit (CR/NC) option may not be used. Note that the UNM Master of Science degree in Speech-Language Pathology requires that grades earned in SHS courses completed at the undergraduate level must be B or better.
- Recommended minors include American Studies (Southwest Culture Studies), Anthropology, Art, Communication and Journalism, Computer Science, Criminology, Family Studies, Human Services, Latin American Studies, Linguistics, Management, Physics, Psychology, Sociology, Spanish and Teaching English to Speakers of Other Languages (TESOL).

Minor Study Requirements

Twenty-four hours as follows: LING 301; SHS 302, 303, 310, 321, 330, 425, 430.

Non-Degree Students

Non-degree Advisors:

Kate Blaker, M.S.
Barbara Rodriguez, Ph.D.

Call (505) 277-4453 for advisement before enrolling in any courses.

Non-degree students seeking admission to the graduate program in Speech-Language Pathology may enroll in the following courses prior to a decision regarding admission: All SHS 300 and 400 level courses that do not have a 500 level equivalent, and up to 12 credit hours selected from the following: 506, 507, 510, 525, 528, 530, 531, 536, 541, 542, 550, 551 (with permission of instructor) and 559. Graduate courses that have a corresponding undergraduate course will include assignments in addition to the workload of the undergraduate course. A minimum of 9 hours of Speech and Hearing Sciences course work, at any level, is required prior to application to the graduate program. For courses taken on a non-degree basis, students must earn a grade of "B" or higher to fulfill graduate course requirements (including undergraduate deficiencies/prerequisites) upon admission to the graduate program.

Students who have completed an undergraduate degree in Speech and Hearing Sciences may enroll as non-degree students in no more than 12 credit hours of SHS 500 level academic courses, and may not include courses in clinical practice and/or internship.

Graduate Program

Graduate Advisor

Barbara Rodriguez, Ph.D.

Any changes made after initial advisement must receive prior approval from an advisor. Failure to obtain this approval can extend the program by one year.

Application Deadlines

Fall semester: February 1

Only applications received by this deadline are assured of consideration.

In addition to the M.S. in Speech-Language Pathology described below, the Department of Speech and Hearing Sciences collaborates with the Department of Linguistics in a doctoral program for students interested in combining the study of Speech and Hearing Sciences with Linguistics. The concentration in Speech and Hearing Sciences within the Linguistics Ph.D. program is described under the Linguistics Department heading in this catalog.

Degree Offered

M.S. in Speech-Language Pathology

The Department of Speech and Hearing Sciences awards Master of Science degrees in speech-language pathology under both Plan I (thesis) and Plan II (non-thesis) according to regulations set forth in earlier pages of this catalog. The Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association (ASHA) accredits the program. All students must fulfill the academic and practicum requirements for the Certificate of Clinical Competence set forth by ASHA and specified by the department. Students must also comply with the requirements set forth in the SHS Graduate

Student Handbook and the Clinic Policy Manual. Persons with a bachelor's degree in a field other than Speech and Hearing Sciences are encouraged to apply. Advisement materials specifying admission requirements and related material are available upon request from the department and on the department Web site at <http://www.unm.edu/~sphrsci/>. All applicants should obtain and review these materials prior to initiating the admission process.

Students entering the graduate program must have earned at least a C in the courses used to meet the American Speech-Language-Hearing Association requirements of at 3 semester hours in Mathematics, 3 semester hours in Biological Sciences, 3 semester hours in Physical Sciences, and 3 semester hours in Social/Behavioral Sciences. Students must also have taken a Statistics course in which analysis of variance is taught. These courses may be the same courses used to meet other college or university requirements. They may not include remedial course work. Students who have not completed these requirements will be required to do so within the first 3 semesters after acceptance into the graduate program in order to continue their enrollment.

All students entering the graduate program are responsible for completion of the following undergraduate courses or their equivalent within the first 3 semesters of graduate enrollment, with a grade of at least B: SHS 303, 310 (510), 341 (521), 330, 425, 428 (528), 430 (530), 431 (536), 450 (550), 458, and 459 (559). Courses or their equivalents that were taken more than six years before entering the graduate program, or courses for which a grade lower than B was received, cannot be used to fulfill this requirement. The graduate advisor, in consultation with the Curriculum and Advisement Committee, will determine whether a course may be considered equivalent and will decide how the requirement must be fulfilled: by taking or re-taking the course, by testing out or by auditing.

The speech-language pathology program includes the basic sciences requirements (see paragraph 2 above) and SHS 300 and 400 level courses listed above as well as the following academic courses: SHS 500 (at least 4 enrollments to include no more than 2 summer sessions), 506, 507, 517, 525, 531, 532, 533, 534, 535, 558 and two 500 level electives that may be selected from department course offerings or from course offerings from a variety of department subject to approval by the SHS department. SHS 506 must be taken in the first year of enrollment in 500 level classes. A minimum grade of B is required for all 500 level course work.

Speech and Hearing Sciences (SHS)

*302. Introduction to Communicative Disorders. (3)

(Also offered as SPCD 302.) The nature of speech, language and hearing disorders in children and adults; overview of speech and hearing anatomy and physiology; multicultural issues; emphasizes the impact of communicative disorders on individuals and families.

*303. Introduction to Phonetics. (3)

(Also offered as LING 303.) An introduction to the physiological mechanisms underlying speech production, linguistic classification and transcription of speech sounds, acoustic properties of speech sounds, relationship between phonetics and phonology, and applications to speech pathology.

310./510. Anatomy and Physiology of Human Communication. (3)

Introduction to basic anatomy and physiology for speech, language, hearing and swallowing. Covers five systems: respiratory, phonatory, articulatory, auditory and neurological.

321./541. Introduction to Audiology. (3)

Basic hearing science, pathological conditions of the auditory system, audiometric testing.

Prerequisite: 310.

330. Introduction to Communication Sciences. (3)

Introduction to speech and hearing science. Covers basic science of sound, acoustic theory of speech production, acoustic and physiologic phonetics, sound transmission through the auditory system, acoustic and physiologic consequences of speech and hearing disorders.

420/542. Hearing Science. (3)

Anatomy and physiology of the auditory system. Basic knowledge of frequency, intensity, time and direction perception in normal hearing are discussed.

Prerequisite: 321 and 330.

***425. Aural Rehabilitation. (3)**

Appraisal and management of individuals with impaired hearing.

Prerequisite: 321.

428/528. Phonological Disorders in Children. (3)

Assessment and treatment of articulation and phonological disorders.

Prerequisite: 303.

430/530. Language Development. (3)

Developmental sequence of language acquisition and changes in communication behavior across the life span from birth to adulthood. Covers specific areas of phonology, morphology, semantics, syntax, pragmatics, literacy and metalinguistics.

431/536. Language Disorders in Children. (3)

A survey of language disorders in children and intervention. Topics include descriptions of clinical populations, intervention principles and methods, and linguistic, medical, developmental and cultural issues in intervention.

Prerequisite: 430.

450/550. Neural Basis of Communication. (3)

Structure and function of the central and peripheral nervous systems as they relate to normal and disordered communication.

Prerequisite: 310.

451. Undergraduate Problems. (1-3 to a maximum of 6) Δ

Restriction: permission of instructor.

***458. Preclinical Training. (3)**

Course content includes behavioral objectives, program design, data collection, client/family counseling, ethnographic interviewing with multicultural families, behavioral management and professional issues including certification and licensure requirements, ethical conduct and federal laws protecting the handicapped.

Prerequisite: 428. Pre- or corequisite: 431.

459/559. Multicultural Considerations in Communication. (3)

Students will obtain knowledge and understanding of how the cultural and linguistic diversity of clients affect communication. Appropriate assessment procedures and intervention strategies will be discussed.

Prerequisite: 428 and 430.

490. Topics in Speech, Language, and Hearing Sciences. (1-3 to a maximum of 6) Δ

Special topics motivated by expertise of instructor and interest of students.

500. Clinical Practice. (3 to a maximum of 18) Δ

Practicum assignment and seminar covering a variety of topics in clinical practice including diagnostics and evaluation, practice in school and hospital settings, and supervised practice in off-campus sites.

Prerequisite: 458. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program, permission of clinic director.

506. Reading and Writing in Research. (3)

Based on a scientist-practitioner model, this course is an introduction to research design with an emphasis on conceptual foundations and critical evaluation.

Prerequisite: PSY 200.

507. Adult Neurogenic Communicative Disorders. (3)

Comprehensive survey of predominant adult neurogenic communication disorders. Content includes theoretical issues, etiology, differential diagnosis, symptomatology, prognosis and recovery.

Prerequisite: 450 or 550.

510/310. Anatomy and Physiology of Human Communication. (3)

Introduction to basic anatomy and physiology for speech, language, hearing and swallowing. Covers five systems: respiratory, phonatory, articulatory, auditory and neurological.

517. Dysphagia. (3)

Acquire knowledge relevant to the identification, evaluation, treatment of infant and adult swallowing disorders.

Prerequisite: 310 and (450 or 550). Restriction: enrolled in M.S. Speech and Hearing Sciences degree program.

525. Voice Disorders. (3)

Based on knowledge of normal voice production, various voice disorders are surveyed and approaches to evaluation and treatment are discussed.

Prerequisite: 310. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program, permission of instructor for non-degree students.

528/428. Phonological Disorders in Children. (3)

Assessment and treatment of articulation and phonological disorders.

Prerequisite: 303.

530/430. Language Development. (3)

Developmental sequence of language acquisition and changes in communication behavior across the life span from birth to adulthood. Covers specific areas of phonology, morphology, semantics, syntax, pragmatics, literacy and metalinguistics.

531. Motor Speech Disorders and Stuttering. (3)

Overview of symptomatology of child and adult neurogenic speech disorders and fluency disorders with a focus on assessment and treatment.

Prerequisite: 450 or 550. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program.

532. Augmentative Communication. (3)

Overview and/or hands-on-experience with nonelectronic and electronic aids and devices used for augmentative communication. Focus may be on particular disabilities, assessment, therapeutic and/or research issues.

Prerequisite: 428, 431. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program, permission of instructor for non-degree students.

533. Assessing Language in Children. (3)

Principles and procedures of assessment for language disorders in children.

Prerequisite: 431. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program.

534. Intervention: Child Language Disorders. (3)

Principles and intervention procedures for child language disorders from early childhood through adolescence. Methods for examining treatment efficacy in clinical and research contexts.

Prerequisite: 431. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program, permission of instructor for non-degree students.

535. Medical Speech-Language Pathology. (3)

Topics relevant to practice in a medical setting are reviewed including evaluation and treatment of children with birth defects (cleft palate) and other special populations; professional and administrative concerns.

Prerequisite: 450 or 550. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program.

536/431. Language Disorders in Children. (3)

A survey of language disorders in children and intervention. Topics include descriptions of clinical populations, intervention principles and methods, and linguistic, medical, developmental and cultural issues in intervention.

Prerequisite: 430.

538. Stuttering. (3)

A critical examination of past and present approaches to stuttering assessment and management with an emphasis on treatment outcome evaluation.
Restriction: enrolled in M.S. Speech and Hearing Sciences degree program, permission of instructor for non-degree students.

539. Topics. (1-3 to a maximum of 6) Δ

Restriction: enrolled in M.S. Speech and Hearing Sciences degree program, permission of instructor. {Offered upon demand}

541./321. Introduction to Audiology. (3)

Basic hearing science, pathological conditions of the auditory system, audiometric testing.
Prerequisite: 310. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program, graduate students only.

542./420. Hearing Science. (3)

Anatomy and physiology of the auditory system. Basic knowledge of frequency, intensity, time and direction perception in normal hearing are discussed.
Prerequisite: 321, 330. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program.

550./450. Neural Basis of Communication. (3)

Structure and function of the central and peripheral nervous systems as they relate to normal and disordered communication.
Prerequisite: 310.

551. Problems. (1-3 to a maximum of 6) Δ

Restriction: enrolled in M.S. Speech and Hearing Sciences degree program.

558. Clinical Internship. (6-9 to a maximum of 18) Δ

Restriction: enrolled in M.S. Speech and Hearing Sciences degree program, permission of clinic director. {Fall, Spring, Summer}

559./459. Multicultural Considerations in Communication. (3)

Students will obtain knowledge and understanding of how the cultural and linguistic diversity of clients affect communication. Appropriate assessment procedures and intervention strategies will be discussed.
Prerequisite: 428, 430. Restriction: enrolled in M.S. Speech and Hearing Sciences degree program.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.
Restriction: enrolled in M.S. Speech and Hearing Sciences degree program.

SUSTAINABILITY STUDIES

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Les Fields, Anthropology
Geri Forbes Isais, School of Architecture & Planning
Miguel Gandert, Communication & Journalism
William "Bill" Gilbert, Art & Art History
Enrique Lamadrid, Spanish & Portuguese, Director:
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Jeanne Logsdon, Anderson Schools of Management
Organizational Studies
Bruce Milne, Biology, Director: Sustainability Studies Program

Vera Norwood, American Studies
Ric Richardson, School of Architecture & Planning
Susan Tiano, Sociology
Dan Young, Ph.D., University College, Director: Research Service Learning Program

Associate Professors

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William "Bill" Fleming, School of Architecture & Planning
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Kate Kraus, Economics
Ursula Shepherd, University Honors Program

Research Associate Professors

Kim Sorvig, School of Architecture & Planning

Assistant Professors

Terna Milstein, Communication & Journalism
Melinda Harm Benson, Geography

Lecturer

Maggie Seeley, Sustainability Studies Program

Introduction

Sustainability is a nationally and internationally recognized interdisciplinary field of vital importance. Sustainability seeks creative solutions that promote environmental health and restoration, social equity, and economic vitality. The goal is to meet the needs of the present (such as health, energy, food, shelter, and transportation) while ensuring the satisfaction of future generations. In light of unprecedented environmental degradation, social instability, and economic uncertainties in today's world, the sustainability minor cultivates the complex knowledge and skills needed to secure a healthy future for all. Sustainability is linked to rapidly growing career opportunities in business, education, government, and the non-profit sector. The Sustainability Studies minor provides students from all disciplines the opportunity to acquire pertinent knowledge and skills that complement their major, thereby preparing them for the challenges and opportunities ahead.

Mission

Sustainability Studies Program (SSP) spawns experiential learning, research, and service activities to implement practical solutions for a sustainable future for the bioregion, the Southwest, and the planet. Sustainability Studies integrates knowledge and methodologies from the Sciences, Humanities, and Arts to provide a roadmap for students that can be applied to the design, selection, and implementation of policies, practices, technologies, and strategies. Sustainability Studies provides a dynamic feedback loop of information and practice.

Goals

- Surround the student with colleagues, mentors, and peers who understand and practice sustainability.
- Provide access to thriving examples of sustainable communities on and off campus.
- Integrate theory and practice through service learning, research, and outreach projects.

Requirements

The minor in Sustainability Studies requires the successful completion of 21 credit hours: 9 hours of required core courses, SUST 134, 344, 434, and 499, and 9 remaining hours taken from three groups of electives. In the capstone independent study project, students apply lessons from the sustainability minor in the context of the major discipline or other arena. Ideally, students will design a project for one semester for 1 credit. During the second semester, the student will earn 2 more credits, for a total of 3 credits for SUST 499.

Students are advised in the selection of a faculty mentor who oversees the project. An ad hoc committee evaluates the final product and recommends a grade accordingly.

Electives

Select one elective from each of three areas of focus: 1) Environmental protection, 2) Social equity, and 3) Economic vitality, politics and policy. Courses from Freshman Learning Communities (UNIV), the Research Service Learning Program (RSLP), and the University Honors Program (UHON) may be substituted as electives with approval of the SSP advisor. Specific listings are available each semester. In addition, courses from praxis-oriented regional institutes of sustainability may qualify as electives, with approval of the SSP advisor and registration for UNM independent study credits. Consult the current schedule of classes online for each semester's offerings and check the Web site of the Sustainability Studies Program, <http://www.sust.unm.edu> each semester for a complete list of options.

Areas of Focus

Environmental protection (choose one)

ANTH 364	Topics: Human Evolutionary Ecolgy	3
ARCH 385	Environmental Controls I	3
ARCH 412	Seminar (topic: Sustainable Design)	3
BIOL 310L	Principles of Ecology	4
BIOL 490	Biology Infectious Organisms	3
CRP 181	Introduction to Environmental Problems	3
CRP 427	Watershed Management	3
ENVS 101	The Blue Planet	3
ENVS 330	Environmental Systems	3
EPS 101	How the Earth Works	3
EPS 352/ GEOG 352	Global Climate Change	3
EPS 472	Subsurface Fate and Transport Processes	3
EPS 481L	Geomorphology and Surficial Geology	4
EPS 485L	Soil Stratification and Morphology	3
GEOG 464	Food and Natural Resources	3
LA 335	Site & Environment	3
LA 458	Plant Materials	3

RSLP as appropriate and specified in the schedule of classes.

FLC as appropriate and specified in the annual FLC Guide.

Courses offered in the University Honors program as appropriate by topic and recommended by the UHP Curriculum Committee.

Art Studio majors may apply one of the following courses as an elective under this category: ARTS 461, 462, 463, or 464.

Social equity (choose one)

AMST 182	Introduction to Environment, Science and Technology	3
AMST 285	American Life and Thought	3
AMST 323	Environmental Justice	3
AMST 324	Environmental Conflicts in the U.S. West	3
ANTH 339	Human Rights in Anthropology	3
ANTH 365	Anthropology of Health	3
AMST 285	American Life and Thought	3
ARCH 470	Human Factors in Design	3
ARTS 429	Undergraduate Topics in Studio Art (Art and Ecology)	3
CJ 221	Interpersonal Communication	3
CJ 314	Intercultural Communication	3
CJ 320	Mediation	3
CJ 339	Rhetoric and the Environment	3
CJ 454	Diffusion of Innovations	3
CRP 165	Introduction to Community & Regional Planning	3
CRP 265	Community Planning: Concepts and Methods	3
CRP 473	Planning on Native American Land	3
CRP 474/574	Cultural Aspects of Community	3

	Development	3
CRP 484/584	Neighborhood Planning	3
MGMT 308	Ethical, Political and Social Environment	3
MGMT 362	Leadership Development	3
NATV 436	Environmental Ethics and Practices in Native America	3
PHIL 363	Environmental Ethics	3
SOC 221	Global Issues	3
SOC 303	Sociology of Political Behavior	3
SOC 305	Environmental Sociology	3
SOC 308	Sociology of Gender (WMST 308)	3
SOC 331	Collective Behavior	3
SOC 461	Social Dynamics of Global Change	3

RSLP as appropriate and specified in the schedule of classes.

FLC as appropriate and specified in the annual FLC Guide.

Courses offered in the University Honors program as appropriate by topic and recommended by the UHP Curriculum Committee.

Economic vitality, politics, and policy (choose one)

CRP 203/ ECON 203	Society and the Environment	3
CRP 424/524	Environmental Planning Methods	3
CRP 428/528	Gender and Economic Development	3
CRP 480/580	Community Growth and Land Use Planning	3
ECON 342	Environmental Economics	3
ECON 343	Natural Resource Economics	3
HIST 433	U.S. Environmental History	3
HIST 439	History of Science and Technology in the U.S.	3
HIST 440	Atomic America	3
GEOG 195	Survey of Environmental Issues	3
GEOG 360	Land and Resource Management	3
GEOG 363	Resource Geography	3
GEOG 461	Environmental Management	3
GEOG 462	Water Resources Management	3
GEOG 463	Public Land Management (Public Lands and Other Shared Resources)	3
POLS 376	Health Policy & Politics	3
POLS 377	Population Policy and Politics	3
POLS 475	Environmental Politics	3

RSLP as appropriate and specified in the schedule of classes.

FLC as appropriate and specified in the annual FLC Guide.

Courses offered in the University Honors program as appropriate by topic and recommended by the UHP Curriculum Committee.

Sustainability Studies (SUST)

134. Creating a Sustainable Future: Introduction to Environmental, Social, and Economic Health. (3)

(Also offered as AMST, ANTH 134.) An introduction to creating a sustainable future that supports environmental health and restoration, social equity, and economic vitality. Examines challenges and examples of integrated, creative strategies on local, regional, national, and global levels.

334. Sustainability Practicum to Benefit the Campus or Community. (3)

(Also offered as SOC 334.) A collaborative hands-on local sustainability project directly benefiting the campus or community, designing creative approaches to satisfy basic needs (such as food, health, energy, transportation) in a future-sustaining way. Prerequisite: 134.

***402. Topics in Sustainability Studies. (1-6 to a maximum of 18) Δ**

Explore specific topics that address the environmental, economic, and social aspects of sustainability. Topics may include legacies of leaders in sustainability, development of foodsheds, and other innovations.

434. Synthesis of Sustainability Perspectives and Innovations. (3)

(Also offered as AMST 434, ANTH 434, ARCH 449.) Presents frameworks for complex and creative analysis, including systems thinking and synergistic integration of the three pillars of sustainability: environment, equity, economy. Examines innovative local and international case studies in environment, business, policy, and community development. Prerequisite: 134 and (ECON 106 or 203).

499. Sustainability Independent Capstone Project as Research or Creative Expression. (1-3 to a maximum of 3) Δ

Apply lessons from the sustainability minor in the context of the major discipline or other arena, supported by a mentor and a review committee. Students select thesis research (section 1) or multimedia expression (section 2) option. Prerequisite: 434.

WOMEN STUDIES

Janet M. Cramer, Director
Women Studies Program
Mesa Vista Hall 2132
MSC06 3900
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-3854

Assistant Professors

Amy Brandzel, Ph.D., University of Minnesota
Saumya Pant, Ph.D., Ohio University

Lecturers

Kathryn Wichelns, Ph.D., Emory University

Affiliated Faculty**Professors Emeriti**

Judith Chazen-Bennahum, Theater and Dance
Vonda Long, Counselor Education
Ann Nihlen, Language, Literacy, and Sociocultural Studies
Susan Ressler, Professor Emerita, Visual and Performing Arts, Purdue University
Virginia Seiser, University Libraries
M. Jane Young, American Studies

Professors

Lynn Beene, English
Laura Crossey, Earth and Planetary Sciences
Helen Damico, English
Karen Foss, Communication & Journalism
Linda Hall, History
Jacqueline Hood, Anderson Schools of Management
Gail Houston, English
Vera P. John-Steiner, Language, Literacy, and Sociocultural Studies
Feroza Jussawalla, English
Natasha Kolchevska, Foreign Languages and Literatures
Louise Lamphere, Anthropology
Jane B. Lancaster, Anthropology
Antoinette Sedillo Lopez, Law
Diane Marshall, Biology
Deborah McFarlane, Political Science
Hellen Muller, Anderson Schools of Management
Marian Carole Nagengast, Anthropology
Tey Diana Rebolledo, Spanish and Portuguese
Virginia Scharff, History
Virginia Shipman, Family Studies Program
Jane Slaughter, History
Susan Tian, Sociology
Sharon Oard Warner, English
Carolyn Wood, Educational Administration
Joni Young, Anderson Schools of Management

Associate Professors

Jesse Alemán, English
Michelle Arthur, Anderson Schools of Management
Lonna Rae Atkeson, Political Science
Melissa Axelrod, Linguistics
Susanne Baackman, Foreign Languages and Literatures
Dorothy Baca, Theatre and Dance
Melissa Binder, Economics
Kirsten Buick, Art and Art History
Lisa Chavez, English
Pamela Cheek, Foreign Languages and Literatures
Patricia Covarrubias, Communication & Journalism
Janet Cramer, Communication & Journalism
Monica S. Cyrino, Foreign Languages and Literatures
Susan Dever, Media Arts
Leslie A. Donovan, University Honors Program
Bonnie Duran, Public Health
Kimberly Gauderman, History
Jane Hood, Sociology
Elizabeth Hutchison, History
Claudia Isaac, Community and Regional Planning
Michelle Kells, English
Laurel Lampela, Art Education
Celia Lopez-Chavez, University Honors Program
Kimberle Lopez, Spanish and Portuguese
Nancy Lopez, Sociology
Nancy Lough, Physical Performance and Development
Alex Lubin, American Studies
Judy Maloof, Spanish & Portuguese
Teresa Marquez, University Libraries
Margo Milleret, Spanish and Portuguese
Daniel Mueller, English
Ann Nihlen, Language, Literacy, and Sociocultural Studies
Elizabeth Noll, Language, Literacy, and Sociocultural Studies
Anita Obermeier, English
Ilia Rodriguez, Communication & Journalism
Susan Romano, English
Julie Shigekuni, English
Diane Thiel, English
Hector Torres, English
Carolyn Woodward, English

Assistant Professors

Amy Brandzel, American Studies
Eliza E. Ferguson, History
Anne Godfrey, Landscape Architecture
Marissa Greenberg, English
Pamela Lutgen-Sandvik, Communication & Journalism
Nancy McLoughlin, History
Carmen Nocentelli-Truett, English
Patrice Repar, Music and Arts-in-Medicine
Ruth Galvan Trinidad, Language, Literacy, and Sociocultural Studies
Denise R. Wheeler, Senior Research Scientist I, CASAA

Lecturers

Marisa Clark, English, Lecturer III
Christine Rack, Lecturer II

Introduction

Women Studies is an interdisciplinary program that is committed to educating students about the relationships among identity, power and knowledge toward the ends of social justice and empowerment. The program focuses on how gender intersects with race, sexuality, class, and nation. The program supports the development and application of new theories of feminist studies throughout the University and the application of feminist methods in order to evaluate critically scholarship and research in the disciplines. In addition, the program seeks to educate students in ways that enable them to respond to issues that affect the lives of women locally, regionally, and globally.

Major Study Requirements

Thirty-six hours as follows:

1. Eighteen hours of required courses:
WMST 200 Women: Social and Historical Perspectives (3)
WMST 304 Feminist Theories: Identity, Knowledge, and Power (3)
WMST 298 Writing/Research Lab (1)
WMST 325 Race, Class, Feminism (3)
WMST 492 Senior Seminar (3)
WMST 498 Field Study (2)
History course (3 hrs) from one of the following:
History 320, 321, 322, 344, 345, 427, 428, 462, 471, 472. Other courses may be used upon petition to the Director.
2. Nine hours in one focus area (Feminist & Gender Theory, Social Science, Literature/Film/Arts, Regional/Global, Sexualities). History courses taken to fulfill core requirements may not be used to fulfill requirements for the focus areas.
3. Nine hours in at least 2 additional focus areas. (Feminist & Gender Theory, Social Science, Literature/Film/Arts, Regional/Global, Sexualities). History courses taken to fulfill core requirements may not be used to fulfill requirements for the focus areas. See Program Director or Web site for current list of approved electives.

***Second Major Study Requirements

**In moratorium; No new students to be admitted until further notice.

Students may present Women Studies as a second major with 27 hours as follows:

(Eighteen hours of required courses), 200, 304, 325, 492, 498, and one history course from the following: HIST 330, 344, 345, 462; HIST/WMST 320, 321, 322, 428, 471, 472. Six hours in 1 focus area and 3 additional hours from one other focus area. Other courses may be used upon petition to the Director. History courses taken to fulfill core requirements may not be used to fulfill requirements for the focus areas.

Minor Study Requirements

The Women Studies minor consists of 21 hours as follows:

Nine hours from 200, 304 or 325, 492; 3 hours from 498, HIST 320, 344, 345, HIST/WMST 320, 321, 322, 428, 462, 471, 472; six hours from 1 focus area and 3 additional hours from one other focus area. Other courses may be used upon petition to the Director. History courses taken to fulfill core requirements may not be used to fulfill requirements for the focus areas.

Graduate Certificate in Women Studies

Students may present Women Studies as a transcribed graduate certificate with 15 hours as follows:

(Six hours of required courses); with a 3.0 or higher in WMST 510 Feminist Theories and WMST 512 Feminist Research Methodologies. Nine hours of electives approved by Director of WS: Six hours may be taken within the student's program; three hours must be taken from another department. Students must receive at least a 3.0 in all classes. Other courses may be used upon petition to the Director.

Applications should include:

- a. Proof of admission into a graduate program at UNM
- b. Letter of intent
- c. Undergraduate transcript
- d. One letter of recommendation

- e. Essay describing significant life experience applicant brings to the study of Women Studies, and explaining what he/she hopes to accomplish.

Applications should be sent to:
Director of Women Studies
MSC06 3900
1 University of New Mexico
Albuquerque, NM 87131-0001

Women Studies (WMST)

200. Women: Social & Historical Perspectives. (3)
Women's status in society: Women's socialization by sex, class, race and culture; the economics of discrimination, and role of education and family. Historical and social perspectives. {Fall, Spring}

231. Psychology of Human Sexuality. (3) (Also offered as PSY 231.) Exploration of the physiological, cultural, social and individual factors that influence sexual behavior, sex roles and sex identity.
Prerequisite: PSY 105.

233. Native American Women. (3)
An interdisciplinary course that focuses on the historical, cultural, economic and political issues that affect the changing roles of Native American Women.

234. Black Women Writers. (3)
An exploration of works written exclusively by black women as well as a multidisciplinary approach to black women's experiences through their own writings, art, media.

250. Black Women. (3)
(Also offered as AFST 250.) A comprehensive survey of the role Black Women have played in the society of the United States. Emphasis will be placed on achievements and contributions.

279. Interdisciplinary Topics. (1-3, may be repeated 3 times) Δ
Can be repeated for credit three times by students earning a major or minor in Women Studies.

298. Feminist Research and Writing Lab. (1)
Develops writing skills used in feminist scholarship, and applies feminist research methodologies in a lab setting.

304. Feminist Theories: Identity, Knowledge, and Power. (3)
Exploration of the intersections, connections, and tensions between feminist theory and queer, critical race, and postcolonial theories. Theoretical focus on the discussion around previous and emerging analyses of identity, knowledge/power, and justice.

308. Sociology of Gender. (3)
(Also offered as SOC 308.) How and why societies create gender categories. How do definitions of "masculinity" and "femininity" vary? What are the costs and benefits of being male or female in contemporary American society?
Prerequisite: SOC 101. {Fall, Spring}

313. Women and the Law. (3)
(Also offered as POLS 313.) A survey of legal issues affecting women. Examines the historical development and current law of equal opportunity, sexual harassment, pay equity, sports, family, reproduction and sexual violence.
Prerequisite: POLS 303.

314. Women's Contemporary Legal Issues. (3)
(Also offered as POLS 314.) This course focuses on legal issues of current concern affecting women, offering more intensive focus than 313. Potential topics include sexual harassment, domestic violence, child support enforcement, lesbian legal issues, pay equity.
Prerequisite: POLS 303.

320/520. History of Women from Ancient Times to the Enlightenment. (3)

(Also offered as HIST 320.) Study of sex roles in primitive societies, classical views of women, the Judeo-Christian treatment of women, medieval social roles and the changes that came with the Renaissance and Reformation. Attention will be paid to the role of women in the family and to their economic function as well as to the less common activities of saint, witch and revolutionary.

324. Contemporary Feminist Theory. (3)

An investigation of selected feminist theories from the past three decades. Learning the skills of analysis and applying these skills to theory will be stressed.

325. Race, Class and Feminism. (3)

This course will open discussion on the significance of race and class as an integral component in the development of feminist movements.

326. Gender and Communication. (3)

(Also offered as CJ 326.) Study of the relationship between gender and communication with specific attention to how gender affects language, verbal and nonverbal communication practices and how women's movements have attempted to transform gendered communication practices.

330. History of the Women's Rights Movement. (3)

(Also offered as HIST 322.) A detailed study of the movements for women's rights in the U.S., Europe and Latin America in the 19th and 20th centuries. The topic's approach will emphasize the movement's relation to and impact on broader historical questions.

331. Transnational Feminisms. (3)

Examination of theoretical and methodological techniques of postcolonial, transnational, and third world feminist scholars/activists; how oppressions are theorized, experienced, and resisted, with a special focus on colonization, imperialism, nationalism, global capitalism, and empire.

332. Introduction to Chicana Studies. (3)

(Also offered as CHMS 332.) An introduction to the interdisciplinary field of Chicana Studies. Includes historical and contemporary research on labor, political involvement, cultural studies and feminism.

334/534. Language and Gender. (3)

(Also offered as LING 334.) This course provides an introduction to linguistic analyses of language used by and about women and men, exploring how language is used in constructing ourselves and others as men and women, gay, straight or transgendered.

335. Lesbian Culture and Politics. (3)

Descriptive and theoretical focus on lesbian women in society and within the women's movement; consideration of issues relevant to Lesbian identity.

339. Women and Cultural Violence. (3)

An examination of cultural violence toward women (rape, domestic violence, sexual harassment, emotional and verbal abuse, media images, etc.) through political, economic, psychological, social and cultural perspectives.

353. Women and Creativity. (3)

A study of the creative process linked to the artist's position in society. A rotation course that will deal successively with women artists in the visual arts, literature, crafts and with the creative process itself.

357. Media-Arts and Women. (3)

Will present overview of women in art and media; will survey history; will serve as a workshop for developing skills; will interpret how the media influences status of women.

361. Behavioral Ecology and Biology of Sex Roles. (3)

Lancaster

Uses the perspective of evolutionary biology to examine the diversity of sex roles played by men and women in the historical and cross-cultural record.

Restriction: upper-division standing. (HEE) (Fall 1999 and alternate years)

375. Psychology of Women. (3)

(Also offered as PSY 375.) Survey of research and theory on gender-role stereotypes and gender differences in such contexts as interpersonal relations, the family, the work force, mass media, mental and physical health.

Prerequisite: PSY 105.

377. Population Policy and Politics. (3)

(Also offered as POLS 377/512.) Analysis of U.S. and multinational policies addressing issues of world population growth, including policy tools designed to control population growth.

379. Interdisciplinary Topics. (1-3 to a maximum of

9) Δ

Can be repeated for credit three times by students earning a major or minor in Women Studies. (Fall, Spring)

380. Women Culture & Society. (3)

(Also offered as ANTH 380.) An overview of women's and men's experience in our own and other cultures. We will read case studies about gender relations in Native North America, Mexico, Africa, the Middle East and differing ethnic and class segments of the U.S. Issues to be covered include reproduction, the family, work and colonialism.

***400. Methods and Principles of Feminist Inquiry. (3)**

Designed for advanced students—seniors and graduate students in all disciplines—this course will introduce students to the fundamental questions and methods of feminist scholarship as an interdisciplinary mode of inquiry.

414. Feminine Sexuality. (3)

Study of theory, construction, and identity of feminine sexuality through readings of feminist theorists, Freud, Lacan, Horney, and others.

418. Women in Early Latin America. (3)

(Also offered as HIST 471.) A historical exploration of the place of women within the social systems of pre-Columbian and colonial Latin America. Will explore the gendered dimensions of the economy, politics and culture in indigenous and Spanish societies.

424. Advanced Feminist Theory. (3)

Advanced investigation of feminist theories.

Prerequisite: 324.

427. History of Sexuality. (3)

(Also offered as HIST 427.) Study of sexual behavior, politics and ideology in Western Society from the pre-modern world to the contemporary era. Background in History of Women Studies is suggested.

428. Women, War and Revolution. (3)

(Also offered as HIST 428.) Study of women's participation in wars and revolutions, and discussion of the social impact of these events which often alters women's status, experience and expectations. Typical approach using global example and case studies.

467. Men, Women and Leadership. (3)

Addresses the changing role of men and women in work organizations, the new and changing issues which leaders face in the organization, the organizational perspectives on the roles of leaders and men and women's issues as leaders.

Prerequisite: MGMT 306 and MGMT 307. Restriction: permission of instructor.

469. Multiculturalism, Gender and Media. (3)
 (Also offered as CJ 469.) Exploration of how gender, race, class, sexual orientation, ethnicity and other social positions affect media coverage, portrayals, production and reception. The course focuses on theories, methods of analysis and topics of current interest.

472. Women in Modern Latin America. (3)
 (Also offered as HIST 472.) Course will focus on women in Latin America, 1821–present, through various historical developments. Will explore political themes, such as suffrage, revolution and military regimes and social dimensions of class, race, ethnicity, work and family.

487. Sexism in Education. (3)
 (Also offered as LLSS 587.) Focuses on historical and sociological analysis of discrimination as well as its psychological effects on children and adults. Includes the development of sex roles, the effects of curricula materials and Title IX.

492. Senior Seminar. (3)
 An advanced course for seniors in Women Studies, emphasizing synthesis and development of research skills. Restriction: senior standing and permission of instructor. (Spring)

498. Field Experience. (3)
 Planned and supervised work experience in a community agency serving women.

499. Independent Study. (1-3, may be repeated 3 times) Δ
 Student is expected to present a topic for study. May be repeated for credit three times. Restriction: permission of instructor.

510. Feminist Theories. (3)
 Study of major themes in contemporary feminist thought.

512. Introduction to Feminist Research Methodology. (3)
 Study of feminist research methodologies, covering interdisciplinary feminist approaches to research and applications of feminist scholarship.

520/320. History of Women from Ancient Times to the Enlightenment. (3)
 (Also offered as HIST 520.) Study of sex roles in primitive societies, classical views of women, the Judeo-Christian treatment of women, medieval social roles and the changes that came with the Renaissance and Reformation. Attention will be paid to the role of women in the family and to their economic function as well as to the less common activities of saint, witch and revolutionary.

534/334. Language and Gender. (3)
 (Also offered as LING 534.) This course provides an introduction to linguistic analyses of language used by and about women and men, exploring how language is used in constructing ourselves and others as men and women, gay, straight or transgendered.

579. Interdisciplinary Topics. (1-3, may be repeated 3 times) Δ

Related Courses

See Program Director or Web site for current list of approved electives.

- AMST 183. Introduction to Gender Studies. (3)
- AMST 330. Topics in Gender Studies. (3)
- AMST 332. Sexuality and Culture. (3)
- AMST 333. Gender and Tradition. (3)
- ANTH *340. Topics in Cultural Anthropology. (3)
- CJ 413. Studies in Intercultural Communication. (3)
- CJ 469. Multiculturalism, Gender and Media. (3)
- DANC 464. Dance History III. (3)
- ENGL 315. Interdisciplinary Approaches to Literature. (3) (When topic is gender/women.)
- ECON 239. Economics of Race and Gender. (3)
- LING 295. Language-Current Issues. (3)
- MGMT 457. Diversity in Organizations. (3)
- POLS 374. Women in American Politics. (3)
- PSY 231. Psychology of Human Sexuality. (3)
- PSY 375. Psychology of Women. (3)
- SOC 225. Marriage, Family and Their Alternatives. (3)
- SOC 308. Sociology of Gender. (3)





COLLEGE OF EDUCATION

Richard Howell, Dean
College of Education
Travelstead Hall
MSC05 3040
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 277-2231, FAX: (505) 277-8427
Web site: <http://coe.unm.edu>

USER REFERENCE: ORGANIZATION OF THIS CATALOG MATERIAL PERTAINING TO PROGRAMS IN THE COLLEGE OF EDUCATION

Note: This information and additional information may be found on the University Web site at <http://www.unm.edu> and the College of Education Web site at <http://coe.unm.edu>.

Information is organized in the order of the following headings:

INTRODUCTION

An overview of initial and advanced study.

UNDERGRADUATE STUDY INCLUDING POST-BACCALAUREATE TEACHER PREPARATION

Undergraduate Programs
Initial Teacher Preparation Programs
Non-Teaching Programs
Post-Baccalaureate Master's Completion Initial Teacher Preparation Program
Teaching Fields for Initial Teacher Preparation Programs including Undergraduate and Post-Baccalaureate
Undergraduate and Post-Baccalaureate General Guidelines
Academic Advisement and General Undergraduate Admission Requirements
Eligibility Criteria for Undergraduate Application to the College of Education—All Programs
Application and Admissions Process
Minimum Criteria for Undergraduate Application to a Teacher Preparation Licensure Program
Criteria for Post-Baccalaureate Master's Completion Application to a Teacher Preparation Licensure Program
Criteria for Undergraduate Application to Non-Teaching Programs
Programs of Study in Teacher Preparation Licensure Programs
General Education
Teaching Field Endorsement
Pre-Professional Education
Professional Education including Student Teaching
Student Teaching
Requirements for Admission to Student Teaching
General Requirements for Graduation Licensure
Additional Information
Enrollment Limitations
Probation and Suspension
Dean's List and Honor Roll
Departmental Honors

GRADUATE STUDY

GRADUATE PROGRAMS AND PROCEDURES OVERVIEW
Master's Programs
Doctoral Programs
Education Specialist Certificate Programs
Professional Development
Education Graduate Committee
Professional Development Credit Council

ALPHABETICAL LISTING AND DESCRIPTION OF AREAS OF STUDY (INITIAL AND ADVANCED) INCLUDING:

Application Procedures and Deadlines
Program Requirements and Course Descriptions

Introduction

College of Education vision:

Excellence and diversity through people, ideas and innovation.

Students completing programs in professional education must be prepared for a wider array of professional responsibilities than ever before. Education has expanded beyond the boundaries of the school to address the continuing education of children, youth and adults throughout a lifetime of learning. Such expansion of the perspective of education requires a focused mission and commitment to certain core values.

Our mission is the study and practice of education through teaching, research and service. We

- address critical educational issues;
- test new ideas and approaches to teaching and learning; and
- educate professionals who can:
 - facilitate human growth and development in schools, homes, communities and workplaces,
 - prepare students for participation in a complex and challenging society.

In carrying out our mission, we value

- **excellence** in all we do;
- **diversity** of people and perspectives;
- **relationships** of service, accountability, collaboration and advocacy;
- the discovery, discussion and dissemination of **ideas**; and
- **innovation** in teaching, technology and leadership.

The College is organized in multi-programmatic departments. Each is composed of several program units which work together in areas of common interest so that students and faculty make connections across fields of study. **Prospective students should consult with the department in which the program is listed to get an update on any curricular changes approved after the printing of the catalog.**

At the baccalaureate and post-baccalaureate levels, the College offers undergraduate initial (entry level) professional preparation programs for qualified individuals seeking careers in teaching and related occupations. **Admission of qualified individuals to all initial professional preparation programs is competitive and must be successfully completed at least one semester in advance of the projected time of beginning professional study.**

At the graduate level, the College offers advanced professional education in careers in teaching and related occupations. In addition, some advanced professional education programs in specialized areas (e.g., educational leadership, elementary education, secondary education, counseling and organizational learning and instructional technologies) require prerequisite degrees, experiences and/or professional licensure.

Conceptual Framework

The College faculty have approved a conceptual framework (Web site: <http://coe.unm.edu>) which is a guiding vision for professional education programs in the College of Education.

Conceptual Framework for Professional Education

The College of Education at the University of New Mexico believes that professional education should seek to help individuals develop professional understandings, practices and identities. These understandings, practices and identities frame the lifelong learning of professional educators and reflect the values articulated in our Mission Statement and in state and national standards and competencies.

Understandings frame the identity and practices of educational professionals. We seek to help you better understand:

- Human Growth and Development
- Culture and Language
- Content of the Disciplines
- Pedagogy
- Technology
- Professional Issues
- Nature of Knowledge

These understandings enable you, as a professional, to value and engage in **practices** that embody the following qualities:

- Learner-Centered
- Contextual
- Coherent
- Culturally Responsive
- Technologically Current

Developing a professional **identity** is central to lifelong growth as a professional educator. The College of Education will help you to develop the following attributes of a professional:

- Caring
- Advocacy
- Inquisitiveness
- Reflection-in-Action
- Communication
- Collaboration
- Ethical Behavior

Many careers in education require licensure (New Mexico state educator's license) and additional teaching field endorsements added to these licenses. Students who complete an initial teacher preparation program or certain advanced professional education programs in specialized areas such as educational leadership, educational diagnostician, elementary/secondary education or counseling are eligible to apply for such licensure and endorsements. The planned programs in initial and advanced professional educator preparation are approved by the New Mexico Public Education Department and are accredited by the National Council for the Accreditation of Teacher Education (NCATE).

Other College units directly assist program, faculty and students in understanding diversity in educational contexts and participation in educational outreach and research. These units include: Center for Family and Community Partnerships, Institute for Professional Development, Center for Multicultural Bilingual Education (MEC) which houses Latin American Programs in Education (LAPE), New Mexico Research and Study Council (NMRSC), Office for Community Learning and Public Service, APS/UNM Partnership and the Technology and Education Center.

The College offers jointly with the University of New Mexico–Gallup and the University of New Mexico Extended University an initial (entry level) teacher preparation program for bachelor's completion and/or post-baccalaureate/Master's completion students in Gallup. The College also offers an Elementary/Secondary Master's degree program at the University of New Mexico–Gallup and at the University of New Mexico Teacher Education site at San Juan Community College in Farmington. These programs work closely with the Navajo Division of Teacher Education, the Gallup-McKinley School District, the University of New Mexico–Gallup, San Juan Community College and school districts in the Four Corners region. For more information about the programs offered at Gallup and Farmington visit their Web site at <http://eu.unm.edu>.

The College's Tireman Library houses educational curricular collections across all school grade levels and subject matter areas. Included in this collection are some curricular materials representing various Southwestern indigenous languages and cultures as well as representative Spanish language and cultures in the western hemisphere.

Undergraduate Study

Undergraduate Programs

Undergraduate programs that lead to teaching careers are listed under Initial Teacher Preparation Programs; those that lead to other occupational careers are listed under Non-teaching Programs. Teaching licensure programs require a teaching field or endorsement area.

Initial Teacher Preparation Programs

Students completing the University of New Mexico graduation requirements and the curriculum for a teaching license will receive a Bachelor's degree and are eligible to apply for Level I Licensure in New Mexico. The degree will be one of the following: Bachelor of Arts in Education (B.A.Ed.), Bachelor of Science in Education (B.S.Ed.) or a Bachelor of Science (B.S.). Eligibility for initial teaching license (Level I) also requires passage of a set of examinations prior to licensure. The examinations required by the State of New Mexico are part of the New Mexico Teacher Assessment. For more information about licensure, check with the New Mexico Public Education Department at (505) 827-6587 or visit their Web site at <http://www.sde.state.nm.us>. For complete information, contact the College Advisement Center in Hokona Hall and the Department Office listed for each program:

- Art Education (B.A.Ed.; K–12th grades license)—Department of Educational Specialties, Hokona Hall
- Early Childhood Multicultural Education (B.S.; Birth–8 years license)—Department of Individual, Family and Community Education, Simpson Hall
- Elementary Education (B.S.Ed.; K–8th grades license)—College Advisement Center, Hokona Hall.
- Health Education (B.S.Ed.; 7–12th grades license)—Department of Health, Exercise and Sports Science, Johnson Center
- Physical Education (B.S.Ed. K–12th grades license)—Department of Health, Exercise and Sports Science, Johnson Center
- Music Education—See Music Education in the College of Fine Arts
- Secondary Education (B.A.Ed. or B.S.Ed.; 7–12th grades license)—College Advisement Center, Hokona Hall.
- Special Education (B.S.Ed., Special Ed. K–12th Elementary Ed K–8th dual licensure)—College Advisement Center, Hokona Hall 273

Note that initial teacher preparation programs in Elementary Education, Secondary Education and Special Education are also available at the Master's level.

Non-Teaching Programs

Students completing the requirements and curriculum for a non-teaching program major will receive a Bachelor of Science (B.S.) degree. For complete information, contact the College Advisement Center, Hokona Hall and the Department Office listed.

- Athletic Training (B.S.): Department of Health, Exercise and Sports Science, Johnson Center
- Family Studies (B.S.): Department of Individual, Family and Community Education, Simpson Hall
- Human Development and Family Relations (B.S.): Department of Individual, Family and Community Education, Simpson Hall
- Exercise Science (B.S.): Department of Health, Exercise and Sports Science, Johnson Center
- Nutrition and Dietetics (B.S.): Department of Individual, Family and Community Education, Simpson Hall
- Technology and Training (B.S.): Department of Educational Leadership and Organizational Learning, Hokona Hall

Post-Baccalaureate/ Master's Completion Initial Teacher Preparation Program

Students who have completed a Bachelor's degree with a major outside of education and who are seeking a teaching career in elementary, secondary, special education, physical or health education may be qualified to apply for admission to a planned professional educator preparation program leading to eligibility for licensure and completion of a master's degree. Such application must be completed far in advance of the projected time to begin such professional study and requires concurrent application to Graduate Studies. Selection for admission is competitive. For complete information contact the Teacher Education Department (505) 277-4533 in Hokona Hall. Individuals should contact a faculty advisor regarding details and admission.

Teaching Fields for Initial Teacher Preparation Including Undergraduate and Post-Baccalaureate

Initial (entry level) teaching licenses in Elementary Education and Secondary Education require that one or more endorsements are completed. Most of the College's professional educator preparation and degree programs require one or more of the following teaching fields approved by the New Mexico Public Education Department: Bilingual Education, Communicative Arts, Fine Arts, Health Education, Language Arts, Library Media, Mathematics, Modern and Classical Languages, Navajo Language, Physical Education, Reading, Science, Social Studies or Teaching English to Speakers of Other Languages (TESOL). In the student's academic program, the chosen teaching field is met through 24–56 hour concentration; students planning a Secondary Education program may major in their teaching field in the College of Arts and Sciences and use their Secondary Education program as a minor. Multiple teaching fields or minors are encouraged and can be completed through careful planning with a faculty advisor.

These teaching fields are well designed programs that also meet the needs of the state.

For complete information on the teaching fields of:

Bilingual Education, Communicative Arts, Language Arts, Library Media, Navajo Language, Reading, Social Studies and Teaching English to Speakers of Other Languages (TESOL)

contact the College Advisement Center or the Departments of Teacher Education and/or Language, Literacy and Sociocultural Studies, both in Hokona Hall.

For complete information on the teaching field of:

Art (for Art Education license)
contact the College Advisement Center or the Department of Educational Specialties in Hokona Hall.

For complete information on the teaching fields of:

Health Education and Physical Education
contact the College Advisement Center or the Department of Health, Exercise and Sports Science, located at Johnson Center.

For complete information on the teaching fields of:

Fine Arts/Theatre, Dance or Music Education
contact the Department of Theatre, Dance or Music Education in the College of Fine Arts.

For complete information on the teaching fields of

Mathematics and Science
contact the College Advisement Center or the Department of Teacher Education in Hokona Hall.

Undergraduate and Post- Baccalaureate General Guidelines

Academic Advisement and General Undergraduate Admission Requirements

Students planning to apply to teacher preparation programs and non-teaching programs should contact the College of Education Advisement Center, Hokona Hall. This should be done as early in their University course work as possible. Information and advisement procedures for both teacher preparation and for non-teaching programs are available. All students preparing to be teachers should meet with a College advisor to discuss general education (Arts and Sciences and Fine Arts) requirements for licensure. (See the following section, Programs of Study in Teacher Preparation, General Education Requirements.)

Academic requirements, criteria and application procedures for admission to a program in the College are available at the Advisement Center. After completion of the application process and formal admission to the College of Education, and a program in the College, the program will assign a faculty advisor. Those students who wish to major in a field in Arts and Sciences and plan to obtain eligibility for a teaching license must seek advisement from the College of Education regarding state licensure requirements.

All students must meet the minimum criteria below prior to making application for admission into any College program. However, meeting these criteria will not necessarily guarantee admission.

Minimum Eligibility Criteria for Undergraduate Application to the College of Education—All Programs

1. Twenty-six hours of course work completed. Students are encouraged to apply as soon as possible after completing 26 hours.
2. Grade point average: 2.50 overall, or 2.50 for the last 60 hours (all course work, all institutions).

Both teacher preparation programs and non-teaching programs have specific criteria in addition to the above eligibility criteria required for all programs. These are available from the specific program or the College Advisement Center. The additional minimum criteria for undergraduate admission to all teacher preparation programs are listed in this section following the **Applications and Admissions Process**. Admission to all programs is limited by the capacity to offer quality programs; admission and selection is a competitive process. The faculty recommend admission for only those students who, from their application materials, appear to be the best qualified to profit from the program.

All students seeking admission to the College of Education must successfully complete the appropriate application process prior to being admitted. Formal admission to a College program also admits the student to the College; however, the non-degree student must initiate the transfer to the College as noted in step 7 of the Application Process (below) in order to finalize the admission process and to officially become a major in the College. Completion of this application process and finalization of transfer to the College takes approximately one semester.

Application and Admissions Process

1. The student meets with a College Advisement Center Advisor.
2. Student obtains an application packet from the College of Education Advisement Center, Hokona Hall.
3. Student completes an application packet and attaches additional information as required. Student returns complete packet to College Advisement Center.

4. Upon receipt, the Advisement Center reviews packet to determine a) that minimum requirements for all programs (see above) are met and, when appropriate, that additional minimum requirements for teacher preparation programs are also met; and b) that all required information is included.
 5. Advisement Center refers all applications meeting program requirements to the program(s) to which the student is seeking admission.
 6. Program faculty review application and, if required, schedule an interview.
 7. Program faculty recommend admission or denial of admission and the College Advisement Center communicates with student by mail. Note: Meeting minimum requirements does not guarantee admission. When more students apply than can be accommodated, programs give preference to students who demonstrate qualifications above minimum requirements.
 8. Students who are in non-degree status who are offered admission and plan to major or complete a program in the College of Education must contact the Admissions Office to initiate transfer into the College of Education.
 9. Students who are not admitted are encouraged to request an appointment with the program coordinator to review their application and the reasons for not being admitted.
7. Submission of three letters of recommendation (from previous teachers or supervisors in child/youth related experiences).
 8. Specific program requirements (contact the College Advisement Center).

Criteria for Undergraduate Application to Non-Teaching Programs

Students should contact the College Advisement Center, Hokona Hall, for information on procedures for admission to non-teaching programs and discuss curricular programs presented in the following section, *Alphabetical Listing and Description of Areas of Study*.

Criteria for Post-Baccalaureate/ Master's Degree Completion Application to a Teacher Preparation Program

Many students applying for admission to a teacher preparation program already have completed a bachelor's degree from an accredited institution. The application process and criteria are the same as the nine criteria listed above for undergraduate admission with the following exceptions:

1. **Some programs use only one grade point average option.**
2. **Post-Baccalaureate applicants to teacher preparation programs must take and pass the basic skills section of the New Mexico Teacher Assessment Tests. The official test results must be on file, with the application, in the College Advisement Center when the review of applications is started.**
3. **Application to Graduate Studies must be done at the same time.**

Admission is a competitive process. Prospective students can obtain information for a specific program from the College Advisement Center, Hokona Hall. Either prior to admissions or during the program, post-baccalaureate/graduate students must meet state licensure requirements, which include:

1. 57–60 hours in General Education (Arts and Sciences, Fine Arts)
2. 24–56 hour teaching field (see teaching fields or endorsements in previous part of this section)
3. A planned professional teacher preparation program.

Students already enrolled at the University of New Mexico whether in Undergraduate Studies, another degree-granting College or in non-degree status will not be eligible to take 300 and 400 level professional education courses (some specific courses are approved for exception) or to transfer to the College until they are formally admitted to the College of Education. Students who are working toward degrees through colleges other than the College of Education and who seek to obtain licensure in teaching areas under the jurisdiction of any program in the College of Education are subject to the same regulations as students admitted to the College.

Transfer students from another institution, including a University of New Mexico branch, may enroll in the College of Education on a provisional basis for one semester during which time they must complete the application process for admission into a College program. Transfer students should be aware that admission in some programs is competitive as noted in Step 6 of the Application Process (see above).

Minimum Criteria for Undergraduate Application to Teacher Preparation Programs

1. Grade point average options for applicants with 26 or more hours, or who are transferring from another institution:
 - a. College grade point average 2.50 criteria (See above, eligibility criteria)
 - b. 2.70 GPA for last 24 hours, or
 - c. 3.0 for last 12 hours at the University of New Mexico (content courses only) plus 2.50 GPA on the previous two semester/quarters wherever taken
 - d. For Secondary Education, 2.50 for all course work and 2.50 in the endorsement area.
 - e. To be eligible to apply to the Elementary Education program applicants must have no more than 9 hours remaining in addition to their required Teacher Education hours. Advisors determine eligibility.
2. Provide documentation of successfully passing the Professional Skills Assessments: New Mexico Teacher Assessment Tests—Basic Skills section. (The New Mexico Teacher Assessment Tests will be given at scheduled times in different locations in the state. Contact the College Advisement Center for schedule, information and location.)
3. Satisfactory writing samples.
4. Demonstrated multicultural experience/knowledge.
5. Demonstrated experience with children and/or youth.
6. Satisfactory completion (C or better) of designated courses (if applicable). See program area for specific requirements.

Programs of Study in Teacher Preparation Programs

All Undergraduate Programs in the College build on a strong base of general (liberal) education, a teaching field and professional education. It is important to note, however, that these dimensions of study in teacher preparation programs are regulated by the State of New Mexico through the Public Education Department regulations. In teacher preparation, the bachelor's degree must include course work in general education, a teaching field and professional education. The teaching field and the professional education studies are grounded in the State of New Mexico competencies that each licensed teacher is expected to possess and demonstrate. These competency standards are built into the teaching field and the professional education areas of study. Visit the New Mexico Public Education's Web site at <http://www.sde.state.nm.us>.

General Education Requirements (57–60 Hours Minimum)

- | | |
|---|----|
| 1. Communication Arts | 12 |
| 2. History (must include American History and Western Civilization) | 12 |
| 3. Mathematics | 9 |
| 4. Social Studies | 6 |

5. Science	12
6. Fine Arts	6
7. Second Language	3

NOTE: Many of these general education courses can be part of a student's first year or second year program either on main campus or at a two year branch. Students should seek advisement information from the College of Education Advisement Center as early as possible in order to assure meeting these licensure requirements. Students in Gallup and Farmington should seek early advisement from the respective branch campus.

Teaching Fields (24–56 Hours)

Twenty-four to 56 semester hours in a teaching field or endorsement is required in a degree program for teacher preparation and licensure. A composite teaching field may require up to 56 hours.

Teaching and Learning Support

Students who are interested in teaching as a career, admission to the College of Education and a teacher preparation program are encouraged to complete the courses and activities prior to application. Students should contact the Advisement Center to obtain a list of specific courses and requirements that support and enhance application to that program. In addition to course work, experiences in teaching/learning settings and working with diverse populations are expected of all applicants. There are a variety of opportunities in many different settings for students to gain experience in these two areas if they start early.

Professional Education

Each teacher preparation program includes a designated set of semester hours ranging from 24 hours to 42 hours in the initial teacher licensure area (see above). This must include completion of the performance standards (competencies) in the licensure area and include student teaching and/or additional practicum and supervised field experiences. Student teaching is an integral part of professional study and requires the demonstration of performance competencies. Student teaching is one of the most important prerequisite experiences to meeting eligibility for teacher licensure. The College establishes professional partnerships, professional relationships and professional development schools with many school districts and some individual schools in New Mexico to support the student teaching experience. Student teachers practice under the direction of school-based faculty and mentors with the support and supervision of College faculty and mentors.

Students should seek information from the specific program to which they are admitted. Planning for student teaching should be initiated far in advance of the placement. Several programs and school districts require attendance for each complete school day for a semester based on the school district calendar, not the University calendar. Many College programs integrate methods courses with student teaching and may require a full year placement in one school setting. Most programs require a student teaching seminar. **While student input is sought by many of the programs, students must not initiate conversations with schools. The placement of each student teacher in a specific school is the responsibility of the program faculty. In most instances, a student teaching fee is charged for each semester a student is enrolled in student teaching.**

Requirements for Student Teaching

The student must:

1. be admitted to a specific teacher education program in the College of Education at the University of New Mexico. Any stipulations indicated at the time of admission must have been removed,

2. satisfactorily complete all prerequisites required in their specific program,
3. have earned the minimum overall cumulative grade point average required. See the specific program, as well as meet any specified minimum grade point average requirements established for courses in the major area, prior to entry into student teaching. Requirements are not identical in all programs,
4. plan, with the appropriate program faculty advisor, a student teaching semester or academic year that matches the program requirements with individual student resources (time, readiness, finances). A total semester schedule of no more than 15 hours of course work, including student teaching, is strongly recommended,
5. earn grades of C or better in required professional education major and teaching field courses. Some programs have more stringent requirements,
6. file an application for graduation in the College of Education Advisement Center.

Prior to student teaching in school, all student teachers must:

- a. provide the Advisement Center with evidence of liability insurance. Insurance may be provided through membership in the National Education Association (NEA), American Federation of Teachers (AFT) or through a private insurance company. Information is available at the Advisement Center,
- b. provide the Advisement Center with current address, e-mail address, and phone number. Programs need to contact students on final placement issues, especially during the early summer months, when phone numbers and e-mail addresses can change. Name, address, phone and e-mail changes must be given to the program coordinator, as well as to the Advisement Center,
- c. meet fingerprint and background check requirements of school district where placed.

General Requirements for Graduation

College Requirements

Students must meet all University requirements for graduation, as well as general requirements of the College and the specific requirements of the program. It is the student's responsibility to complete all requirements. Students should contact their faculty advisors as early in their studies as possible. An application for the final degree check should be completed and filed with the College Advisement Center. In order to graduate, a graduation check must be turned in no later than the following dates:

Fall Semester:	May 1
Spring Semester:	October 1
Summer Session:	March 1

The College requirements for graduation are as follows:

1. Completion of a minimum of 128 semester hours. No more than 5 semester hours of credit earned in workshops may be used toward any bachelor's degree.
2. Maintenance of a grade point average of 2.00 or higher on the 128 hours being counted for graduation; at least a 2.00 grade point average in all work attempted at the University of New Mexico.
3. Completion of 40 semester hours in courses numbered 300 or above.
4. Completion of the prescribed curriculum that leads to the desired degree. Students are entitled to graduate under the curriculum in effect at the time of their transfer into the College, if they have been in continuous attendance, or they may graduate under the curriculum that is in effect in the semester that they graduate.
5. Completion of English 102 with a C or better. Students exempt from taking English 101 and students who receive a grade of B- or higher in English 101 or its equivalent at another institution may choose to satisfy

the minimum competence in English writing requirement (English 102) through the Writing Proficiency Portfolio program administered in the English Department.

6. Grades of C or better in required professional education major and teaching field courses. Some programs have more stringent requirements.

Licensure

Students who complete the requirements for a teaching license are eligible to apply for licensure. Students who are majors in the College may apply to the State of New Mexico for a level I license by completing the application form sent with their completion letter and submit it to the Public Education Department, Santa Fe, New Mexico. Students in secondary education pursuing a major through the College of Arts and Sciences leading to eligibility for teacher licensure, in addition to consultation with an Arts and Science advisor, must see a faculty advisor in the College of Education to develop an individual advisement sheet. These advisement sheets must be placed on file both in Arts and Sciences and in the College of Education Advisement Center. Students planning to teach in other states should ensure that their planned program meets the requirements of those states. For further information about licensure, consult the College Advisement Center at Hokona Hall or the Public Education Department. See <http://coe.cte-0027.unm.edu> and <http://www.ped.state.nm.us>.

Additional Information

Enrollment Limitations

Students may not enroll for more than 18 hours during a regular semester (Fall or Spring), or 9 hours during an eight-week summer session, without Dean's approval. Maximum overload enrollment will not exceed 21 hours during the academic year or 12 hours during an eight-week summer session. To request approval for an overload a student must:

1. Have maintained a grade point average of 3.00 or higher;
2. Obtain an overload petition from the COE Advisement Office; and
3. Request written approval of the petition, by the student's faculty advisor, and receive the written approval of the Chair of Teacher Education or the Associate Dean.

Information about the enrollment limitation and approval for overload requests and the required form may be obtained from the College of Education Advisement Center, Hokona Hall, Room 138.

Probation and Suspension

Students are placed on probation at the end of any semester in which the cumulative grade point average for courses taken at the University of New Mexico falls below a 2.00. Students are allowed to remain on probation for two semesters. If the student has not raised the cumulative grade point average by the end of the second semester, he or she could be liable for suspension.

Dean's List and Honor Roll

Undergraduate students in the College of Education are eligible each semester for recognition for excellence in academic achievement. Students are normally notified by mail when they have achieved this award.

To be placed on the **Dean's List** of the College of Education, students must achieve a minimum semester grade point average of 3.75 on a minimum of 12 credit hours and have a minimum cumulative grade point average of 3.25. In addition, students who achieve a minimum cumulative grade point average of 3.75 are nominated annually by the Dean of Education for the "National Dean's List®." (This honor is not recorded on the student's University of New Mexico transcript.)

The College of Education may post the Dean's List and National Dean's List® for public viewing and may send this information to newspapers and other public media. Such awards are considered "directory information" and may be released without the student's written consent unless the student has previously requested that "directory information" be withheld. Students who wish to have "directory information" withheld should refer to the section of this catalog related to "Access to and Confidentiality of Student Records" for policies and procedures.

For more information about these awards in the College of Education, contact the Advisement Center, Diane Trujillo, Senior Academic Advisor, Hokona Hall 138, at (505) 277-7261, or (505) 277-3190, or e-mail at dianet@unm.edu.

Departmental Honors

A departmental honors program is offered in some of the units of the College of Education. Application for participation in the program must be made in writing during the junior year. The program may consist of any one of the following: (1) a senior thesis, (2) a reading and tutorial program under a major advisor, (3) honors in student teaching. All students permitted to enter the honors program must meet University regulations as described. Permission of the major advisor is required for enrollment in 497, *Reading and Research in Honors*.

Graduate Study

Students may seek advanced graduate study in most College programs. Graduate study may lead to a Master's degree, a doctorate degree or an education specialist certificate. In some instances, it is possible to pursue professional development studies that do not lead to a degree or a certificate. Graduate programs provide advanced study in educational careers and initial training in some specialized areas. Most programs offer emphases or specialty areas within the graduate program.

Students wishing to pursue graduate programs in education must meet both the minimum University requirements for admissions to graduate study and admission requirements of the College and its programs. Individual programs may establish prerequisites and requirements for admission in addition to those of the University and the College. **Formal admission to graduate status must occur prior to, or concurrently with, admission to a specific program.** Expenses incurred to visit the campus, to interview faculty prior to admission to a graduate program or in moving to Albuquerque are solely the responsibility of the applicant or student.

Specific information about admission and program requirements can be found in the section: **Alphabetical Listing and Description of Areas of Study.**

Master's Programs

The College offers programs leading to the Master of Arts (M.A.) Degree or the Master of Science (M.S.) Degree in the following areas of study. More complete information can be found in program and course descriptions in this catalog, the College Advisement Center and the Department Office listed:

- Art Education (M.A.)—Department of Educational Specialties, Hokona Hall
- Counseling (M.A.)—Department of Individual, Family and Community Education, Simpson Hall
- Educational Leadership (M.A.)—Department of Educational Leadership and Organizational Learning, Hokona Hall
- Educational Psychology (M.A.)—Department of Individual, Family and Community Education, Simpson Hall
- Elementary Education (M.A.)
Department of Teacher Education, Hokona Hall
- Mathematics, Science, and Educational Technology Concentration: Department of Teacher Education, Hokona Hall

Family Studies (M.A.)—Department of Individual, Family and Community Education, Simpson Hall

Health Education (M.S.)—Department of Health, Exercise and Sports Science, Johnson Center

Language, Literacy and Sociocultural Studies (M.A.)
American Indian Education Concentration, Department of Language, Literacy and Sociocultural Studies, Hokona Hall

Literacy/Language Arts Concentration: Department of Language, Literacy and Sociocultural Studies, Hokona Hall

Bilingual Education Concentration (English/Spanish): Department of Language, Literacy and Sociocultural Studies, Hokona Hall

TESOL Concentration: Department of Language, Literacy and Sociocultural Studies, Hokona Hall

Education Thought Concentration: Department of Language, Literacy and Sociocultural Studies, Hokona Hall

Social Studies Concentration, Department of Language Literacy and Sociocultural Studies, Hokona Hall

Nutrition (M.S.)—Department of Individual, Family and Community Education, Simpson Hall

Organizational Learning and Instructional Technology (M.A.)—Department of Educational Leadership and Organizational Learning, Hokona Hall

Physical Education (M.S.)
Curriculum and Instruction Concentration: Department of Health, Exercise and Sports Science, Johnson Center

Exercise Science Concentration: Department of Health, Exercise and Sports Science, Johnson Center

Sports Administration Concentration: Department of Health, Exercise and Sports Science, Johnson Center

Recreation (M.A.)—Department of Health, Exercise and Sports Science, Johnson Center

Secondary Education (M.A.)
General Secondary Education Concentration: Department of Teacher Education, Hokona Hall

Mathematics, Science, and Educational Technology Concentration: Department of Teacher Education, Hokona Hall

Special Education (M.A.)—Department of Educational Specialties, Hokona Hall

The Master's degree in most of these programs is offered under Plan I (with thesis) and Plan II (without thesis). Plan I requires a minimum of 24 semester hours plus thesis. Plan II requires a minimum of 32 semester hours. Many degree programs require more hours than these minimum requirements.

Unless otherwise restricted by individual graduate programs, up to 50% of the required course work for a Master's degree in the College of Education may be transferred from another institution or applied from the University of New Mexico non-degree and extension. In addition, University graduate degree policies require for Plan I and Plan II that at least 50% of the required course work must be completed after admission to the graduate degree program and be taken in graduate status at the University of New Mexico. Also, all degree requirements must be completed within a seven-year period.

Doctoral Programs

The College offers the degree of Doctor of Philosophy (Ph.D.) and the degree of Doctor of Education (Ed.D.). There are 10 approved majors that are offered through either one or both of these degrees. Each program must meet all requirements of Graduate Studies at the University and any additional requirements of the College. Some majors offer only the Ph.D. or the Ed.D. Other majors offer both degrees. Students seeking admission should contact the appropriate department office for information and complete the procedures prescribed by the concentration and the Office of Graduate Studies.

The 10 majors are listed below with a directive as to where more information can be found in the **Alphabetic Listing and Description of Areas of Study that follows:**

Counselor Education (Ph.D.)—See description for Counselor Education.

Educational Leadership (Ed.D.)—See description for Educational Leadership.

Educational Linguistics (Ph.D.)—See description for Educational Linguistics.

Educational Psychology (Ph.D.)—See description for Educational Psychology

Family Studies (Ph.D.)—See description for Family Studies.

Physical Education, Sports and Exercise Science (Ph.D.)—See description for Professional Physical Education

Language, Literacy Sociocultural Studies (Ph.D.)—See description for Language, Literacy and Sociocultural Studies

Multicultural Teacher and Childhood Education (Ed.D., Ph.D.)—See description for Curriculum and Instruction in Multicultural Education.

Organizational Learning and Instructional Technology (Ph.D.)—See description for Organizational Learning and Instructional Technology.

Special Education (Ed.D., Ph.D.)—See description for Special Education.

Ph.D. candidates pursue a supporting area of 24 semester hours outside their major area and in many cases outside of the College; Ed.D. candidates must earn 18 semester hours outside their major area. All degree programs require a core of courses, including appropriate work in research. In all, a minimum of 72 semester hours of graduate work (exclusive of dissertation credit) is required in each of the programs in education. Credit hours applied to a Master's degree, when appropriate, may be included and applied to the doctoral program of studies. See sections elsewhere in this catalog which describe Doctoral Degrees, specifically the role of the Committee on Studies and the Transfer of Credits. Not more than one-third of the required hours may be independent study which includes problems, directed readings, internship, field experience and practicum. Hours taken beyond the 72 required hours are not subject to this limitation.

Each candidate for the doctorate (Ed.D. or Ph.D.) shall be required to possess skills appropriate for the conduct of scholarly inquiry in the chosen field. The identification and evaluation of these skills will be determined by the candidate's committee on studies. Certification that these inquiry skills have been achieved is required prior to undertaking work on a dissertation. This procedure is in compliance with the Foreign Language or Alternative Requirement discussed under Doctoral Degrees sections in this catalog.

At least half of the hours of graduate study, exclusive of dissertation hours, to be applied towards a doctorate program of studies must be completed at the University of New Mexico. The Education Specialist certificate is not an entry point for doctoral programs and is designed for purposes other than doctoral study. As such, course work completed in an Education Specialist certificate is not normally applied to a doctorate program.

Education Specialist Certificate Programs*

The Education Specialist Certificate (or Sixth-Year Program) is available in Curriculum and Instruction (elementary and secondary teaching fields), Educational Leadership, Organizational Learning and Instructional Technology and Special Education. Persons interested in the certificate program should contact the appropriate program for specific requirements.

The graduate certificate requires at least 30 semester hours beyond the Master's degree and is planned individually for each candidate under the direction of faculty of the program involved. The certificate is designed for the individual who does not wish to pursue the doctorate but is interested in continued advanced graduate work in a specific area. Also, advanced licensure eligibility, such as educational leadership, may be accomplished through the certificate. Not more than one-third of the required hours may be problems, directed readings and/or workshop credit. Students working under this plan must be admitted to graduate study and are subject to the regular Office of Graduate Studies requirements. All

course work must be taken within the five-year period beginning with the semester admitted to the Education Specialist Certificate. Students must submit a Program of Studies to the Office of Graduate Studies within the five-year period allotted and at least the semester prior to the semester of planned intent to graduate.

*Not a degree.

Professional Development Credit Council

The College offers professional development courses at the graduate level. These courses may qualify for graduate degree credit only with the approval of the academic program unit and the faculty advisor. Professional development courses are often designed in conjunction with educators or school districts and are approved through the College of Education Professional Development Credit Council.

Proposals submitted for professional development credit are reviewed according to criteria set by the Council. The Council authorizes the College to offer professional development courses for those proposals determined to be of sufficient rigor and merit to meet the criteria. The Council membership consists of a balance between College faculty and professional educators (including teachers, staff development leaders, teachers' union representatives).

College of Education Undergraduate and Graduate Committees

Specific policies, curriculum approval, faculty and student matters are addressed through the College of Education Undergraduate and Graduate Committees.

Alphabetical Listing and description of areas of study follow (beginning with Art Education and ending with Special Education).

ART EDUCATION

Ruth Luckasson, Department Chairperson
Department of Educational Specialties
Art Education Program—Masley Hall, Room 112
MSC05 3040
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 277-6510 FAX (505) 277-6929

Professor

Laurel Lampela, Ph.D., Ohio State University

Associate Professors

Nancy Pauly, Ph.D., University of Wisconsin at Madison
Linney Wix, Ph.D., The University of New Mexico

Professors Emeriti

Howard McConeghey, Ed.D., Michigan State University
Peter Smith, Ed.D., Arizona State University
James Srubek, Ph.D., Pennsylvania State University

The Art Education Program offers course work leading to a B.A. in Art Education for Pre-K–12 New Mexico Art Teaching Licensure, post-baccalaureate teaching certification and an M.A. in Art Education.

Undergraduate Program

Student Information Contact

Art Education Program, 112 Masley Hall, (505) 277-4112,
arted@unm.edu

Teacher Preparation Program

The following program leads to a Bachelor of Arts in Education with a major in Art Education and teacher preparation in art. Upon completion of this program the graduate is qualified to apply for New Mexico licensure to teach visual arts, grades Pre-K–12.

A student who wishes to be admitted into the teacher preparation program in art is required to meet the screening criteria and procedures of the College of Education and Art Education program. Screening is done concurrently with the program's prerequisite screening course, ARTE 310, and, in some cases, ARTE 320.

Upon admission into the teacher preparation program in art, the student will be assigned a faculty advisor with whom the student must design and contract an official program of studies. The student is required to meet with his or her advisor each semester throughout the program.

Curriculum for Art Education Majors—Teacher Preparation

I. General Education—57 hours.

- English (12 credit hours)
ENGL 101 (3) Composition I: Exposition
ENGL 102 (3) Composition II: Analysis and Argument
Choose 2 from the following: ENGL 220 (3), Engl Literature elective (3), CJ130 (3)
- Math (6 credit hours)
MATH 121 (3) or MATH 129 (3)
Math elective (3)
- Physical and Natural Sciences (12 credit hours)
Select 12 credits from the following:
ANTH 121L (4), ANTH 150 (3), ANTH 151L (1), ANTH 160 (3), ANTH 161L (1), ASTR 101 (3), ASTR 101L (1), BIOL 110 (3), BIOL 112L (1), BIOL 123 (3), BIOL 1234L (1), CHEM 111 (4), CHEM 121 and 123L/131L (4), CHEM 122L/132L (4), EPS 101 (3), EPS 105L, EPS 201L (4), ENV5 101 (3), 102L (1), GEOG 101 (3), GEOG 105L (1), NTSC 261L (4), NTSC 262L (4), NTSC 263L (4), PHYC 102 (3), PHYC 102L (1), PHYC 151L (3), PHYC 151L (1), PHYC 152 (3), PHYC 152L (1), PHYC 160 (1), PHYC 161 (1)
- Social and Behavioral Sciences (6 credit hours)
Two courses from the following:
AMST 182 (3), AMST 185 (3), ANTH 101 (3), ANTH 130 (3), ECON 105 (3), ECON 106 (3), GEOG 102 (3), POLS 110 (3), POLS 200 (3), POLS 220 (3), POLS 240 (3), PSY 105 (3), SOC 101 (3)
- Humanities and History (12 credit hours)
HIST 101L or 102L (3)
HIST 161L or 162L (3)
ARTH 251 (3)
Select one 300 level course from the following: (3)
Philosophy, African American Studies, American Studies, Chicano Hispano Mexicano Studies, Native American Studies, Women's Studies, Religious Studies.
- Second Language (3 credit hours)
Select one course from non-English language offerings including signed language.
- Fine Arts (6 credit hours)
ARTH 201 (3)
ARTH 202 (3)

II. Professional Education and Art Education—33 hours.

EDPY 303	Human Growth and Development	3
ARTE 310	Teaching Art in Elementary School	3
ARTE 320	Teaching Art in Secondary School	3
ARTE 400	Elementary Student Teaching in Art	3
ARTE 461	Student Teach in the Senior High School	3
ARTE 430	Studio Art in the Schools	6
ARTE 410	Curriculum Development	3

ARTE 465	Art and the Exceptional Child	
—or—		
ARTE 466	Art w/At-Risk Students	3
EDUC 438	Teaching Reading and Writing in the Content Area	3
	One course in art criticism & aesthetics for teachers to be determined by art education advisor	3

III. Teaching Area—36 hours.

1.	Basic Art courses (18 hours.)	
	ARTS 121 Two-dimensional Design	3
	ARTS 122 Three-dimensional Design	3
	ARTS 106 Drawing I	3
	ARTS 205 Drawing II	3
	ARTS 130 Intro to Electronic Arts	3
	ARTH elective: non-Western	3
2.	Studio focus area I (9 hours) A focus area of 9 hours in a single studio area (not drawing), 3 hours of which must be numbered 300 or above.	
3.	Art Electives (9 hours.) 9 hours of approved art electives to fulfill art teaching competencies, 6 hours of which must be in courses numbered 300 or above.	

IV. Free Electives – 3 hours.

Total 129 hours

Minor Study in Art Education for Elementary Majors Only (24 Hours)

ARTS 121, ARTS 122, ARTH 101	(9 hours)	9
Art Elective (200 level, 3 hrs.)		3
ARTE 214, ARTE 310		6
and ARTE electives (400 level, 6 hrs.)		6

Minor Study in Art Education for Students in Other Than Teacher Training Programs (18 Hours)

Non-teaching minor requirements: ARTS 121 (3), ARTS 122 (3), ARTE elective (200 level, 3 hrs.); additional 9 hours to be determined with an art education advisor.

Graduate Program

Student Information Contact

Art Education Program, 112 Masley Hall, (505) 277-4112, arted@unm.edu

Application Deadlines

Fall semester	March 30
Spring semester	October 30

Degree Offered

M.A. in Art Education

The graduate program offers course work and experiences leading to a Master of Arts degree in Art Education under Plan I (with a thesis) or Plan II (without a thesis). The M.A. program is oriented toward the development of a professional who has 1) an understanding of the core profession of art education as a humanistic discipline; and 2) a developing specialization in a particular area of personal interest related to art education. Emphasis in this graduate program is given to the humanistic aspects of art and education and to a blending of creative work, research and art pedagogy.

Although the art education program consists of individual faculty with different backgrounds, expertise and philosophies, we tend to agree and emphasize art education foremost as a humanistic profession where the growth and development of the individual is paramount and where the art experience is central to that enterprise.

Requirements for the M.A. Degree

Earning a Master's degree in art education includes completing at least the following requirements: 1) formation of a graduate faculty committee on studies (including an advisor-chairperson), which helps the student plan a graduate program of studies and conducts the student's master's exam;

2) in consultation with the student's committee on studies, submission of approval a planned program of graduate study (coursework), which is called a Program of Studies; 3) completion of the planned program of studies with at least a "B" average; 3a) Plan I candidates only: completion and acceptance of a master's thesis; 4) passing of a written and oral master's exam taken in the semester degree requirements are completed; 5) exhibition of at least one art work done during the master's program in our annual graduating students' exhibition; and 6) other miscellaneous requirements unique to each student's program of studies. (See the appropriate section of The University of New Mexico Catalog—"Master's Degrees"—for general and specific requirements for a Master's degree)

Program of Study for the M.A. – Non-Licensure

Curriculum for graduate students: Plan I with thesis: minimum 24 hours plus thesis project. Plan II without thesis: minimum 33 hours plus Master's exam.

Core Courses for all M.A. Students:

ARTE 500	<i>History & Philosophies of Art Education</i>	3
ARTE 585	<i>Research Applications to Art Education</i>	3
ARTE 590	<i>Current Trends and Issues in Art Education</i>	3

3 credits research: Working with an advisor, students choose a 5xx research course.

3 credits social and/or cultural studies: Working with an advisor, students choose a 5xx course that addresses social and cultural ideas.

In consultation with the advisor and committee on studies, students choose 9 credits of course work to support learning in an art education supporting area. For example, students may choose supporting areas such as Art Education and Special Populations, Diversities and Identities, or Imagination and Visual Studies. Students will then choose 9 credits of elective course work to complete their program of studies.

Program of Study for the M.A. – Licensure

A graduate student may elect to attain the MA in Art Education with K-12 New Mexico Art Teaching Licensure. This option requires 36 hours of art prerequisites to include 9 hours of art history and 27 hours of studio art to include drawing (6 hours), a non-drawing studio area of focus (9 hours) and studio courses addressing a variety of 2- and 3-D mediums.

In addition to core courses required of all MA students (9 credits) and 6 credits of elective course work, MA students seeking licensure to take course work for Professional Education for the MA in Art Education with Licensure: 33 credits:

ARTE 310:	Teaching Art in the Elementary School	(3)
ARTE 320:	Teaching Art in Secondary School	(3)
ARTE 400:	Elementary Student Teaching in Art	(3)
ARTE 461:	Student Teaching in the Senior High School	(3)
*ARTE 530:	Studio Art in the School:	_____ (3)
*ARTE 530:	Studio Art in the School:	_____ (3)
*ARTE 572:	Art Criticism/Aesthetics for Teachers	(3)
*ARTE 510:	Curriculum Development	(3)
*ARTE 565:	Art with the Exceptional Child	(3)

—or—

*ARTE 566:	Art with At-Risk Students	(3)
*EDPY 503:	Principles of Human Development	(3)
LLSS 538:	Teaching Reading and Writing in the Content Field	(3)

Total number of hours for M.A. plus licensure: 51

* Courses listed in bold above count toward both the M.A. and licensure for students choosing the licensure option.

Minor—Art Education Master's Level (12)

ARTE 500:	History & Philosophies in Art Education	(3)
ARTE 585:	Research Applied to Art Education	(3)
ARTE 590:	Current Trends and Issues in Art Education	(3)
ARTE 5xx:	elective	(3)

Students pursuing the MA level minor in Art Education will benefit in two ways: They will engage in systematic study

guided by an Art Education faculty member, and they will have the 12 hour minor represented on their transcript. It is recommended that MA students pursuing the Art Education minor have an Art Education faculty member on their committee.

Application to the M.A. Degree Program

If you are interested in specific information about the Master's program in art education, requestan application packet from the following address:

Art Education Program
Graduate Application
112 Masley Hall—College of Education
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001

You may also request a meeting with a faculty advisor by calling 277-4112.

Application Requirements and Materials Needed

Before applying to the Master's program in art education, an applicant must have the following minimum academic prerequisites:

General Academic Prerequisites. To apply for the art education Master's degree program an applicant must have 1) a bachelor's degree from an accredited university, which includes at least 24 semester hours combined of art, art history and/or art education course work with at least a "B" average (3.0 GPA); and 2) a 3.0 overall grade point average in the applicant's last two years of undergraduate work. Applicants must have completed 18 of the required art prerequisites prior to admission. Application to the K–12 ART TEACHING LICENSURE EMPHASIS requires additional prerequisites. Also see the appropriate sections of this University catalog for general prerequisites and application procedures for graduate study at the University of New Mexico.

Application Process

Graduate Admissions
University of New Mexico
P.O. Box 4849
Albuquerque, NM 87196-4849
(505) 277-2447

Art Education Program
MSC05 3040, 112 Masley Hall
1 University of New Mexico
Albuquerque, NM 87130-0001
(505) 277-4112

New Applications

- Send to Office of Admissions (address above)
 - Completed and signed Graduate Application form, or apply online, <http://www.unm.edu/grad> (online application for first-time domestic applicants ONLY).
 - Residency form.
 - \$50.00 non-refundable application fee.
 - One (1) official transcript from each college you have attended (Exception: UNM transcripts).
- Send to Art Education Program (address above)
 - Letter of Intent.
 - Letters (3) of Recommendation.
 - Resume.
 - Ten (10) slides or photographs artwork or CD.

Art Education (ARTE)

214. Art in Elementary and Special Classrooms I. (3)

Understanding the art process as it relates to the growth and development of children. Experiences, methods and curriculum for art education in the elementary school. Special fee required.

310. Teaching Art in the Elementary School. (3)

Philosophical, psychological, theoretical and practical concepts about teaching art in the elementary school, including observation and involvement in art teaching situations. Initial screening course and prerequisite for teacher preparation curricula. Special fee required.

320. Teaching Art in Secondary School. (3)

Philosophical, psychological, theoretical and practical concepts about teaching art in the middle/junior and senior high school, including observation of and involvement in art teaching situations. Additional screening course when indicated in individual cases. Special fee required.

368. Porcelain Vessels. (1-3 to a maximum of 3) Δ

(Also offered as ARTS 368.) Oriental-Japanese method of wheel-thrown porcelain vessels and its place in art teaching. Special fee required.

391./591. Problems. (1-3 to a maximum of 6) Δ

Individual problems are studied and researched under the supervision of a faculty member. Permission of faculty member involved is required. Special fee required. Restriction: permission of instructor.

400. Elementary Student Teaching in Art. (3) ¹

Directed and supervised student teaching in art at the elementary level (grades 1–6) in a school plus a seminar on campus dealing with theory and practice relevant to art in the elementary school. Special fee required. Prerequisite: 310 and 320.

410./510. Curriculum Development in Art Education. (3)

Diverse art historical, philosophical, and psychological bases for theories and models of curriculum development as they apply to teaching art in a planned manner. Students will develop part of yearly curriculum for art education. Special fee required.

414. Art Education in Elementary School Teaching. (3)

Direct experience with the art process set in a theoretical context for elementary school teaching oriented toward curriculum development in art, integration of art with the rest of the curriculum, art as non-verbal communication and the multicultural aspects of art. Special fee required.

420./520. Art Education in Early Childhood. (3)

Theory, methods, curriculum for teaching art with children ages 4–7, emphasizing the teacher's response to the creative needs of young children as a part of their total growth and learning. Special fee required.

430./530. Studio Art in the School: _____ (1-3 to a maximum of 12) Δ

Studio experience in art for school and recreational situations. Different art forms are emphasized in different offerings of the courses, e.g., Studio Art in the Schools: Weaving, etc. May be repeated for credit as studio area varies; may be taken twice with same studio area and may be repeated more than twice with permission of instructor and program coordinator. Special fee required.

461. Student Teaching in the Senior High School. (3) ¹

Directed and supervised student teaching in art at the senior high level (grades 7–12) in a school plus a seminar on campus dealing with theory and practice relevant to art in the senior high school. Special fee required. Prerequisite: 310 and 320.

465./565. Art and the Exceptional Child. (3)

(Also offered as SPCD 465.) Designed to acquaint teachers with the value and therapeutic uses of art in special educa-

tion classrooms and to acquaint art education majors with adaptations of art to various exceptional cases. Special fee required.

466./566. Art With At-Risk Students. (3)

A studio-based course in theory and practice of working with diverse students at risk for factors including socioeconomics, language, behavior, psychiatric diagnoses. Ten hours field-work. Special fee required.

472. Art Criticism & Aesthetics Teacher. (3)

An exploration of art criticism and aesthetics as part of a comprehensive art education curriculum with practical application in a K-12 setting. Special fee required.

475. Art, Architecture and Environmental Education in the Schools. (3)

The use of art and architecture in the school curriculum. The aesthetics of the built environment in relation to design and behavior and the order and delicate design in nature and buildings. Design of learning environments are also explored. Special fee required.

493./593. Topics. (1-3, no limit) Δ

Courses on a wide variety of topics about art education are offered according to interest and need. Different sections indicate different topics. Special fee required.

500. History & Philosophies of Art Education. (3)

An introduction to major historical beliefs, values, philosophies and practices that inform contemporary art and art education programs and practices. Special fee required.

510./410. Curriculum Development in Art Education. (3)

Diverse art historical, philosophical, and psychological bases for theories and models of curriculum development as they apply to teaching art in a planned manner. Students will develop part of yearly curriculum for art education. Special fee required.

520./420. Art Education in Early Childhood. (3)

Theory, methods, curriculum for teaching art with children ages 4–7, emphasizing the teacher's response to the creative needs of young children as a part of their total growth and learning. Special fee required.

530./430. Studio Art in the School: _____ . (1-3 to a maximum of 12) Δ

Studio art for school settings. Different offerings indicate different studio areas, e.g., Studio Art in the Schools: Clay. May be taken up to three times in one studio area; third time in one area requires instructor and program coordinator approval. Special fee required.

565./465. Art and the Exceptional Child. (3)

(Also offered as SPCD 565.) Study of the special use of art activities with exceptional children along with practicum experience in field situations. Special fee required.

566./466. Art With At-Risk Students. (3)

A studio-based course in theory and practice of working with diverse students at risk for factors including socioeconomics, language, behavior, psychiatric diagnoses. Ten hours field-work. Special fee required.

568. Image and Imagination in Art Education. (3)

Metaphorical aspects of art, art in the construction of self and realities, and image making. Examines relationships among image and imagination, art and art education. Special fee required.

570. Art in Multicultural Education. (3)

572. Art Criticism & Aesthetics for Teachers. (3)

An exploration of art criticism and aesthetics as part of a comprehensive art education curriculum with practical application in a K-12 setting. Special fee required.

585. Research Applied to Art Education. (3)

Examination of the assumptions, methods, results and applications of research in art education. Special fee required.

590. Current Trends and Issues in Art Education. (3)

Examination of the contemporary developments, trends and issues in the field of art education as they relate to society, education and art. Special fee required.

591./391. Problems. (1-3 to a maximum of 6) Δ

Individual research into an area in art education proposed by the student and conducted under the direction of a professor. Special fee required.

Restriction: permission of instructor.

593./493. Topics. (1-3, no limit) Δ

Specialized courses about a particular topic in art education. A wide variety of topic courses is offered according to demand. Different sections indicate different topic content. Special fee required.

595. Advanced Field Experiences. (3-6 to a maximum of 12) Δ

Individual observation, teaching, residency in an art education field situation under the supervision of a professor.

Restriction: permission of instructor.

598. Directed Readings in Art Education. (1-3 to a maximum of 6) Δ

Restriction: permission of instructor.

599. Master's Thesis. (1-6, no limit) Δ Offered on a CR/NC basis only.

Restriction: permission of instructor.

Footnote:

¹ A maximum of 15 hours of student teaching combined (all levels) is allowed.

ATHLETIC TRAINING

Gloria Napper-Owen, Department Chairperson
Department of Health, Exercise and Sports Science
Athletic Training, Johnson Center 1155
MSC04 2610
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-8173

See Professional Physical Education in this alphabetical listing of areas of study in the College.

COUNSELOR EDUCATION

Deborah Rifenburg, Department Chairperson
Department of Individual, Family and Community Education
Simpson Hall
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4535

Associate Professor

Deborah Rifenburg, Ed.D., University of Virginia

Assistant Professor

Jeanmarie Keim, Ph.D., Arizona State University
David Olguin, Ph.D., University of New Orleans

The Mission

The Counselor Education Program prepares students to address the counseling and human development needs of a pluralistic society. The program recruits and retains students who reflect the broad range of diversity found in New Mexico. Students graduate with knowledge and skills in core competency areas that include: professional identity, ethics,

social and cultural foundations, human growth and development, career development, helping relationships, group work, assessment, and research and program evaluation.

The Counselor Education Program features an integration of theory, research, practice, and interdisciplinary collaboration. It is intended to prepare counselors who are informed, who will be sensitive to the diversity and uniqueness of individuals, families, and communities, and will value and promote the dignity, potential and well-being of all people. The program prepares professional counselors and counselor educators to respond to a world with challenging and pressing social problems.

Faculty members are committed to integrating teaching, scholarship, research, clinical practice and service, while promoting a climate of social justice, systemic change and advocacy. The faculty's goal is to infuse multicultural and diversity training in all aspects of academic and clinical course work in order to prepare multiculturally competent counselors and counselor educators. From the beginning of the graduate course of study, classroom education is combined with on-site training. These experiences provide the opportunity for students to work in and with various educational settings and community agencies.

Graduate Program

Counselor Education offers a CACREP accredited Doctoral degree in Counselor Education.

Counselor Education offers a Master of Arts degree in Counseling with areas of focus in either Community/Agency Counseling or School Counseling. These areas of focus are accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The Master's degree is only offered as Plan II (no thesis). All students taking courses in the Counselor Education program are expected and required to abide by the American Counseling Association Code of Ethics and applicable state and federal laws governing standards of practice for counseling.

Graduate Advisor

Upon admission into the program, students are assigned an initial advisor. They have the option of selecting an advisor of their choice as they progress in their program of studies.

Application Deadlines

- Fall semester: January 31 (Doctorate in Counselor Education)
 Fall semester: February 15 (Master's in Counseling)
 Spring semester: September 15 (Master's in Counseling)

Degrees Offered

M.A. in Counseling
 Ph.D. in Counselor Education

The Master's Degree in Counseling

Counselor Education offers a 54 hour Master's degree in Counseling with areas of focus in School Counseling or Community/Agency Counseling. These areas of focus are accredited by CACREP. Applicants to the Counselor Education program are encouraged to complete 18 hours of upper division behavioral science courses (e.g., education, psychology, family studies, sociology, anthropology) prior to admission. Additional information and application forms are available from the Counselor Education office.

Admission

Admission into the Master's program is based on ratings of several factors including scholarship, academic background (especially in behavioral science), work experience, volunteer experience, letters of recommendation, and a personal statement including multicultural experience. Admission is competitive, with more applicants each semester than it is possible to

admit. After the initial screening process, selected applicants are invited to interview with the faculty. Based on the results of both the initial screening and the interview, faculty selects candidates for admission to the program.

Master's Degree Required Core Courses

- COUN 520 Foundations of Counseling**
 COUN 530 Dynamics of Human Behavior**
 COUN 517 Theories of Counseling**
 COUN 518 Group Counseling**
 COUN 522 Communication Skills in Counseling
 COUN 584 Multicultural Issues in the Helping Professions
 COUN 590 Practicum in Counseling
 COUN 519 Practicum in Group Counseling
 COUN 576 Diagnosis of Mental Disorders
 COUN 595 Field Practicum
 COUN 513 Career Counseling
 COUN 515 Testing and Assessment in Counseling
 COUN 610 Professional Issues and Ethics
 COUN 521 Community/Agency Counseling or
 COUN 545 School Counseling depending on
 area of focus
 EDPY 503 Principles of Human Development/
 FS 503 Seminar in Human Growth and Development
 EDPY 500 Survey of Research Methods in Education –or–
 EDPY 505 Conducting Quantitative Educational Research
 EDPY 502 Survey of Statistics in Education –or–
 EDPY 511 Introductory Educational Statistics

**These four core courses may be taken by non-degree graduate students. An override must be obtained by non-degree students to register.

The Doctorate in Counselor Education

The Doctor of Philosophy degree in Counselor Education is designed for those who have completed a Master's degree in Counseling or an allied field and who are licensed or are eligible for professional licensure in Counseling or a closely related profession. The doctoral program is accredited by CACREP. A minimum of 94 credits are required to successfully complete the program including a 24-hour supportive area and a dissertation. The Counselor Education program will accept up to 36 hours of graduate transfer credit to be applied to the Ph.D. program. All substitutions of courses must be approved by the Counselor Education program faculty before a substitute course can be used to fulfill a requirement. A course may be used to fulfill requirements in more than one area, but the student's program of studies must still include 94 credit hours.

The program requires that students develop competency in teaching, research, supervision and consultation. These competencies, added to the professional expertise in counseling demonstrated at the point of admission into the doctoral program, enable the doctoral graduate to successfully carry out a wide range of supervisory, consultative, teaching, research and counseling activities in a variety of professional settings. Graduates are well suited to: college or university faculty positions in counselor preparation programs; supervisory roles in counseling services, mental health clinics, hospitals, schools and private practice settings; mental health consultation with individuals, groups and organizations, and direct preventive or remedial mental health services. The program is not a psychology program and does not prepare students for psychology licensure.

Admission

Admission to the program is based on scholarship, academic background, work experience, letters of reference, a writing sample, a statement of intent, culturally diverse experience and scores on the Graduate Record Examination. Final selection of candidates is made after an interview of finalists. For additional information on the program and application procedures, contact the Counselor Education Program.

Admission to the program is for fall semester of each academic year only.

Doctoral curriculum Includes:

Counseling Core Courses (12 credits)

Research (16 credits)

Teaching (6 credits)

Supervision (6 credits)

Consultation (3 credits)

Diversity Studies (9 credits)

The doctoral program requires 600 hours of internship involving practical experience in supervision, teaching and/or consultation. Internships are arranged with any program faculty and coordinated by the doctoral program coordinator.

Supportive Area (24 credits)

Typical supportive areas from other programs that students select include, but are not limited to: Educational Leadership, Educational Psychology, Family Studies, Health Education, Management, Psychology, Public Administration, Public Health, Organizational Learning and Instructional Technology, and Language, Literacy and Sociocultural Studies. The courses selected from a supportive area are approved by the student's advisor and Program of Studies Committee members.

Dissertation (18 credits)

Counseling (COUN)

513. Career Counseling. (3)

A practical and theoretical foundation for understanding the relationship of personal and career development theories to counseling practice. Includes vocational choice theory, life-style choices, occupational and educational information, decision making processes and career exploration techniques.

Restriction: admitted to graduate Counselor Education program.

514. Supervision of Counseling Services. (3)

Includes principles and techniques involved in developing and supervising counseling and guidance services in a variety of settings, including colleges and universities, public schools and various community agencies.

Restriction: admitted to doctoral Counselor Education program.

515. Testing and Assessment in Counseling. (3)

Aimed at helping counselors evaluate, administer and interpret psychological tests. Includes history, ethics, sources of information, study of test manuals and the development of skill in test interpretation.

Prerequisite: (EDPY 500 or EDPY 505) and (EDPY 502 or EDPY 511). Restriction: admitted to graduate Counselor Education program.

517. Theories of Counseling. (3)

Examination and analysis of major counseling and psychotherapy theories and their application. Consideration of philosophical bases and ethical implications. Treatment strategies and goals of each theory.

Restriction: admitted to graduate Counselor Education program.

518. Group Counseling. (3)

An introductory course in group counseling. Topics include group organization, types of groups, stages of group development, communication, group roles, feedback, diagnosing and problems in the group process.

Restriction: admitted to graduate Counselor Education program.

519. Practicum in Group Counseling. (3 to a maximum of 6) Δ

An experience in working directly with clients in a group setting with supervision provided by program faculty.

Prerequisite: 522 and 590. Restriction: admitted to graduate Counselor Education program. **Offered on a CR/NC basis only.**

520. Foundations of Counseling. (3)

Designed to acquaint students with the professional field of counseling. A variety of didactic and experiential approaches are utilized. Includes lectures, group discussion, guest speakers, videos and service-learning experiences.

Restriction: admitted to graduate Counselor Education program.

521. Community Agency Counseling. (3)

An introduction and orientation to the community model. Roles, responsibilities and functions of the community mental health counselor are examined. Knowledge and strategies designed to create systemic changes in clients' social environment are presented.

Prerequisite: 517 and 518 and 520 and 530.

522. Communication Skills in Counseling. (3)

Designed to introduce the student to basic communication skills fundamental to the interviewing process. Skills will be approached with a practical application to the counseling setting. **Offered on a CR/NC basis only.**

Prerequisite: 517 and 518 and 520 and 530 and 584 and 610. Restriction: admitted to graduate Counselor Education program.

525. Experiential Counseling. (3)

Emphasizes experiential activities in counseling. This course presents an approach which incorporates academic cognitive skills, group counseling skills and experiential skills. It combines cognitive behavioral, group and humanistic counseling methods in experiential learning.

530. Dynamics of Human Behavior. (3)

An examination of major theories of personality and human behavior. The course provides an overview of personality and behavioral theory including clinical, philosophical, historical and developmental issues.

Restriction: admitted to graduate Counselor Education program.

541. Counseling Children and Adolescents. (3)

This course addresses the developmental issues and psychological concerns of infants, elementary school-aged children and adolescents and provides knowledge about appropriate therapeutic interventions for this population.

Prerequisite: 517 and 518 and 520 and 530 and (FS 503 or EDPY 503).

545. School Counseling. (3)

School counseling as a profession is addressed. Roles and responsibilities of school counselors at various educational levels are described. Professional, ethical, legal, multicultural and family issues as they impact school counselor role are included.

Prerequisite: 517 and 518 and 520 and 530.

560. Family Counseling. (3)

(Also offered as FS 560.) An introduction to history and practice of counseling with families. A number of leading experts in the field will be studied with respect to their theoretical approach to the subject as well as their techniques.

Prerequisite: 517 and 518 and 520 and 530 and FS 517.

576. Diagnosis of Mental Disorders. (3)

A comprehensive overview of physiological aspects of behavior which may impact the counseling process. Emphasis will be placed on psychopathology and diagnosis in accordance with the DSM and ICD.

Prerequisite: 520 and 530 and 517 and 518. Restriction: admitted to graduate Counselor Education program.

581. Sexuality in Counseling and Psychotherapy. (3)

Broadly based examination of psychological, biological and social aspects of sexuality with emphasis on the professional's own values, attitudes and knowledge in working with clients with sexual concerns and problems.

584. Multicultural Issues in the Helping Professions. (3)
Provides fundamentals in multicultural competence useful in human service and educational settings. Working effectively with multicultural families requires self awareness, knowledge of information specific to various cultures and the development of skills for successful interaction.

Prerequisite: Two from 517, 518, 520, 530. Restriction: admitted to graduate Counselor Education program.

590. Practicum in Counseling. (3)

An experience providing counseling services to diverse clients in an on-campus setting where supervision is provided by program faculty and doctoral students under faculty supervision. Prerequisite: 517 and 518 and 520 and 522 and 530 and 584 and 610. Restriction: admitted to graduate Counselor Education program. **Offered on a CR/NC basis only.**

591. Problems. (1-3 to a maximum of 6) Δ

593. Topics. (1-3, no limit) Δ

Various current topics in counseling and counseling psychology are offered. Contact the department office for information about topics courses planned for the near future.

595. Internship. [Field Practicum.] (3 to a maximum of 6) Δ

Students provide counseling services to diverse clients in either a school or community agency setting. Supervision is provided by experienced counselors in the field setting with coordination by program faculty. Attendance at a weekly seminar on campus is required.

Prerequisite: 590. Restriction: admitted to graduate Counselor Education program. **Offered on a CR/NC basis only.**

610. Professional Issues and Ethics. (3)

Contemporary issues, trends and ethical considerations in counseling are reviewed and critiqued. Provides an overview of the helping profession, professional roles, organizations, ethical and professional preparation standards, credentialing, licensure and public policy issues.

Prerequisite: Two from 517, 518, 520, 530. Restriction: admitted to graduate Counselor Education program.

620. Seminar in Counseling. (3)

Doctoral seminars in topics such as professional issues, teaching and consultation are offered for advanced graduate students.

621. Advanced Theories of Counseling and Psychotherapy. (3)

An in-depth comparison and contrast of major theories of counseling and psychotherapy. Theories representative of existential, psychoanalytic and behavioral viewpoints are considered.

630. Advanced Practicum in Counseling. (3-6 to a maximum of 6) Δ

Offered on CR/NC basis only.

696. Internship. (3-6 to a maximum of 12)

Offered on CR/NC basis only.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

Professor

Frank Kessel, Ph.D., University of Minnesota

Associate Professor

David Atencio, Ph.D., Stanford University
Cathy Gutierrez-Gomez, Ed.D., University of North Texas

Assistant Professor

Devorah Kennedy, Ph.D., University of Wisconsin

Affiliated Faculty

Virginia Shipman, Ph.D., University of Pittsburgh
Nieves Torres, Ed.D., University of New Mexico

Undergraduate Program

Major and Degree

Early Childhood Multicultural Education, B.S.

Early Childhood Multicultural Education (ECME) offers a baccalaureate program that leads to licensure for teachers working with children from birth to age eight in classrooms that include children who are developing both typically and atypically. The program draws on content from child development, curriculum and instruction, family studies, language and literacy, special education, nutrition, physical education and health education. The program's multicultural focus prepares professionals to work with young children and their families from a variety of cultural backgrounds. Prospective early childhood teachers are required to complete 57 hours of general education, and 75 hours of professional early childhood education that includes 42 hours of course work, 9 hours of supervised practicum, and 12 hours of student teaching as required by the NM Public Education Department. Students are required to complete all practica and student teaching in program approved placements. Students complete 30 hours of practica per credit hour.

Students must be accepted into the ECME program two years prior to completing student teaching. Students must apply to student teaching prior to the start of the semester preceding the student teaching semester.

Admission to the Early Childhood Multicultural Education program requires a cumulative grade point average of 2.50 and a minimum of 26 credit hours. All upper division ECME courses (300 & 400 level) must be passed with a B or better.

In addition, students are required to obtain a passing score on The New Mexico Teacher Assessment Test—Basic Skills prior to admission. Upon completion of the program and satisfactory performance on state-approved competencies, student teaching and other exit requirements, students may apply to the State Department of Education for a Level 1 license.

Application Deadlines:

Summer Admission: March 1

Fall Admission: July 1

Spring Admission: October 1

Student Information Contact

Contact program office at Simpson Hall, (505) 277-4535.

A. General Education Requirements:

12 credit hours of English including:
ENGL 101, 102, CJ 220, LING 101 or ENGL 290

12 credit hours of History including:
HIST 101 or 102, HIST 161 or 162, HIST 260, History/
Humanities elective

12 credit hours of Science including:
NTSC 261L, 262L, 263L

6 credit hours of Social Sciences
Choose 2 courses from the following:
AMST 182, AMST 185, ANTH 101, ANTH 130, ECON 105,
ECON 106, GEOG 102, LING 101, POLS 110, POLS 200,
PSY 105, SOC 101

EARLY CHILDHOOD MULTICULTURAL EDUCATION

Deborah Riftenbary, Department Chairperson
Department of Individual, Family and Community Education
Early Childhood Multicultural Education
Simpson Hall
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4535

6 credit hours of math including:

MATH 111 or 112, MATH 129, 215 or STAT 145

3 credit hours in Foreign Language

Choose one course from the following Departments:

Linguistics (includes signed language Spanish and Portuguese, Foreign Languages and Literatures

6 credit hours of Fine Arts

Choose 2 courses from the following:

ARTH 101, ARTH 201, ARTH 202, DANC 105, MA 210, MUS 139, THEA 122

Total General Education Requirements 57

B. Bachelor Degree Core Requirements:

Professional Education Credits

ECME 101	Child Growth, Development, & Learning	3
ECME 103	Health, Safety, & Nutrition	2
ECME 111	Family & Community Collaboration I	3
ECME 115	Guiding Young Children	3
ECME 117	Curriculum & Implementation I	3
ECME 220	Assessment of Children & Evaluation of Programs I	3
ECME 217	Curriculum & Implementation II	3
ECME 230	Professionalism	2
ECME 202	Introduction to Reading & Literacy Development	3
ECME 311	Family & Community Collaboration II	2
ECME 317	Integrated Early Childhood Curriculum	3
ECME 320	Assessment of Children & Evaluation of Programs II	3
ECME 401	Research in Child Growth, Development, & Learning	3
ECME 402	Teaching Reading & Writing	3
ECME 417	Methods and Materials for the Early Primary Grades	3

Field-Based Credits

ECME 117L	Curriculum & Implementation Practicum I	2
ECME 217L	Curriculum & Implementation Practicum II	2
ECME 317L	Integrated Early Childhood Curriculum Practicum	2
ECME 402L	Teaching Reading & Writing Practicum	1
ECME 417L	Methods and Materials for the Early Primary Grades Practicum	2
ECME 440L	Student Teaching in Early Childhood Education	12

Program Required Electives

Six hours from:

305	Research & Evaluation in Early Childhood	3
315	Public Policy, Leadership, Ethics, and Reform in Early Childhood	3
325	The Social, Political, and Cultural Contexts of Children and Families	3

Six hours Upper-Division Education Electives
See below for options

Education Electives—Suggested Courses:

ARTE 420	3cr
MSET 365	3cr
ECME 493	3cr
EDPY 472	3cr
FS 306	3cr
FS 312	3cr
FS 403	3cr
FS 481	3cr
FS 484	3cr
FS 493	3cr
HED 310	3cr
SPCD 452	3cr
SPCD 450	3cr
LLSS 443	3cr

Or other courses approved by ECME faculty

Departmental Honors Sequence in ECME

ECME 497	Reading and Research in Honors I	2
ECME 498	Reading and Research in Honors II	2
ECME 499	Honors Thesis	2

Students completing the 3-course Departmental Honors sequence in ECME are waived from completing 6 credits from among ECME 305, ECME 315 or ECME 325

Total Professional Education Credits: 75

Total Degree Requirements:

57 General Education Credits + 75 Education Credits= 132

Departmental Honors

The Departmental Honors program is open to outstanding Early Childhood Multicultural Education majors who have an overall GPA of at least 3.20. Students must seek advisement from a faculty member willing to serve as mentor for the honors courses and research. An Honors thesis is written during the student's final semester. Required courses are ECME 497, 498, and 499. These courses are in addition to those required for the major.

Graduate Program

Student Information Contact

Contact program office at Simpson Hall, (505) 277-4535.

Application Deadlines

M.A. (initial screening)	
Summer session:	March 1
Fall semester:	March 1
Spring semester:	October 1

Applications received by these initial screening dates will be given highest consideration for admission. Applications will continue to be received after the initial screening dates until the final deadlines listed below; these admission applications will be considered on a space available basis only.

Final application deadlines are:

Summer session:	March 31
Fall semester:	April 25
Spring semester:	October 30

Degrees Offered

M.A. Elementary Education

The Master of Arts in Elementary Education may be taken with a concentration in Early Childhood Education.

Program of Studies for Concentration in Early Childhood Education Master of Arts in Elementary Education

Plan I: 26 credit hours + 6 credit hours of thesis + Final Oral Examination

Plan II: 32 credit hours including Problems Course EDUC 591

Master of Arts in Elementary Education Core Requirements:

EDUC 500 or EDPY 500	Research Applied to Education
ECME 574	Early Childhood Curriculum
ECME 579	Seminar in Early Childhood Education
LLSS 583	Education Across Cultures of the Southwest
EDUC 591	Problems in Early Childhood Education

(Note: problems course must be taken with an ECME faculty)

Concentration Specific Course Requirements:

In addition to ECME 574, 579, & 591 above, at least two courses must be chosen from:

ECME 576	Learning Through Play
ECME/LLSS 514	Young Children Moving Into Literacy
ECME 575	Early Childhood Language Development & Curriculum
SPCD 550	Introduction to Early Childhood Special Education

Remaining courses to be selected from the following:

ARTE 520 Art Education in Early Childhood
 FS 501 Parent Education
 FS 502 Development in Early Childhood
 FS 512 Working with Children & Families
 FS 546 Family Systems Theory
 FS 514 Fatherhood
 EDPY 503 Principles of Human Development
 EDPY 510 Principles of Classroom Learning
 EDPY 520 Motivation Theory and Practice
 EDPY 524 Computers in the Educational Process
 EDPY 572 Classroom Assessment
 LLSS 544 Children's Literature
 LLSS 556 First and Second Language Development
 LLSS 558 Literacy Across Cultures
 LLSS 582 Curriculum Development in Multicultural Education

OR OTHER COURSES APPROVED BY ECME ADVISOR

Early Childhood Multicultural Education (ECME)

101. Child Growth, Development, and Learning. (3)
 This basic course in the growth, development, and learning of young children, provides foundational knowledge of how young children grow, develop and learn. {Fall and Spring}

103. Health, Safety, and Nutrition. (2)
 This course provides information related to standards and practices that promote children's physical and mental well being, sound nutritional practices, and maintenance of safe learning environments. {Fall}

111. Family and Community Collaboration I. (3)
 This basic course examines the involvement of families from diverse cultural and linguistic backgrounds in early childhood programs. Ways to establish collaborative relationships with parents and others involved with children in early childhood settings are discussed. {Spring}

115. Guiding Young Children. (3)
 This course explores theories of child guidance and practical applications. It provides developmentally appropriate methods for guiding children, effective strategies and suggestions for facilitating positive social interactions. {Fall}

117. Curriculum and Implementation I. (3)
 This beginning curriculum course focuses on developmentally appropriate content in early childhood programs and developmentally appropriate curriculum integration into teaching and learning experiences. {Fall and Spring}

117L. Curriculum and Implementation Practicum I. (2)
 This course provides opportunities for students to apply knowledge gained from ECME 117 and develop skills in planning developmentally appropriate learning experiences for young children including children with special needs. {Fall and Spring}

202. Introduction to Reading and Literacy Development. (3)
 This is a basic course in children's emergent literacy and reading development: Ways to foster phonemic awareness, literacy problem solving skills, fluency, vocabulary, comprehension, and language development are explored. {Spring}

217. Curriculum and Implementation II. (3)
 This basic course focuses on the learning environment and the implementation of curriculum in early childhood programs. Various curriculum models and teaching and learning strategies are explored. {Fall}

217L. Curriculum and Implementation Practicum II. (2)
 This course provides opportunities to apply knowledge gained in ECME 217 and develop skills in planning learning environments and implementing curriculum for young children including those with special needs. {Fall}

220. Assessment of Children and Evaluation of Programs I. (3)
 This basic course familiarizes students with a variety of culturally appropriate assessment methods and instruments, and the development and use of formative and summative program evaluation to ensure quality. {Fall}

230. Professionalism. (2)
 This course provides a broad-based orientation to the field of early care and education. Early childhood history, philosophy, ethics and advocacy are introduced. {Fall}

305. Research and Evaluation in Early Childhood. (3)
 A course focusing on research and evaluation in early childhood settings. {Summer}

311. Family and Community Collaboration II. (2)
 This advanced course prepares prospective teachers for working effectively as partners with diverse family and community members to facilitate the development and learning of children birth through age 8, including children with special needs.
 Prerequisite: 111. Restriction: admitted to the ECME program. {Fall}

315. Public Policy, Leadership, Ethics and Reform in ECE. (3)
 A course focusing on policy issues, advocacy and leadership in early childhood education. {Spring}

317. Integrated Early Childhood Curriculum. (3)
 This advanced course focuses on developmentally appropriate curriculum development and implementation for children birth to age 5, integrated curriculum content, and rich learning environments.
 Prerequisite: 103 and 115 and 117 and 117L and 217 and 217L and 230. Corequisite: 317L. Restriction: admitted to the ECME program. {Fall}

317L. Integrated Early Childhood Curriculum Practicum. (2)
 This advanced course provides opportunities for students to apply knowledge gained from ECME 317 and develop skills in planning and implementing developmentally appropriate learning experiences, integrated curriculum, and learning environments. Requires 60 supervised contact hours.
 Prerequisite: 103 and 115 and 117 and 117L and 217 and 217L and 230. Corequisite: 317. Restriction: admitted to the ECME program. {Fall}

320. Assessment of Childhood and Evaluation of Programs II. (3)
 This advanced course builds upon student understanding of the connections among learning, teaching, and assessment and strategies for evaluating programs. Assessment, identification, and monitoring of typical and atypical development will be explored.
 Prerequisite: 220. Restriction: admitted to the ECME program. {Spring}

325. The Social, Political and Cultural Contexts of Children and Families. (3)
 This course focuses on the cultural contexts in which children and their families live and develop. Its main goal is to help students bridge the gap between their own cultures and the cultures of the children they will teach. {Fall}

401. Research in Child Growth, Development and Learning. (3)
 This advanced course in child growth, development, and learning builds upon the foundational material covered in the basic course in child growth, development, and learning. An integration of major theories of child development is provided.
 Prerequisite: 101. Restriction: admitted to the ECME program. {Fall}

402. Teaching Reading and Writing. (3)
 This advanced course is designed to prepare early childhood professionals to understand and to teach. This course

focuses on reading as a complex, interactive, constructive process.

Prerequisite: 202. Corequisite: 402L. Restriction: admitted to the ECME program. {Spring}

402L. Teaching Reading and Writing Practicum. (1)

This advanced practicum provides opportunities for students to apply knowledge gained from ECME 402 in kindergarten through 3rd grade classrooms. This 1 credit-hour practicum requires 30 supervised contact hours.

Prerequisite: 202. Corequisite: 402. Restriction: admitted to the ECME program. {Spring}

404. Infants and Toddlers in Early Childhood Programs. (7)

An integrated interdisciplinary block focusing on working with children birth to three. Includes infant development, family interaction, developmentally and culturally appropriate practice, technology, and assessment/evaluation.

Corequisite: 404L.

404L. Infant and Toddler Practicum. (2)

A laboratory to be taken as a corequisite to 404. Applies knowledge and concepts from 404 related to care and early education in programs for children birth to three years.

Offered on a CR/NC basis only.

Corequisite: 404.

414. Pre-Primary Children in Early Childhood Programs. (7)

An integrated interdisciplinary block focusing on working with children aged three to five. Includes childhood development, family interaction, developmentally and culturally appropriate practice, technology and assessment/evaluation.

Corequisite: 414L.

414L. Pre-Primary Practicum. (2)

A laboratory to be taken as a corequisite to 414. Applies knowledge and concepts from 414 related to care and early education in programs for children aged three to five. **Offered on a CR/NC basis only.**

Corequisite: 414.

417. Methods and Materials for the Early Primary Grades. (3)

This advanced course focuses on developmentally appropriate content, learning environments, and curriculum implementation for children in K-3rd-grade emphasizing integration of content areas and development of rich learning environments for early primary grades.

Prerequisite: 317 and 317L. Pre- or corequisite: 402 and 402L. Corequisite: 417L. Restriction: admitted to the ECME program. {Spring}

417L. Methods and Materials for the Early Primary Grades Practicum. (2)

This advanced practicum provides opportunities for students to develop, implement, and evaluate developmentally appropriate and integrated learning experiences for children in K-3rd grade. This 2 credit-hour practicum requires 60 supervised contact hours.

Prerequisite: 317 and 317L. Pre- or corequisite: 402 and 402L. Corequisite: 417. Restriction: admitted to the ECME program. {Spring}

424. Primary Children in Early Childhood Programs. (7)

An integrated interdisciplinary block focusing on working with children aged five to eight. Includes child development, family interaction, developmentally and culturally appropriate practice, technology and assessment/evaluation.

Corequisite: 424L.

424L. Primary Practicum. (2)

A laboratory to be taken as a corequisite to 424. Applies knowledge and concepts from 424 related to care and educational programs for children aged five to eight. **Offered on a CR/NC basis only.**

Corequisite: 424.

440L. Student Teaching in Early Childhood Education. (12)

Student teaching experience in early childhood including placement and assigned tasks in an early childhood classroom with a mentor teacher, and a weekly seminar where students review and reflect on their own teaching practices.

Prerequisite: 320 and 401 and 402 and 402L and 417 and 417L and two of the following 305, 315, 325. Restriction: admitted to the ECME program. {Fall}

493. Topics in Early Childhood Education. (1-6, no limit) Δ

497. Reading and Research in Honors I. (2)

Advanced studies and research under the supervision of a faculty mentor.

Restriction: permission of instructor.

498. Reading and Research in Honors II. (2)

Advanced studies and research under the supervision of a faculty mentor.

Prerequisite: 497. Restriction: permission of instructor.

499. Honors Thesis. (2)

Prerequisite: 498. Restriction: permission of instructor.

514. Young Children Moving Into Literacy. (3)

(Also offered as LLSS 514.) This course explores the processes of young children's emergent literacy. It focuses on selection of materials and design of activities appropriate for use in the home, school and other settings.

Prerequisite: EDUC 331L and EDUC 333L. {Summer}

574. Curriculum for Early Childhood. (3)

Focuses on developing and integrating curriculum for the Early Childhood Classroom (infant and toddler, preschool, early primary) within historical and cultural contexts. Students will explore and implement new ideas in curriculum of the early years.

Prerequisite: FS 403. {Spring}

575. Early Childhood Language Development/ Curriculum. (3)

This course will focus on contemporary theory and practice of promoting language development in young children. Students will develop curricula and strategies appropriate for a diverse population. {Spring}

576. Teaching and Learning Through Play. (3)

This course explores the philosophical and theoretical foundations of play and its impact on children's development and learning. Students explore current research, issues, and trends related to play in early childhood programs. {Fall}

579. Seminar in Early Childhood Education. (3-12 to a maximum of 12) Δ

Advanced capstone course that addresses issues affecting the field of Early Childhood education. Topics may vary depending upon instructor and the trends in the field.

Prerequisite: 501. Restriction: permission of instructor. {Fall}

EDUCATIONAL LEADERSHIP

Patricia Boverie, Department Chair
Lee Clark, Department Administrator
Dept. of Educational Leadership and Organizational Learning
Educational Leadership Program
Hokona Hall, Third Floor
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001

Professors

Breda M. Bova, Ph.D., University of New Mexico

Associate Professor

Richard Howell, Ph.D., University of New Mexico
 Arlie Woodrum, Ed.D., Harvard University

Assistant Professors

Allison Borden, Ed.D., Harvard University
 Alicia Chavez, Ph.D., University of Arizona

Visiting Professor

Carl Madzey, Ed.D., University of Wyoming

Lecturers

Susanna Murphy, Ph.D., New Mexico State University
 Bruce Noll, Ed.D., University of South Dakota
 Vita Saavedra, Ph.D., University of New Mexico

Research Professor

Michael M. Morris, Ph.D., University of Massachusetts at
 Amherst

Graduate Study

Student Information Contact

Linda Wood, Hokona Hall 376, (505) 277-0441, e-mail:
 woodl@unm.edu

**Application Deadlines
 Ed.D.**

February 1 for summer entry

M.A., Ed.S., Internship and Practicum

Spring semester	October 1
Summer and Fall semester	February 1

Note: Administrative internships follow a fall-spring sequence.

All graduate students are required to work under the supervision of an assigned advisor and to develop and follow a planned Program of Study comprised of required courses and, where appropriate, additional courses selected with the approval of the advisor and/or the Program of Study Committee. Courses taken without prior approval may not be accepted toward the completion of the degree. Students in all programs must maintain a 3.3 cumulative GPA in all Program of Study course work.

Policy on Employment/Load

Faculty and graduates have found that students who give themselves time to concentrate and reflect on their academic studies during their brief time at the University not only achieve academic excellence, but excel later in their professional careers. Therefore, the faculty of the Educational Leadership Program strongly recommends that students who are employed full time enroll in nine or fewer hours of course work fall and spring semesters in order to optimize their educational experience. Students will not be allowed to enroll in more than nine hours during the fall and spring semesters without prior approval.

Degrees Offered

The degree and certificate programs in Educational Leadership are designed to prepare individuals to assume leadership positions in complex educational organizations at successively higher levels of responsibility. All rely heavily on concepts drawn from the social sciences for insight into leadership behavior and are premised on five Core Domains: Strategic Leadership, Organizational Leadership, Leadership for Learning and Professional Development, Community & Political Leadership, and Informed Leadership.

Note: The State Public Education Department, not UNM, awards administrative licensure. Students seeking licensure must meet all UNM requirements in order to be eligible to apply for state licensure through our programs.

The Educational Leadership Program provides a variety of career pathways for students pursuing licensure; contact the Program Office for information and advisement.

M.A. in Educational Leadership

All applicants for admission into the M.A. program in Educational Leadership must meet the requirements set forth in the preceding College section of this catalog and in the sections on graduate studies at the University of New Mexico. The M.A. in Educational Leadership can be pursued through one of three concentrations, each of which requires 15 hours in the Core Domains, as described below. In addition to University requirements for graduation, students must successfully complete a leadership project and exit assessment.

School Leadership toward Administrative Licensure Concentration

Intended for future school building leaders, this concentration provides a set of standards-based core courses aligned with state administrative competencies. Applicants must hold a valid Level II or Level III New Mexico teaching license. Applicants admitted in Spring 2008, must hold a Level III teaching license at the time they intend to participate in the internship. Students with a Level II license may complete the M.A. concentration and subsequently enroll in an Ed.S. Internship Experience option (see below) to complete state licensure requirements.

Required Core Domain Courses

LEAD 501 Educational Leadership in a Democratic Society	3
LEAD 503 Data Driven Decision-Making	3
LEAD 521 School Finance & Resource Management	3
LEAD 560 Instructional Leadership & Development	3
LEAD 561 Legal Issues for School Leaders	3

Additional Required LEAD Courses: 9

LEAD coursework, including either

6 hours of LEAD 596: Administrative Internship for those holding a Level III teaching license and one 3 credit LEAD course.

—OR—

3 hours of LEAD 594: Practicum for those entering in or after summer 2008 and holding a level II teaching license, and two 3 credit LEAD courses.

Support Area Electives

Selected in consultation with advisor	12
Total Credit Hours	36

Instructional Leadership Concentration

This concentration is intended for educators desirous of career paths that focus on leadership for curricular and instructional improvement; curriculum directors, instructional coaches, or program coordinators, for example.

Required Core Domain Courses

LEAD 501: Educational Leadership in a Democratic Society	3
LEAD 503: Data Driven Decision-Making (or approved alternate research course)	3
LEAD 509: Schools as Organizations	3
LEAD 510: School-Community Relations	3
LEAD 519: Curriculum Planning for School Leaders	3

Additional Required LEAD Courses 9

LEAD coursework, including 6 hours of LEAD 594 and one 3 credit LEAD course.

Support Area Electives

Selected in consultation with advisor	12
Total Credit Hours	36

Leadership for Community and Organizational Learning Concentration

Editors who want to pursue leadership positions outside of a PK-12 venue, such as higher educational institutions and community groups, can enroll in this program concentration,

designed to prepare individuals for visionary leadership that transforms educationally-oriented organizations into dynamic learning environments for all.

Required Core Domain Courses

LEAD 503: Data Driven Decision-Making (or approved alternate research course)	3
LEAD 505: Visionary Leadership for Learning	3
LEAD 509: Schools as Organizations	3
LEAD 517: Communication for Educational Leaders	3
LEAD 529: The Adult Learner	3

Additional Required LEAD Courses

6 hours of LEAD 594 and one, 3 credit LEAD course	9
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Support Area Electives

Selected in consultation with advisor	12
Total Credit Hours	36

Post-Masters Education Specialist Certificate in Educational Leadership

The Educational Leadership Program offers a post-masters Education Specialist certificate with five concentrations ranging from 12 to 30 hours. The concentrations include Advanced Study in School Leadership and Administrative Licensure, Instructional Leadership, and Leadership for Organizational and Community Learning (each 30 hours); Administrative Licensure (24 hours); and Internship Experience (12 hours). Applicants must hold a master's degree in Educational Leadership or a complementary field and meet the requirements set forth in the preceding College section of this catalog and in the sections on graduate studies at the University of New Mexico. In addition to University requirements for graduation, students must successfully complete a leadership project and exit assessment.

Advanced Study: School Leadership and Administrative Licensure

The Advanced Study certificate in School Leadership and Administrative Licensure is designed to support students in their pursuit of an advanced credential in school administration. Applicants must hold a valid Level II or Level III New Mexico teaching license. Applicants admitted after Spring 2008 must hold a valid Level III New Mexico teaching license at the time they intend to participate in the required Internship.

Required Core Domain Courses

LEAD 501 Educational Leadership in a Democratic Society	3
LEAD 503 Data Driven Decision-Making	3
LEAD 521 School Finance & Resource Management	3
LEAD 560 Instructional Leadership & Development	3
LEAD 561 Legal Issues for School Leaders	3

Additional Required EdLead Courses

6 hours of LEAD 596: Administrative Internship and one, 3 credit LEAD course	9
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Support Area Electives

Selected in consultation with advisor	6
Total Credit Hours	30

Advanced Study: Instructional Leadership

Required Core Domain Courses

LEAD 501 Educational Leadership in a Democratic Society	3
LEAD 503 Data Driven Decision-Making (or approved alternate research course)	3
LEAD 509 Schools as Organizations	3
LEAD 510 School-Community Relations	3
LEAD 519 Curriculum Planning for School Leaders	3

Additional Required LEAD Courses

6 hours of LEAD 594 and one, 3 credit LEAD course	9
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Support Area Electives

Selected in consultation with advisor	6
Total Credit Hours	30

Advanced Study: Leadership for Community and Organizational Learning

Required Core Domain Courses

LEAD 503 Data Driven Decision-Making (or approved alternate research course)	3
LEAD 505 Visionary Leadership for Learning	3
LEAD 509 Schools as Organizations	3
LEAD 517 Communication for Educational Leaders	3
LEAD 529 The Adult Learner	3

Additional Required LEAD Courses

6 hours of LEAD 594 and one, 3 credit LEAD course	9
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Support Area Electives

Selected in consultation with advisor	6
Total Credit Hours	30

Advanced Study: Administrative Licensure

The Administrative Licensure concentration is a 24-hour program designed to support students in fulfilling state requirements for administrative licensure. Applicants must hold a valid Level II or Level III New Mexico teaching license. Applicants admitted after Spring 2008, must hold a valid Level III New Mexico teaching license at the time they intend to participate in the required Internship.

Required Core Domain Courses

LEAD 501 Educational Leadership in a Democratic Society	3
LEAD 503 Data Driven Decision-Making	3
LEAD 521 School Finance & Resource Management	3
LEAD 560 Instructional Leadership & Development	3
LEAD 561 Legal Issues for School Leaders	3

Additional Required EdLead Courses

6 hours of LEAD 596: Administrative Internship and one, 3 credit LEAD course	9
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Total Credit Hours

24

Advanced Study: Internship Experience

The Internship Experience Concentration is a 12-hour program designed to support students who have completed core requirements in the School Leadership toward Administrative License concentration at UNM but who require an internship experience to qualify for state licensure. Students must hold a valid Level III New Mexico teaching license at the time they intend to complete this 12 credit certificate program.

Complete this 12 credit Certification Program

Required Courses

LEAD 595 Advanced Field Experience	3
LEAD 596 Administrative Internship	6

Additional Required Lead Courses

LEAD electives	3
Total Credit Hours	12

Ed.D. in Educational Leadership

All applicants for admission into the doctoral program in Educational Leadership must meet the requirements set forth in the preceding College section of this catalog and in the sections on graduate studies at the University of New Mexico. Generally, minimum requirements for admission include experience as an educational leader, evidence of strong academic potential, ability to work cooperatively in a community of learners, and a letter of agreement regarding summer and academic year study. In addition, applicants must hold a masters degree and submit GRE General Test scores for consideration.

The Ed.D. in Educational Leadership is designed for active, high-achieving educators seeking to develop a more profound understanding of leadership for learning and transformation. The program employs a modified cohort model, with groups of students entering every summer and sharing a core of coursework. Members contribute to and benefit from an emergent community of learners. Cohorts commit to three summers of full-time study in July. For the fall and spring terms of 2007-2008, cohorts will meet five intensive Friday-Sunday weekends each term. Beginning in fall of

2008, cohorts will have the option to pursue elective classes outside the core of Educational Leadership classes required for the doctorate. The range of courses students can select from are offered in evening and weekend formats (largely on Saturdays), in online and hybrid formats, and as field-based experiences. Contact the Program office for additional information.

In addition to University requirements for graduation, students must successfully pass comprehensive exams and complete and defend a dissertation, which may be oriented towards practitioner research.

Required Courses

LEAD 601 Perspectives on Leadership	3
LEAD 603 Introduction to Data Analysis for Organizational Leaders	3
LEAD 605 Qualitative Research in Education	3
LEAD 609 Quantitative Methods for Analyzing and Transforming Organizations	3
LEAD 610 Organizational Change: Theory and Process	3
LEAD 611 Community Learning as Leadership	3
LEAD 634 Education, Politics, and Policy	3
LEAD 650 Leader as Researcher	3
LEAD 692 Workshop	6
Total required:	30

Elective Courses

LEAD 607, 613, or approved alternate research course	3
LEAD elective at the 600 level	3
12 hours of approved, related 500 or 600-level elective courses	12
Total hours of electives required:	18

Support Area

Applied/transfer credit of complementary earned graduate credit	24
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Dissertation

LEAD 699: Dissertation	18
Total Credit Hours	90

Minors in Educational Leadership

Three Educational Leadership minors exist: School Leadership toward Administrative Licensure*, Instructional Leadership, and Leadership for Organizational and Community Learning. To qualify for a transcribed minor, the student must successfully complete, with a cumulative GPA of 3.3 or better and a minimum grade of B in each class, the 15 hours of Core Domain courses associated with the minor. These are set out in the corresponding concentration in the *M.A. in Educational Leadership* section above.

***Note:** Completion of a minor in School Leadership toward Administrative Licensure does not constitute administrative licensure. Administrative licensure is awarded through the NM Public Education Department (PED). In addition to meeting coursework and internship requirements, an individual must hold a New Mexico Level III teaching license for one year prior to applying for New Mexico Administrative Licensure.

Educational Leadership (LEAD)

501. Educational Leadership in a Democratic Society. (3)

Designed to help organizational leaders understand how schools have both limited and expanded educational opportunity and what leaders can do to organize educational institutions for democratic life.

503. Data-Driven Decision Making. (3)

Development of instructional programs, human resources, and organizational improvements should be grounded in data, both qualitative and quantitative. Explores conceptual and practical approaches to analyzing data to improve schooling.

505. Visionary Leadership for Learning. (3)

This course explores in depth the idea that leadership is vision-based and that effective visions are developed jointly, communicated widely, support shared learning, and ultimately drive what gets done in the organization of community.

509. Schools as Organizations. (3)

This course, designed as an introduction to the concepts, theories and processes of organizational theory and organizational behavior, will provide prospective education leaders with a better understanding of the way organizations operate.

510. School-Community Relations. (3)

Students will learn and practice communication skills; become familiar with mechanisms for school-community interactions; identify various groups within and outside the school that play a part in educational decision making and program implementation.

512. Public Education in New Mexico. (3)

This course provides an overview of the economic, social, historical, political, legal and financial aspects of public education in New Mexico.

517. Communication for Education Leaders. (3)

This course explores both internal and external communication issues experienced in educational organizations. Emphasis will be placed upon what makes successful and productive communication from both theoretical and practical perspectives.

519. Curriculum Planning for School Leaders. (3)

This course will assist school leaders in understanding instructional leadership, curriculum development and implementation, and continuous student growth. The course will focus on curricular trends, issues, and leadership strategies.

520. The School Principalsip. (3)

This course focuses upon the school as a complex organization and the role of the principal within that organization. It examines the various roles played by the principal, with particular emphasis placed on school leadership.

521. School Finance and Resource Management. (3)

This course is designed to provide future school leaders with basic understanding of the workings of the educational funding system and to provide a framework for effective fiscal and staffing decisions at the school level.

522. School Business Management. (3)

Course designed to explore school management at the building, district and state levels. Students examine the role and setting of school business management and focus on the budget-making process of school districts and the State.

528. Leading Improvement in Low Performing Schools. (3)

This course will provide future school leaders with an understanding of school community leadership and continuous student growth in communities characterized by diverse language, culture, and socio-economic levels.

529. The Adult Learner. (3)

(Also offered as OLIT 561.) Examines the teaching and learning transaction with adults. Specific attention is on adult life stage development, relevant learning theories and approaches, and learning style issues of cross-cultural populations.

530. Leadership for Conflict Resolution in Schools and Organizations. (3)

(Also offered as HED 530) This course addresses current theories, strategies and practices in conflict resolution for educational and organizational leaders. Topics such as bullying, peer mediation programs, and restorative justice are covered.

532. Current Educational Problems. (3)

Current and/or controversial issues in education reform and leadership.

534. Policy Issues in Education. (3)

(Also offered as POLS 534.) This course focuses on current research and debates on critical policy areas relating to PK-12 education. The class examines the role of key decision-makers, ideologies, and implementation constraints in policy conflict resolution.

550. Culturally Responsive Leadership for Equity and Social Justice. (3)

This course will focus on the struggle for educational equity and social justice, how this struggle has been interpreted and understood, and how leaders can help educational institutions and communities promote equity and justice.

560. Instructional Leadership and Development. (3)

Focuses on supervision in terms of professional growth, staff development, and creating organizations in which learning, rather than power and control, is the center of attention. Supervision as evaluation is a relatively minor part of the course.

561. Legal Issues for School Leaders. (3)

This course explores how laws, including constitutional and statutory requirements, affect educational leadership. Focusing on concepts behind legal cases, the course examines how leaders can improve educational provision to address underlying legal concerns.

571. State and Federal Educational Leadership. (3)

This course examines strategies and techniques for obtaining and managing state and federal education funds. Federal, state and local perspectives on educational federalism are studied. Case studies are emphasized.

581. Seminar in Educational Leadership. (3, no limit) Δ

Topics vary from term to term, but are all critically important for educational administrators. They include but are not limited to: organizational development, leader behavior, teaching and learning, ethics, technology and educational policy. Restriction: permission of instructor.

591. Problems. (1-3 to a maximum of 6) Δ

Problems study is offered on demand only and with the permission of the instructor. Check with the chairperson of the Department for details. Restriction: permission of instructor.

592. Workshop in Educational Leadership. (1 to a maximum of 5) Δ**593. Topics. (1-4, no limit) Δ****594. Practicum. (1-6 to a maximum of 6) Δ**

A required field experience for students in Educational Leadership programs who are not seeking state administrative licensure. Arranged with advisor and program faculty.

595. Advanced Field Experiences. (3-6 to a maximum of 12) Δ

Restriction: permission of instructor.

596. Administrative Internship. (1-6 to a maximum of 12) [3-6 to a maximum of 12] Δ

The administrative internship provides field-based experiences to develop the skills, knowledge, and practices identified in the New Mexico Administrator Competencies. Students must meet program requirements for entry into the internship.

598. Directed Readings in Educational Leadership. (3-6 to a maximum of 6) Δ

Restriction: permission of instructor.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.**601. Perspectives on Leadership. (3)**

A doctoral seminar focusing on leading theories of educational, organizational, and community leadership, emphasizing transformational leadership and other forms of leadership that stress collaboration and shared decision making.

603. Introduction to Data Analysis for Organizational Leaders. (3)

A doctoral seminar introducing the rudiments of quantitative inquiry with emphasis on methods that leaders can apply immediately to organizational issues. Content taught cooperatively to enhance opportunities for community building.

605. Qualitative Research in Education. (3)

(Also offered as LLSS 605.) A doctoral seminar focusing on qualitative research methods, including problem definition, data collection and analysis and increasing the trustworthiness of one's findings. A research study is required.

Prerequisite: LLSS 523 or EDPY 511. Restriction: admitted to Ed.D. cohort.

607. Analyzing Qualitative Data. (3)

This doctoral seminar helps students increase their understanding and skills in analyzing qualitative data. It is assumed that prior to entering this seminar, the students have collected data on which to focus their analyses.

Prerequisite: 605 or LLSS 605.

609. Quantitative Methods for Analyzing and Transforming Organizations. (3)

A doctoral seminar focusing on how quantitative data can be used to understand organizational needs and to drive organizational decision making.

610. Organizational Change: Theory and Processes. (3)

Designed to help students better understand the change processes by studying various change models. Focuses on the "what" and "how" surrounding change as well as the decision making processes that impact change in institutions.

611. Community Learning as Leadership. (3)

A doctoral seminar focusing on what leaders can do to model learning, to jointly create the conditions to support individual and community learning, and to use what is learned to drive transformation.

613. Mixed Research Methods for Transformational Leaders. (3)

A doctoral seminar introducing the reasoning and decision making processes that influence how to select the data collection and analysis methods that are appropriate to meet organizational needs.

615. Leadership and Group Dynamics. (3)

Explores the workings of groups in various learning environments and what makes a well-functioning educational group, committee, or team. Focus on importance of group dynamics as an imperative part of adult learning and training.

620. Democracy, Ethics, and Social Justice in Transformational Leadership. (3)

Using the work of leading theorists and activists on democracy, diversity, and dialogue, this seminar examines pressing educational issues. Focus on educational goals and purposes, including analysis and articulation of our own visions for education.

629. Seminar for Practicing School Administrators. (1-6 to a maximum of 6) Δ

Exploration of important issues facing practicing school leaders. Includes organizational analysis, facilities management, budgeting, educational assessment, evaluation of staff and strengthening ties to families and the local community.

634. Education, Politics, and Policy. (3)

A doctoral seminar focusing on shaping educational policy, how leaders can influence the policy making process and how policies are applied to meet educational and community needs.

635. Legal and Fiscal Underpinnings of Educational Equity. (3)

A doctoral seminar examining the intersections of law, finance, and social equity. Explores landmark cases, historical shifts in fiscal provision of education, and trends in the pursuit of educational equity.

640. Leadership Synthesis. (3)

A doctoral seminar providing students with an opportunity to review, critically assess, and synthesize the most current literature on leadership. An extensive literature review is required.

Restriction: permission of instructor.

650. Leader as Researcher. (3)

A doctoral seminar synthesizing how leaders use inquiry to influence decisions. Papers framing a research problem and justifying the methods to be used in researching a problem are required.

Restriction: permission of instructor.

692. Workshop in Educational Leadership. (1-6 to a maximum of 6) Δ

Co-constructed by students and faculty, workshops are responsive to the most current and pressing educational issues facing educational leaders. May be repeated to a maximum of 6 credits for students enrolled in a doctoral program.

Restriction: permission of instructor.

693. Topics in Educational Leadership. (1-4, to a maximum of 18) Δ

Topics vary.

Restriction: doctoral students only.

695. Advanced Field Experiences in Educational Leadership. (1-6 to a maximum of 6) Δ

Restriction: permission of instructor.

696. Doctoral Internship. (3-6 to a maximum of 12) Δ

Doctoral students only.

Restriction: permission of instructor.

698. Directed Readings in Educational Leadership. (3-6 to a maximum of 12) Δ

Doctoral students only.

Restriction: permission of instructor.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

Julia Scherba de Valenzuela, Ph.D., University of Colorado at Boulder

Barbara Shaffer, Ph.D., University of New Mexico

Caroline Smith, Ph.D., Yale University

Catherine Travis, Ph.D., La Trobe University, Melbourne, Australia

Assistant Professors

Christine Sims, Ph.D., University of California, Berkeley

Graduate Program**Graduate Advisor Contact and Student Information**

Contact: Mary Gurule

Hokona Hall, Room 142, (505) 277-5282

Application materials and degree program information is available at:

http://www.unm.edu/preview/ha_grad.html

Graduate Application link for domestic applicants: <http://www.unm.edu/~edling>

Degree Offered

Ph.D. in Educational Linguistics

Application Deadline

December 1

The department of Language, Literacy and Sociocultural Studies (LLSS) in the College of Education and the Department of Linguistics in the College of Arts and Sciences at the University of New Mexico offer an interdisciplinary program leading to the Ph.D. in Educational Linguistics. Educational Linguistics at UNM is an interdisciplinary program made up of faculty from across the university who share an understanding of the influence of communities and educational contexts on language learning. The program supports a variety of interrelated interests, such as language maintenance and language revitalization, language policy and planning, bilingualism, and issues of assessment. Communities and languages of the Southwest and signed languages are of particular interest.

Entrance Requirements:

M.S. or M.A. in Education, Linguistics or complementary field.

Exit Requirements:

72 hours of course work beyond B.A., plus 18 dissertation hours

Required Core:

LING 504, LING 502 or 503, LING 522, LING 523, LING 531, LING 567, plus 6 hrs. of LING seminar hrs. from specified list.

24 hours in COE (including LLSS 640 and LLSS 645) selected with advisor

24 hours from LING, ED and related fields selected with advisor

18 dissertation hours

EDUCATIONAL LINGUISTICS

Don Zancanella, Department Chairperson
Department of Language, Literacy, and Sociocultural Studies

Hokona Hall, Room 140
MSC05 3040

1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-0437

<http://www.unm.edu/~edling/>

Linguistics Faculty

(See listing under Linguistics in the Arts and Sciences section of this catalog.)

Educational Linguistics Faculty**Emerita**

Vera John-Steiner, Ph.D., University of Chicago

Professors

Melissa Axelrod, Ph.D., University of Colorado, Boulder

Phyllis Perrin Wilcox, Ph.D., University of New Mexico

Sherman Wilcox, Ph.D., University of New Mexico

Associate Professors

Rebecca Blum-Martinez, Ph.D., University of California

Larry Gorbet, Ph.D., University of California, San Diego

Holbrook Mahn, Ph.D., University of New Mexico

Kathryn Manuelito, Ph.D., Arizona State University

Lois Meyer, Ph.D., University of California

Jill Morford, Ph.D., University of Chicago

Janet Patterson, Ph.D., University of New Mexico

Lucretia Pence, Ph.D., University of Pittsburgh

Barbara Rodriguez, Ph.D., University of Washington

Caroline Smith, Ph.D., Yale University

**EDUCATIONAL MEDIA/
LIBRARY SCIENCE**

Don Zancanella, Department Chairperson
Department of Language, Literacy and Sociocultural Studies, Educational Media/Library Science

Hokona Hall 140

MSC05 3040

1 University of New Mexico

Albuquerque, New Mexico 87131-0001

(505) 277-0437

Lecturer

Leslie Chamberlin, M.L.S., Rutgers University; M.A.,

University of New Mexico

(505) 277-7260

Minor (Teaching Field Endorsement)

The College of Education offers a 24-hour planned program in Library Science as an undergraduate minor or as a teaching field endorsement for those students who hold a Bachelor's degree and an existing or future New Mexico teaching license. Completion of the 24 hours provides the student eligibility to apply to the New Mexico Education Department (PED) at 300 Don Gaspar Street, Santa Fe, NM 87501-2786 (505-827-6587) for this endorsement or for a teaching license. Contact Leslie Chamberlin at (505) 277-7260 for information.

Student Information Contact

Contact College Advisement Center, Hokona Hall, the Department of Language, Literacy and Sociocultural Studies, or Leslie Chamberlin in Tremen Library for information.

Educational Media/Library Science (EMLS)

391. Problems. (1-3 to a maximum of 20) Δ
Restriction: permission of instructor.

424./524. Fundamentals of Library Science. (3)
Study of the organization of book and non-book collections, facilities including design and services in the library and media center. Emphasis on principles of management as applied to libraries including planning, decision-making, organization and human resources.

425./525. Reference and Bibliography. (3)
Study of materials and methods for locating information in general works, encyclopedias, dictionaries, indexes, biographical works, media guides and other major tools in subject fields.

427./527. Classification and Cataloging. (3)
Study of the purpose, history, theory and principles of classification, cataloging and general arrangement of books and other media. Practical application of the Dewey Decimal classification and Sears List of Subject Headings to both book and nonbook materials.

437./537. Library Collection Development. (3)
Study of the principles of selection and evaluation for developing collections of print and nonprint materials; includes acquisition policies, criteria, tools for selection and book repairs.

451./551. Books and Related Materials for Young Adults. (3)
A survey of books and related materials for middle and high school age students. Emphasis on adolescent reading and the use of literature in the school curriculum.

457./557. Government Documents. (3)
Introduction to U.S. federal, state and international government publications, the acquisition, organization and reference service of government publications, and the field of government document librarianship.

460./560. Organization and Administration of Media Centers. (3)
Study of the organization and management of media centers, facility design, and services related to the production and distribution of materials and equipment.

470./570. Automation in Libraries. (3)
To instruct teacher librarians in the basics of computer technology, circulation systems, databases and on-line internet searching.

524./424. Fundamentals of Library Science. (3)
Study of the organization of book and non-book collections, facilities including design and services in the library and media center. Emphasis on principles of management as applied to libraries including planning, decision-making, organization and human resources.

525./425. Reference and Bibliography. (3)
A survey of the characteristics of library users and their information needs on all levels; objectives of information services, techniques in information negotiation and search strategy; and basic information sources. Includes practical experience in the use of basic reference sources.

527./427. Classification and Cataloging. (3)
Principles of classification and cataloging on standard systems including automation applications.

537./437. Library Collection Development. (3)
Study of the principles of selection and evaluation for developing collections of print and nonprint materials; includes acquisition policies, criteria, tools for selection and book repairs.

551./451. Books and Related Materials for Young Adults. (3)
A survey of books and related materials for middle and high school age students. Emphasis on adolescent reading and the use of literature in the school curriculum.

557./457. Government Documents. (3)
Introduction to U.S. Federal, State and International government publications, the acquisition, organization and reference service of government publications and the field of government document librarianship.

560./460. Organization and Administration of Media Centers. (3)
Study of the organization and management of media centers, facility design, and services related to the production and distribution of materials and equipment.

570./470. Automation in Libraries. (3)
To instruct teacher librarians in the basics of computer technology, circulation systems, databases and on-line internet searching.

EDUCATIONAL PSYCHOLOGY

Deborah Riftenbary, Department Chairperson
Department of Individual, Family and Community Education
Educational Psychology
Simpson Hall
MSC05 3040
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 277-4535

Associate Professors

Jan Armstrong, Ph.D., University of Minnesota
Terri Flowerday, Ph.D., University of Nebraska
Roxana Moreno, Ph.D., J.D., University of California, Santa Barbara
Jay Parkes, Ph.D., Pennsylvania State University

Assistant Professors

Scott C. Marley, Ph.D., M.P.H., University of Arizona
James P. Selig, Ph.D., University of Kansas

Professors Emeritae

Mary B. Harris, Ph.D., Stanford University
Candace G. Schau, Ph.D., Iowa State University
Andrea Vierra, Ph.D., University of New Mexico

Affiliated Faculty

Peter Winograd, Ph.D., University of Illinois

Student Information Contact

Cynthia Salas, Simpson Hall, (505) 277-4535.

Introduction

The program provides graduate degrees that emphasize learning and cognition, research methodology and statistics, assessment, evaluation and human development applied to

education. Educational Psychology does not offer a baccalaureate degree. Undergraduate courses (lower-division and upper division) in Educational Psychology are offered to meet educator licensure requirements and to provide a foundation for undergraduates in Educational Psychology.

Graduate Programs

Graduate Advisor

All students are assigned an initial advisor. Later, students may select a new advisor in collaboration with faculty.

Priority Application Deadlines

M.A. and Ph.D.:

Fall semester	February 15
Spring semester	October 15

The Priority Application Deadline is encouraged for best consideration; however, program faculty review applications throughout the year.

Degrees Offered

M.A. in Educational Psychology
Ph.D. in Educational Psychology

Educational Psychology provides programs of study leading to the Master of Arts and the Doctor of Philosophy degrees. The program is designed to give students a broad and critical perspective on the psychological factors affecting individuals in schools, other educational settings and other learning situations throughout the life span. The program also emphasizes critical evaluation and application of research and theory based on a firm grounding in measurement, assessment, research methodology and quantitative methods.

A Masters of Arts degree in Educational Psychology is offered under both Plan I (30 credit hours required), and Plan II (33 credit hours required) as described in other sections of this catalog. All students in either Plan I or Plan II are required to take a core of 15 hours as follows:

M.A. Required Core Courses	15 hrs
Human Development	3 hrs
EDPY 503 Principles of Human Development	
Learning and Cognition	3 hrs
EDPY 510 Principles of Classroom Learning	
Research Design	3 hrs
EDPY 500 Survey of Research Methods in Education	
—or—	
EDPY 505 Conducting Quantitative Educational Research	
Measurement	3 hrs
EDPY 572 Classroom Assessment	
—or—	
EDPY 574 Introduction to Educational and Psychological Measurement	
Statistics	3 hrs
EDPY 502 Survey of Statistics in Education	
—or—	
EDPY 511 Introductory Educational Statistics	

The "or" selections are made in consultation with the student's advisor and Committee on Studies. Students who intend to go on to the Ph.D. should choose EDPY 505, 511, and 574. More advanced courses may also be substituted with permission.

The Doctor of Philosophy degree in Educational Psychology requires 90 total graduate credit hours. Of these, 24 hours are in a supportive area and 18 hours are dissertation units. The doctorate requires 36 hours of core courses in EDPY.

Ph.D. Required Core Courses

EDPY 503	Principles of Human Development
EDPY 505	Conducting Quantitative Educational Research
EDPY 510	Principles of Classroom Learning

EDPY 511	Introductory Educational Statistics
EDPY 574	Introduction to Educational & Psychological Measurement
EDPY 603	Applied Statistical Design and Analysis
EDPY 604	Multiple Regression Techniques as Applied to Education

—or—

EDPY 606	Applied Multivariate Statistics
EDPY 610	Seminar in Classroom Learning
EDPY 613	Seminar in Human Growth and Development
EDPY 696	Internship
—and—	6 hours of electives in EDPY

Minor

In addition to the M.A. and Ph.D. degrees, the program encourages students from other College of Education or University programs to participate in the program through a minor field of study. Two minors are offered: 1) Cognitive and Psychological Processes and 2) Quantitative Methods in Education. Both minors consist of a minimum of 24 credit hours of which no fewer than 18 hours are in Educational Psychology. Required core courses for the two minors are listed below:

Cognitive—Psychological Processes

EDPY 503	Principles of Human Development
EDPY 510	Principles of Classroom Learning
EDPY 610	Seminar in Classroom Learning
EDPY 613	Seminar in Human Growth and Development

Quantitative Methods in Education

EDPY 505	Conducting Quantitative Educational Research
EDPY 511	Introductory Educational Statistics
EDPY 574	Introduction to Educational & Psychological Measurement
EDPY 603	Applied Statistical Design and Analysis
EDPY 604	Multiple Regression Techniques as Applied to Education

—or—

EDPY 606	Applied Multivariate Statistics
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All students interested in Educational Psychology offerings are encouraged to contact the program for further information on courses and application procedures. Students may also focus on Educational Psychology as a supporting area of study. Students interested in pursuing formal minors or supporting areas of studies should seek advisement early in their programs of studies from Educational Psychology faculty.

Educational Psychology (EDPY)

303. Human Growth and Development. (3)

Principles of human growth and development across the life span and implications for education.

310. Learning and the Classroom. (3)

The basic principles of learning, particularly cognition, motivation and assessment, and their application to classroom situations.

391/591. Problems. (1-3, no limit) Δ

472/572. Classroom Assessment. (3)

Provides educators with skills in assessment and knowledge of issues in measurement and assessment. Skills necessary to understand and communicate large-scale test information are also developed.

500. Survey of Research Methods in Education. (3)

Overview of quantitative and qualitative research methods for research consumers. Emphasis is on locating published research and reading research reports with critical understanding of researchers' methods of data collection and analysis.

502. Survey of Statistics in Education. (3)

Non-technical overview of statistical methods in educational research; computation is not covered. Emphasis on developing critical understanding of statistical methods and results

when reading and interpreting research, not on producing research or calculating statistics.
Pre- or corequisite: 500.

503. Principles of Human Development. (3)

Principles of human growth and development, which include cognitive, psychosocial and physical development across the life span, with a particular focus on educational implications.

504. Statistical Software Applications for Education Research. (1-3)

Provides open lab, practicum-style opportunity to learn SPSS® for Windows. First five weeks (1 unit) cover introduction, orientation and basics. Remainder covers other techniques (1–2 credits) by arrangement with instructor.
Prerequisite: 511. Restriction: permission of instructor.

505. Conducting Quantitative Educational Research. (3)

Provides students with skills for designing quantitative educational research, including identifying a problem, reviewing literature, formulating hypotheses, considering ethical issues, selecting participants, selecting or constructing measures, making valid inferences, writing reports.

510. Principles of Classroom Learning. (3)

Research and theory in learning, particularly cognition, motivation and assessment, with emphasis on educational implications.

511. Introductory Educational Statistics. (3)

Foundations of statistical methods for research producers. Covers sampling methods, descriptive statistics, standard scores, distributions, estimation, statistical significance testing, t-tests, correlation, chi-square and effect size using SPSS® for Windows and computation.
Pre- or corequisite: 505.

513. Aging and Education. (3)

Characteristics of the aging process and theories about aging which have special relevance for educators dealing with adults.

515. Survey and Questionnaire Design and Analysis. (3)

Covers survey research from item writing and survey development to sampling, administration, analysis and reporting. Emphasizes applications and interpretations in educational and social science research and use and interpretation of statistical software for survey research.
Prerequisite: 511.

520. Motivation Theory and Practice. (3)

The course promotes understanding of current theories and research in motivation with an emphasis on applications in educational settings. Strategies for establishing motivation-rich environments will be developed.

524. Computers in the Educational Process. (3)

Students will be introduced to several ways computers may be used in educational settings. Also programming in BASIC.
Restriction: permission of instructor.

565. Seminar in Thought and Language. (3)

(Also offered as LING, PSY 565.)

572./472. Classroom Assessment. (3)

Provides educators with skills in assessment and knowledge of issues in measurement and assessment. Skills necessary to understand and communicate large-scale test information are also developed.

574. Introduction to Educational and Psychological Measurement. (3 to a maximum of 6) Δ

A survey of classical and modern approaches to measurement and assessment as applied to education and/or psychology. Includes measurement and scaling, reliability and validity, traditional and alternative assessment methods.
Prerequisite: 511.

586. Psychological Development of Women. (3)

Prerequisite: an introductory course in the psychology of personality. An introductory course in women studies is recommended but not essential.
Prerequisite: PSY 331.

591./391. Problems. (1-3 to a maximum of 18) Δ

593. Topics. (1, no limit) Δ

595. Advanced Field Experiences. (3-6 to a maximum of 12) Δ

Prerequisite: acceptance into a graduate program and permission of instructor.

598. Directed Readings. (3-6 to a maximum of 6) Δ

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

603. Applied Statistical Design and Analysis. (3)

Includes factorial analysis of variance (ANOVA), planned comparisons, post hoc tests, trend analysis, effect size and strength of association measures, repeated measures designs. Emphasis on solving applied problems using statistical analysis with computer software.
Prerequisite: 511.

604. Multiple Regression Techniques as Applied to Education. (3 to a maximum of 6) Δ

Includes bivariate regression, multiple regression with continuous and categorical independent variables and interactions, orthogonal and nonorthogonal designs and selected post hoc analyses. Computer analysis, conceptual understanding and applications to educational research are stressed.
Prerequisite: 603.

606. Applied Multivariate Statistics. (1-3, may be repeated twice) Δ

Advanced statistical techniques including discriminant function analysis, multivariate analysis of variance, canonical correlation, principal components analysis and exploratory factor analysis. Emphasis on conceptual understanding and use and interpretation of computer software.
Prerequisite: 603. Grading Option: A+, A, A-, B+, B, B-, C+, C, F, CR/NC.

607. Structural Equation Modeling. (3)

Theory, application, interpretation of Structural Equation Modeling (SEM) techniques. Includes covariance structures, path diagrams, path analysis, model identification, estimation and testing; confirmatory factor analysis, structural equation modeling and linear structural relations using latent variables.
Prerequisite: 604 or 606.

610. Seminar in Classroom Learning. (3 to a maximum of 6) Δ

An examination of selected research and theory on learning and cognition in specific domains with emphasis on application to classrooms or other learning situations.

613. Seminar in Human Growth and Development. (3 to a maximum of 6) Δ

Examination of selected topics in research and theory relevant to human growth and development, including implications for instruction and child rearing. May be repeated once for credit when topics differ.

645. Advanced Seminar in Educational Psychology. (3 to maximum of 12) Δ

Seminar introduces students to current research topics and professional issues in Educational Psychology.

650. Dissertation Seminar. (1-3 to a maximum of 6) Δ
Offered on a CR/NC basis only.

651. Advanced Seminar in Quantitative Educational Research. (1-3 to a maximum of 6) Δ

Seminar introduces advanced students to current research designs and controversies, statistical analysis techniques and computer applications.
Prerequisite: 603.

674. Advanced Educational and Psychological Measurement. (3)

Topics and issues in measurement, including generalizability theory, item response theory, differential item functioning, test development, bias, and fairness.

Prerequisite: 574 and 603. Co-requisite: 604.

696. Internship. (3-6 to a maximum of 12) Δ
Offered on a CR/NC basis only.

698. Directed Readings. (3-6 to a maximum of 12) Δ

699. Dissertation. (3-12, no limit) Δ
Offered on a CR/NC basis only.

EXERCISE SCIENCE

Gloria Napper-Owen, Department Chairperson
Department of Health, Exercise and Sports Science
Exercise Science, Johnson Center 1155
MSC04 2610
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-8173

See Professional Physical Education in this alphabetical listing of areas of study in the college.

FAMILY STUDIES

Deborah Rifenburg, Department Chairperson
Department of Individual, Family and Community Education
Family Studies, Simpson Hall
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4535

Professor
Virginia C. Shipman, Ph.D., University of Pittsburgh

Associate Professors
Ziarat Hossain, Ph.D., Syracuse University
Pamela Olson, Ph.D., Oregon State University

Professors Emeritae
Estella A. Martinez, Ph.D., Michigan State University
Mary Smith, Ph.D., Colorado State University
Pauline Turner, Ph.D., University of Texas

Contact
Program information and application for admission: Family Studies Program, College of Education Advisement Center, Hokona Hall, 277-3190, and Family Studies Program office at Simpson Hall, 277-4535.

Mission

The mission of the Family Studies program is to prepare students for participation in a complex and challenging society by working in arenas that endeavor to enhance individual and family strengths. Strengthening families and their individual members facilitates the development of a life long learning environment. Programs are designed to provide a solid foundation in human development, interpersonal relations, family relations and family resource management that recognizes the dynamic interactions of theory, research and relevant practices. Family Studies is an interdisciplinary and multidisciplinary field, exemplifying effective practice and scholarly inquiry that are sensitive and responsive to issues of cultural diversity. Consistent with the mission of the College of Education, Family Studies addresses critical education issues within the contexts of families and communities in both the educational and social services environments. The schol-

arly work of the program extends to the community through collaboration with families, schools, health and social service agencies, businesses, public policy agendas and government entities. Faculty and students strive to be responsive to the evolving needs of external constituencies.

Focus

Family Studies programs (undergraduate through doctoral levels) have focused on learning, relationships and roles across the developments—from conception to death. Programs prepare students to affect the optimal well-being of families and individuals, recognizing that characteristics and needs of families change across the lifespan and within the contexts of multiple environments. Families provide children's first learning environments, which impact children's education and learning through life. Families are also the primary transmitters of values from one generation to the next and the major providers of human services for family and child development. Thus, Family Studies occupies a unique position and critical role in the College of Education.

Majors and Degrees

Family Studies, B.S.
Human Development and Family Relations, B.S.
Family Studies, B.A.

* Students from Arts and Sciences can earn a B.A. degree in Family Studies. See College of Fine Arts for for specific program requirements.

Students wishing to apply for the Certified Family Life Educator designation of the National Council on Family Relations refer to the NCFR web site. For details on requirements and application <http://www.ncfr.org>. Note that a course in human sexuality is required.

Minors

Family Studies
Human Development and Family Relations

Contact the Family Studies Program, Simpson Hall, for more information and specific requirements.

Major: Family Studies (B.S.)

Curriculum

Family Studies Core (21 credits)

FS 213	Marriage and Family Relationships	3
FS 281	Introduction to Family Studies	3
FS 312	Parent/Child Interactions	3
FS 343	Family Management Theories	3
FS 395	Field Experience I	3
FS 481	Families and Public Policy	3
FS 484	Ethnic Minority Families	3

Family Relations (6 credits)

FS 310	Friends and Intimate Relations	3
FS 313	Family Theories and Contemporary Lifestyles	3
FS 384	Familias de Nuevo México	3
FS 411	Marriage and Family Life Education	3
FS 412	Fathering	3

Family Resource Management (9 credits)

FS 443	Application of Family Management Theories	3
Plus 6 credits from the following:		
FS 341	Ecological Aspects of Housing	3
FS 344	Consumer Decisions	3
FS 444	Family Finance	3

Human Development (6 credits)

FS 202	Infant Growth and Development	3
FS 304	Growth and Development in Middle Childhood	3
FS 315	Adolescent Development in the Family	3
FS 403	Growth and Development of the Preschool Child	3
FS 416	Adult Development in the Family	3

Students may count up to 6 hours of FS 391 towards program requirements.

General Education Requirements (46-47 hours)

ENGL 101	3
ENGL 102	3
PSY 105	3
SOC 101 –or– ANTH 130	3
BIOL 110 –and– BIOL 112L	4
–or–	
BIOL 123 and 124L	
ECON 105	3
STAT 145	3
NUTR 120 –or– 244	3
Possible Multicultural Electives: See Advisor	3
ANTH 130 Cultures of the World	
ANTH 238 Cultures of the Southwest	
HIST 260 History of New Mexico	
PSY 374 Cross-Cultural Psychology	
SOC 216 Dynamics of Prejudice	
SOC 308 Sociology of Gender	
SOC 326 Sociology of New Mexico	

Core: Humanities (two courses)	6
Physical or Natural Science	3/4
Fine Arts	3
Second Language	3

Core Choices:

Physical or Natural Science: ANTH 150 and 151L; ASTR101; CHEM 111L, (121 and 123L) or 131L, (122 and 124L) or 132L; EPS101 and 105L, 201L; ENVS 101; GEOG 101 and 105L; NTSC 261L, 262L, 263L; PHYC 102–102L, 151–151L, 152–152L, 160–160L, 161–161L.

Humanities: AMST 186, CLST 107, 204, 205; COMP 223, 224; ENGL 150, 292, 293; HIST 101L, 102L, 161L, 162L, PHIL 101, 201, 202; RLST 107; UHON 121; 122.

Fine Arts: ARTH 101, 201, 202; DANC 105; MA 210; MUS 139, 140; THEA 122.

Second Language: MLNG 101; one course chosen from any of the lower-division non-English language offerings of the Departments of Linguistics, Spanish and Portuguese, and Foreign Languages and Literatures.

In addition, the student must complete unrestricted electives for a minimum total of 128 credit hours. Consult the program faculty for specific courses. The student must complete 40 hours above 300.

Suggested Minor for FS Students (18–21 credits)

- Anthropology
- Economics
- English
- Communication and Journalism Management
- Psychology
- Sociology

Note: See minor department for specific requirements and/or information. Also, be advised that minor is not a requirement for the College of Education students majoring in Family Studies. A student without a minor must complete a total of 54 hours (instead of 45) in Family Studies.

Curriculum for Family Studies Minor

A minor in Family Studies consists of a total of 21 hours, 12 of which are core courses for majors. These courses are:

FS 213 Marriage and Family Relationships	3
FS 312 Parent-Child Interactions	3
FS 343 Family Management Theories	3
FS 484 Ethnic Minority Families	3

A minimum of 9 additional hours distributed among the following is required:

1. Family Resource Management (6), for example: 341, 344, 443

2. Human Development/Family Relations (3), for example: 202, 313, 403, 411, 412, 416

Nine hours must be numbered above 300. Grades of C or better are required in all Family Studies courses used to meet this requirement. This is a non-teaching minor. If the courses are required in both the major and the minor, an equivalent number of approved hours shall be added to the total hour requirement.

In addition, the student must complete unrestricted electives for minimum total of 128 credit hours. Consult the program faculty for specific courses. The student must complete 40 hours above 300.

This minor is available for majors in all departments with approval from major advisors.

Major: Human Development and Family Relations (B.S.)

Curriculum

Major Requirements (45 hours)

Family Studies Core (21 credits)

FS 281 Introduction to Family Studies	3
FS 213 Marriage and Family Relationships	3
FS 312 Parent/Child Interactions	3
FS 343 Family Management Theories	3
FS 395 Field Experience I	3
FS 481 Families and Public Policy	3
FS 484 Ethnic Minority Families	3

Family Relations (9 credits)

FS 310 Friends and Intimate Relationships	3
FS 313 Family Theories and Contemporary Lifestyles	3
FS 411 Marriage and Family Life Education	3
FS 412 Fathering	3

Human Development (12 credits)

(Choose from the following courses)	
FS 202 Infant Growth & Development	3
FS 207L Infant Laboratory	1
FS 304 Growth and Development in Middle Childhood	3
FS 315 Adolescent Development in Family	3
FS 403 Growth and Development of the Preschool Child	3
FS 407L Preschool Child Laboratory	1
FS 416 Adult Development in the Family	3

Family Resource Management (3 credits)

(Choose from the following courses)	
FS 341 Ecological Aspects of Housing	3
FS 344 Consumer Decisions	3
FS 443 Application of Family Management Theories	3
FS 444 Family Finance	3

General Education Requirements (61–62 hours)

ENGL 101	3
ENGL 102	3
PSY 105	3
SOC 101	3
ANTH 130	3
BIOL 110 and 112L	4
–or–	
BIOL 123 and 124L	
ECON 105	3
STAT 145	3
NUTR 120 –or– 224	3
Possible Multicultural Electives (see advisor)	3
ANTH 130 Cultures of the World	
ANTH 238 Cultures of the Southwest	
HIST 260 History of New Mexico	
PSY 374 Cross-Cultural Psychology	
SOC 216 The Dynamics of Prejudice	
SOC 308 Sociology of Gender	
SOC 326 Sociology of New Mexico	
Additional 9 hours from ANTH, PSY and/or SOC	9

Core:	
Writing and Speaking	3
Physical or Natural Science	3/4
Humanities (two courses)	6



Fine Arts	3
Second Language	3

Core Choices:

Writing and Speaking: ENGL 220; CJ 130; PHIL 156.

Physical and Natural Sciences: ANTH 150 and 151L, ASTR 101; CHEM 111L, (121 and 123L) or 131L, (122 and 124L) or 132L; EPS 101 and 105L, 201L; ENV5 101; GEOG 101 and 105L; NTSC 261L, 262L, 263L; PHYC 102–102L, 151–151L, 152–152L, 160–160L, 161–161L

Humanities: AMST 186, CLST 107, 204, 205; COMP 223, 224; ENGL 150, 292, 293; HIST 101L, 102L, 161L, 162L, PHIL 101, 201, 202; RLST 107

Fine Arts: ARTH 101, 201, 202; DANC 105; MA 210; MUS 139, 140; THEA 122

Second Language: MLNG 101; one course chosen from any of the lower-division non-English language offerings in the Departments of Linguistics, Spanish and Portuguese, and Foreign Languages and Literatures.

In addition, the student must complete unrestricted electives for a minimum total of 128 credit hours. Consult the program faculty for specific courses. The student must complete 40 hours above 300.

Suggested Minor for HDF5 students (18–21 credits)

- Anthropology
- Psychology
- Sociology
- Special Education

Note: See minor department for specific requirements and/or information. Also, be advised that minor is not a requirement for the College of Education students majoring in Human Development and Family Relations. A student without a minor must complete a total of 54 hours (instead of 45) in the Program.

Curriculum for Family Studies Minor in Human Development and Family Relations

A minor in Human Development and Family Relations consists of a total of 21 hours, 4 of which are required as core courses. These core courses are:

FS 213 Marriage and Family Relationships	3
FS 312 Parent-Child Interactions	3
FS 343 Family Management Theories	3
FS 484 Ethnic Minority Families	3

Select 6 hours in Human Development (FS 202/207L, 304, 315, 403/407L, 416) and 3 hours in Family Relations (FS 310, 313, 411, 412).

This minor is available for majors in all departments with approval from major advisors.

Departmental Honors

The Departmental Honors program is open to Family Studies majors who have an overall GPA of at least 3.20. Students must seek advisement from a faculty member willing to serve as mentor for the honors courses and research. An Honors thesis is written during the student's final semester. Required courses are FS 497, 498, and 499. These courses are in addition to those required for the major.

Graduate Program

Graduate Advisor

All students are assigned an initial advisor upon acceptance into the program with the option of selecting a new advisor later in collaboration with faculty.

Student Information Contact

Simpson Hall, (505) 277-4535.

Contact an office staff member for application materials and information about the application process.

Application Deadlines

Master's and doctoral applicants in Family Studies:

	Priority Deadline
Fall semester:	March 15
Spring semester:	October 15
Summer session:	March 15

Degrees Offered

- M.A. in Family Studies
- Ph.D. in Family Studies

Graduate programs are designed to prepare students for a variety of career options, including family specialists and others concerned with supporting families as educators and learners. Employment opportunities are available in schools, universities, community agencies, business and industry, and many other settings where work is directed toward education, prevention, support and research with individuals and families.

The graduate unit offers work leading to a Master of Arts degree in Family Studies and a doctorate (Ph.D.) in Family Studies. All M.A. students must fulfill the general admission requirements and the Plan I (with thesis) or Plan II (without thesis) requirements set forth earlier in this catalog. M.A. students who plan to acquire research skills or to pursue a doctorate are encouraged to follow Plan I. A Master's degree is prerequisite to application for the doctoral program. Students applying for the doctoral program are required to provide the results of performance on the GRE taken within the past five years. The M.A. in Family Studies may be pursued in one of these concentrations:

- Family Life Education*;
- Family Relations; and
- Human Development in Families.

Contact the graduate unit office for more information about specific requirements for all programs.

* Students wishing to apply for the Certified Family Life Educator designation of the National Council on Family Relations refer to the NCFR web site. For details on requirements and application <http://www.ncfr.org>.

Master's Degree and Degree Concentrations*

All M.A. students must fulfill the general admission requirements and the Plan I or Plan II requirements set forth in the preceding College of Education section in this catalog and in the sections on graduate studies at the University of New Mexico. The Master's in Family Studies may be pursued in one of the three following concentrations: Family Life Education, Human Development in Families or Family Relations. Students completing the Master's degree with a concentration in Family Life Education will be eligible to apply for the Certified Family Life Educator (CFLE) certificate from the National Council on Family Relations. Instructions and more information may be obtained from the Program Office in Simpson Hall.

The Master's in Family Studies offers flexibility in developing a program of studies to meet the interests of the student. Applicants are expected to have completed 18 hours of social and/or behavioral science courses (e.g., anthropology, family studies, psychology, sociology) prior to admission. Additional information and the required application form are available from the graduate unit office. Acceptance into the Master's program is based upon ratings of several factors, including scholarship, academic background (especially in the social/behavioral sciences), work experience, letters of recommendation, a personal statement and multicultural

experience. Prospective students must first apply for admission to the Office of Graduate Studies.

* The requirements for the Master's degree in Family Studies consist of 42 semester hours.

Concentration: Family Life Education

Program Core: (24)

FS 500	Family Studies Professional Seminar	1,1
Taken twice for a total of 2 credits. (To be taken first enrolled fall and in spring with FS 571.)		
FS 503	Seminar in Human Growth and Development	3
FS 517	Family Interaction Theories	3
FS 543	Managing Family Resources	3
FS 570	Research Methods in Family Studies	3
FS 571	Application of Family Research	1
FS 581	Seminar: Legal, Ethical and Policy Issues in Family Studies	3
FS 584	Multicultural Issues: Working with Families	3
EDPY 511	Introductory Educational Statistics	3

Other Required Family Studies Courses: (9)

FS 411	Family Life Education	3
FS 501	Parent Education	3
FS Elective		3

Other: (9)

Elective outside the program	3
—and—	

Plan I (Thesis Option)

FS 599	Thesis	6
—or—		

Plan II (without thesis)

FS 595	Advanced Field Experience	3
Elective outside the program	3	
Total Required Hours	42	

Note: For a student to be eligible for CLFE they also must complete HED 212 or PSY 231.

Concentration: Family Relations

Students completing the Master's degree with a concentration in Family Relations will be prepared to work in various Family Relations settings following graduation. Instructions and more information may be obtained from the Program Office in Simpson Hall.

Program Core: (24)

FS 500	Professional Seminar in Family Studies	1,1
Taken twice for a total of 2 credits. (Taken first enrolled fall and in the spring concurrently with FS 571.)		
FS 503	Seminar in Human Growth and Development	3
FS 517	Family Interaction Theories	3
FS 543	Managing Family Resources	3
FS 570	Research Methods in Family Studies	3
FS 571	Application of Family Research	1
FS 581	Seminar: Legal, Ethical and Policy Issues in Family Studies	3
FS 584	Multicultural Issues: Working with Families	3
EDPY 511	Introductory Educational Statistics	3

Other Family Studies Courses: (15)

FS 546	Family Systems	3
FS 560	Family Counseling	3
FS 595	Advanced Field Experience	3
Development Issues in Families (must take 2 of 3)		
FS 502	Infancy and Early Childhood	6
FS 504	Middle Childhood and Adolescence	
FS 508	Adulthood and Aging	

Other Required Courses: (3)

COUN 517	Theories of Counseling	3
Total Required Hours	42	

Concentration: Human Development in Families

Program Core: (24)

FS 500	Professional Seminar in Family Studies	1,1
Taken twice for a total of 2 credits. (Taken first enrolled fall and in the spring concurrently with FS 571.)		
FS 503	Seminar in Human Growth and Development	3
FS 517	Family Interaction Theories	3
FS 543	Managing Family Resources	3
FS 570	Research Methods in Family Studies	3
FS 571	Application of Family Research	1
FS 581	Seminar: Legal, Ethical and Policy Issues in Family Studies	3
FS 584	Multicultural Issues: Working with Families	3
EDPY 511	Introductory Educational Statistics	3

Other Required Family Studies Courses: (6) (must take two of three)

FS 502	Developmental Issues in Families: Infancy and Early Childhood	3
FS 504	Developmental Issues in Families: Middle Childhood and Adolescence	3
FS 508	Developmental Issues in Families: Adulthood and Aging	3

Electives: (6)

FS Elective	3
Elective outside the program	3

Other: (6)

Plan I

FS 599	Thesis	6
—or—		

Plan II

FS 595	Advanced Field Experience	3
Elective outside the program	3	
Total Required Hours	42	

Master's Degree Minor in Family Studies

Family Studies provides a valuable supplement to a number of degree programs and professions. The following minor program comprises a set of required courses from core offerings in theories of human development, family interaction and management of resources and electives from other graduate-level Family Studies offerings to meet individual needs.

Curriculum for Family Studies Minor
A minor in Family Studies at the Master's level consists of a total of 12 hours, 6 of which are to be selected from those courses required of all program majors. These include FS 503 (3), FS 517 (3), FS 543 (3) and FS 584 (3). In addition, with an advisor, the student selects another 6 hours of graduate-level Family Studies courses for a total of 12 hours.

Ph.D. in Family Studies

The conceptual framework for the Ph.D. in Family Studies is based on the link between the principles of ecology and systems theory with the study of families. The current interdisciplinary perspective assumes that family dynamics can best be understood within the multiple contexts in which they occur.

With the exception of a 12-hour doctoral core, students plan an individualized program with their Committee on Studies that focuses on the area of Family Studies and which may include courses in the graduate unit as well as from other units. To be eligible for the doctoral core courses (advanced seminars in theories, research and legal, ethical and policy issues in Family Studies and Internship), students will be expected to have had graduate courses (Family Studies Master's Core courses) or their equivalents in human growth and development, family interaction, managing family



resources, multicultural issues in working with families and children, introductory statistics and a course in research methods. In addition, students must have 24 credit hours in a secondary discipline and complete 15 hours to meet the inquiry skills requirement. All of these components are outlined in the Family Studies Ph.D. Program of Studies.

Family Studies Doctoral Core Curriculum*	12
FS 581 Seminar: Legal, Ethical, and Policy Issues in Family Studies	3
FS 670 Advanced Seminar in Theory and Research in Family Studies I	3
FS 671 Advanced Seminar in Theory and Research in Family Studies II	3
FS 696 Internship	3

* To be eligible for the doctoral core courses, students will be expected to have completed or be currently enrolled in Family Studies graduate courses or their equivalent in:

FS 503 Seminar in Human Growth and Development	3
FS 517 Family Interaction Theories	3
FS 543 Managing Family Resources	3
FS 570 Research Methods in Family Studies	3
FS 584 Multicultural Issues: Working with Families	3
EDPY 511 Introductory Educational Statistics	3

Additional Major Requirements 15
Each student, with his/her Committee on Studies, selects 15 additional credits, 9 of which must be in Family Studies.

Other Requirements:

Minor*	24
Inquiry Skills	15
EDPY 603 Applied Statistical Design and Analysis	3
EDPY 604 Multiple Regression Techniques as Applied to Education	3
EDPY 606 Applied Multivariate Statistics	1-3

Note: Family Studies students need to take EDPY 606 for 3 credit hours.

Additional credits to be determined by the student's Committee on Studies	6
<u>Dissertation</u> (minimum)	18
Total Required Hours	84

*Contact minor department for specific requirements and/or information.

Family Studies (FS)

202. Infant Growth and Development. (3)
Basic needs and growth factors of the child with emphasis on the prenatal period, infancy and through the second year.

207L. Infant Laboratory. (1)
Observation of infants, 2 hours per week. Required to be taken concurrently with 202 by FS Human Development and Family Relations (HDFR) majors; may be elected by other FS majors and non-majors, with 202 as a corequisite.

213. Marriage and Family Relationships. (3)
Overview of significant research and theories in premarital, marital and family relationships.

281. Introduction to Family Studies. (3)
An introduction to the profession of Family Studies including content areas, community agencies and career opportunities.

304. Growth and Development in Middle Childhood. (3)
Principles of growth and development for 6 to 11-year-olds in language, cognitive, physical, motor, social and emotional areas. Influences on development included.

310. Friends and Intimate Relationships. (3)
Survey of the research concerning friends and intimate relationships. Focus on the dynamic characteristics of friendship and other intimate relationships.

312. Parent-Child Interactions. (3)
Dynamic interactions of parents and children throughout the life cycle in diverse family configurations.

313. Family Theories and Contemporary Lifestyles. (3)
Family theories, conceptual frameworks and research relevant to current family lifestyles including single parents, remarried, same sex, cohabitants.
Prerequisite: 213.

315. Adolescent Development in the Family. (3)
Developmental interaction and communication patterns of adolescents within a family setting.

341. Ecological Aspects of Housing. (3)
Variations in housing structures and the impact of housing on family functioning.

343. Family Management Theories. (3)
Comparison of current theories of family management.
Restriction: major in program or permission of instructor.

344. Consumer Decisions. (3)
Role of the family member as a consumer and exploration of the resources available for purchase decisions.

384. Familias de Nuevo México. (3)
(Also offered as CHMS 384.) Taught in English. Families of Hispano, Indo-Hispano, Mexican American and Mexicano heritage originating and/or currently residing in New Mexico are studied from a family-ecological-system perspective. Family and child development topics across the life span are included.

391./591. Problems. (1-6 to a maximum of 6) [1-3 to a maximum of 3] Δ

395. Field Experience I. (1-6 to a maximum of 6) Δ
Combines 120 hours of practical experience in agency or institutional setting with class seminar. Students apply and integrate knowledge and skills for working with or on behalf of individuals and/or families.
Restriction: permission of instructor.

403. Growth and Development of the Preschool Child. (3)
Developmental principles and recent research on language, cognitive, physical-motor and social-emotional development of the preschool child.
Corequisite: 407L. Restriction: junior or senior standing.

407L. Preschool Child Laboratory. (1)
Laboratory experience in child care center; must be taken concurrently with 403. Includes participation or observation/participation. Hours arranged.
Pre- or corequisite: 403.

***411. Marriage and Family Life Education. (3)**
Philosophies and processes of family life education programs (FLE).

412. Fathering. (3)
This course will examine fathers' role in child development across cultural groups. Conceptualization of fathering and the relationship between cultural beliefs and fathering behaviors will be explored.

416. Adult Development in the Family. (3)
Examination of the biological, psychological and sociocultural aspects of adult development and aging and their dynamic interactions within the context of diverse family structures and lifestyles. Implications for prevention and intervention strategies discussed.

443. Application of Family Management Theories. (3)
Discussion of working with family members to identify and help meet family demands with an emphasis on family resource use. Includes 40 hours in a field setting.
Prerequisite: 343.

***444. Family Finance. (3)**
Financial decisions of families throughout the life cycle.

481. Families and Public Policy. (3)
Synthesis of issues in Family Studies with emphasis on the formulation and impact of public policies.
Restriction: major in program or permission of instructor.

***484. Ethnic Minority Families. (3)**

Survey of family dynamics of ethnic minority families in the U.S. Topics include gender roles, mate selection, conjugal power, intermarriage, child development, parenting, the elderly, kinship patterns and reciprocal impact of social environments and family systems.

493/593. Topics. (1-3, no limit) Δ**495. Field Experience II. (1-6 to a maximum of 6) Δ**

Continuation of 395 with increased responsibilities/expectations for students.

Restriction: permission of instructor.

497. Reading and Research in Honors I. (2)

Advanced studies and research under the supervision of a faculty mentor.

Restriction: permission of instructor.

498. Reading and Research in Honors II. (2)

Advanced studies and research under the supervision of a faculty mentor.

Prerequisite: 497. Restriction: permission of instructor.

499. Honors Thesis. (2)

Prerequisite: 498. Restriction: permission of instructor.

500. Family Studies Professional Seminar. (1 to a maximum of 2) Δ

This seminar is the introduction into the Family Studies graduate program. To be taken the first fall enrolled in the Family Studies program and concurrently with FS 571. **Offered on a CR/NC basis only.**

Corequisite: 571.

501. Parent Education. (3)

Focus on philosophy of parent education, including content, processes, procedures, techniques and resources. Implications of child development principles from infancy through adolescence for parenting will be examined.

502. Developmental Issues in Families: Early Childhood. (3)

Addresses developmental issues in families with children from birth through age 8, including all aspects of development in children, with developmental implications for family members, based on contemporary research.

Prerequisite: a course in human development, early childhood or developmental psychology.

503. Seminar in Human Growth and Development. (3)

Theories and research relevant to human growth and development across the life span, including implications for education, child rearing and counseling.

504. Developmental Issues in Families: Middle Childhood and Adolescence. (3)

Physical, affective, social and language/cognitive development in middle childhood and adolescence. Ecological and relational influences will be emphasized, including school, gender, social class, family and peer relationships. (Offered in rotation with two other developmental courses.)

508. Developmental Issues in Families: Adulthood and Aging. (3)

Current issues concerning the biological, psychological and sociocultural aspects of adult development and aging within the contexts of diverse family structures and lifestyles will be examined through the study of the relevant research literature. (Offered in rotation with 502 and 504.)

512. Working with Children and Families. (3)

Focus on similarities and differences in working with families, depending upon differences in client, practitioner, problem and setting characteristics.

Restriction: permission of instructor.

513. Seminar-Current Issues in Family Studies. (3, no limit) Δ

Topics vary from term to term, but are all critically important for Family Studies. They include but are not limited to: Death & Dying and Family Violence.

514. Fatherhood. (3)

A critical examination of issues related to fatherhood including the multiple dimensions of paternal involvement, influences on involvement and consequences of involvement. The course examines multiple perspectives and frameworks for understanding fatherhood.

517. Family Interaction Theories. (3)

Review of salient theories and dynamics involved in understanding interaction patterns within contemporary families. The ability to analyze relationships is emphasized.

Restriction: permission of instructor.

543. Managing Family Resources. (3)

A survey of the research in the field of family management to include family resources, decision making and work allocation.

Prerequisite: a course in family management theories or permission of instructor.

546. Family Systems Theories. (3)

This course examines the development of family systems theories from the physical and biological sciences and explores current use within a broader ecosystemic perspective. Implications for research, education and clinical practice are illustrated and discussed.

Restriction: graduate standing.

560. Family Counseling. (3)

(Also offered as COUN 560.) An introduction to history and practice of counseling with families. A number of leading experts in the field are studied with respect to both their theoretical approach to the subject and their techniques.

Prerequisite: 517 and COUN 517 and 518 and 520 and 530.

570. Research Methods in Family Studies. (3)

Research design and methods used in research with families. Includes individual projects.

571. Application of Family Research. (1)

Faculty supervised experience in conducting a research study relevant to family studies. Scholarly course work will lead to presentation in a professional setting. Assignments will vary depending on students' goals and research-related experience.

581. Seminar: Legal, Ethical and Policy Issues in Family Studies. (3)

Examination and analysis of contemporary issues relating to families from legal, ethical and policy perspectives. Development of a code of ethics for family professionals.

Restriction: admission to doctoral program in FS, and permission of instructor.

584. Multicultural Issues: Working with Families. (3)

Provides information specific to various subcultures in the U.S.A., including cultural self-awareness, and the development of multicultural competence for successful interaction. Emphasis is on research findings on multicultural issues working with children, adults and families.

591/391. Problems. (1-3 to a maximum of 12) Δ

May be repeated to a maximum of 6 credit hours for Master's Plan I and a maximum of 12 credit hours for Master's Plan II.

593/493. Topics. (1-3, no limit) Δ

Various current topics in family studies are offered on a trial basis before they are established as permanent courses. Additional information may be obtained from the program.

595. Advanced Field Experiences. (3-6 to a maximum of 6) Δ

Course completed in a setting where student will work with families and/or individuals. Students must participate 160 hours

Restriction: permission of instructor.

598. Directed Readings in Family Studies. (3-6 to a maximum of 6) Δ

Independent readings to be arranged with individual faculty.

599. Master's Thesis. (1-6, no limit) Δ

See Graduate Programs for total credit requirements. **Offered on a CR/NC basis only.**

670. Advanced Seminar in Theory and Research in Family Studies I. (3)

The first half of a two-semester course examining the nature of theories, theoretical approaches to the study of families and the application of various theories of human development.

Restriction: admission to FS doctoral program.

671. Advanced Seminar in Theory and Research in Family Studies II. (3)

The second half of a two-semester course examining the application of certain theories to research on families and the implications of family theories for education, prevention and social policies.

Prerequisite: 670. Restriction: admission to FS doctoral program.

696. Internship. (3-6 to a maximum of 12) Δ

Designed to give the student practical experience in an agency or other setting working with families and individuals, under the supervision of a faculty member. To be taken near the completion of all course work.

699. Doctoral Dissertation. (3-12, no limit) Δ

Students may not receive credit in dissertation until the semester in which the doctoral comps are passed. **Offered on a CR/NC basis only.**

HEALTH EDUCATION

Gloria Napper-Owen, Department Chairperson
Department of Health, Exercise and Sports Sciences
Health Education, Johnson Center
MSC04 2610

1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-5151; FAX (505) 277-6227
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Professors

Elias Duryea, Ph.D., University of Nebraska

Assistant Professor

Magdalena Avila, Dr.P.H., University of California (Berkeley)
Shawn Hrnrcr, Ph.D., University of New Mexico
Christina Perry, Ph.D., University of New Mexico

Assistant Research Professor

Elba Saavedra, Ph.D., University of New Mexico

Adjunct Faculty

Terrence Jones, Ph.D., University of New Mexico
David Sleet, Ph.D., University of Toledo
Elaine Stone, Ph.D., University of New Mexico
Timothy Taylor, Ph.D, University of Oklahoma

Undergraduate Advising Contact

Any Health Education Faculty Member, Johnson Center,
(505) 277-5151

Student Information Contact and Application for Admissions

Margaret Chavez, Johnson Center 1150, (505) 277-5151

Health Education/School Health and Community Health Mission Statement

The Health Education program offers courses of study to prepare Health Education and Health Promotion specialists at the undergraduate and graduate levels. Students are prepared to assume Health Education positions in schools, community, and public health agencies, and in health care and worksite settings. The national guidelines delineating the Roles and Responsibilities of Health Education Specialists serve as the basis for the course of studies at the undergraduate and graduate levels. In addition, special attention is given to preparing students to work within multi-cultural, multi-ethnic communities in ways that respect and support the healthy development of families and individuals within those communities.

Major and Degree

Health Education: Bachelor of Science in Education (B.S.Ed.)

Undergraduate Program

Twenty-six hours of course work completed, 2.5 GPA.
Contact Advisement Center, Hokona Hall 277-5121

Two concentrations are available to students majoring in Health Education; both lead to a Bachelor of Science in Education. The program prepares students to meet the competencies of the roles and responsibilities of the entry-level Health Educator. Concentration One, School Health Education, which leads to eligibility to apply for teacher licensure and prepares the student to teach health in middle and secondary schools. Concentration Two, Community Health Education, is a non-teaching concentration which provides students with a broad-based introduction to community and public health and prepares them for professional practice in community health agencies, clinical settings and the work place. Both concentrations also prepare students for graduate studies in Health Education at the University of New Mexico or any of the many schools of public health in the United States. In addition, a minor in School Health Education is available. Screening by Health Education faculty is a prerequisite to entering either concentration.

NOTE: Student's course work must include the University of New Mexico core requirements and at least 40 hours of upper division (300-level and above) credits.

Undergraduate Program

School Health Education—Concentration 1

State Board of Education licensure regulations are subject to periodic change. Contact the College Advisement Center or program advisor for specific requirements for eligibility for licensure and/or endorsement. See preceding section on Licensure for application for license (K–12).

First Year

HED 164L	Standard First Aid/Lab	3
HED 171	Personal Health Management	3
ENGL 101	Composition I: Exposition	3
BIOL 123/124L	Biology for Health Related Sciences and Non-Majors/Lab	4
CHEM 111L	Elements of General Chemistry	4
Soc & Behav Sci	select from UNM Core Curriculum	6
Fine Arts Elect	select from UNM Core Curriculum	6
ENGL 102	Composition II: Analysis and Argument	3
HIST 101L		
—or— 102L	Western Civilization	3
		35

Second Year		
HED 212	Fundamentals Human Sexuality	3
HED 209	Education for AIDS Prevention	1
HED 260	Foundations of Health Promotion	3
BIOL 237	Human Anatomy and Physiology I for the Health Sciences	3
BIOL 239L	Microbiology for Health Sciences and Non-Majors	4
NUTR 244	Human Nutrition	3
MATH 121	College Algebra	3
ENGL 219	Technical and Professional Writing	3
Sec Lang	select from UNM Core Curriculum	3
HIST 161L	History of the United States to 1877	3
–or– 162L	History of the United States Since 1877	3
ENGL	Any English Course	3
		<hr/> 32

Third Year		
HED 247	Consumer Health	1
HED 306	Conflict Mediation	1
HED 345	Professional Applications in Health Education	3
HED 333	Emotional Health and Interpersonal Relationships	3
HED 362	Introduction to Health Behavior Theory	2
HED 451	Teaching Strategies & Curriculum for Health Education	2
EDPY 303	Human Growth and Development	3
EDPY 310	Learn and Classroom	3
OLIT 421	Production and Utilization of Instructional Materials	3
HIST 260	History of New Mexico	3
–or– 463	Hispanic Frontiers	3
STAT 145	Introduction to Statistics	3
	General Ed Elective	3
		<hr/> 30

Fourth Year		
HED 310	Injury Prevention	1
HED 321	Violence Prevention	1
HED 445	Strategies for Prevention of Substance Use	1
EDUC 438	Teaching Reading and Writing in the Content Field	3
HED 471	Introduction to Community Health	3
HED 481	Pre-student Teaching	2
HED 482	Introduction to Health Education and Multi-Cultural Health Beliefs	3
HED 489	Student Teaching in Sec Sch	8
HED	Electives	7
HIST	Any History Course	3
		<hr/> 32

Community Health Education– Concentration 2

First Year		
HED 164L	Standard First Aid/Lab	3
HED 171	Personal Health Management	3
ANTH 130	Cultures of the World	3
CJ 130	Public Speaking	3
ENGL 101	Composition I: Exposition	3
ENGL 102	Composition II: Analysis and Argument	3
STAT 145*	Introduction to Statistics	3
Soc & Behav		
Sci	Select from UNM Core Curriculum**	6
BIOL 123/124L	Biology for Health-Related Science and Non-Majors/Lab	4
CHEM 111L	Elements of General Chem	4
		<hr/> 35

* STAT 145 preferred or select from the UNM Core Curriculum

** Excluding any course from the Social & Behavioral Sciences that are listed in the program of studies

Second Year		
HED 209	Education for AIDS Prevention	1
HED 247	Consumer Health	1
HED 260	Foundations of Health Promotion	3
BIOL 237	Human Anatomy and Physiology I for the Health Sciences	3

ENGL 219	Technical and Professional Writing	3
NUTR 244	Human Nutrition	3
Fine Arts	Select from UNM Core Curriculum	3
Sec Lang	Select from UNM Core Curriculum	3
Humanities	Select from UNM Core Curriculum	6
BIOL 239L	Microbiology for the Health Sciences and Non-Majors	4
		<hr/> 30

Third Year		
HED 310	Injury Prevention	1
HED 306	Conflict Mediation	1
HED 321	Violence Prevention	1
HED 333	Emotional Health and Interpersonal Relationships	3
HED 345	Professional Applications in Health Education	3
EDPY 303	Human Growth and Development	3
CJ	Upper-Division Elective	3
PSY 331	Psychology of Personality	3
PSY	Contact Advisor for Approved Psych Courses	6
SOC 322	Social Epidemiology	3
	General Education Elective	3
		<hr/> 30

Fourth Year		
HED 451	Teaching Strategies & Curriculum for Health Education	2
HED 362	Introduction to Health Behavior Theory	2
HED 471	Introduction to Community Health	3
HED 482	Introduction to Health Education and Multi-Cultural Health Beliefs	3
HED 495	Field Experience	6
HED	Electives	3
OLIT 421	Production and Utilization of Instructional Materials	3
OLIT 483	Instructional Applications: Computer Technology	3
	General Electives	7
		<hr/> 32

Minor Study Requirements

A minor in School Health Education consists of 26 of the following credit hours and must be approved with a faculty advisor in the School Health Education Program. Students seeking teaching certification must consult with an Academic Advisor.

The School Health Education Minor is as follows:

HED 164L	Standard First Aid	3
HED 171	Personal Health Management	3
HED 212	Fundamentals of Human Sexuality	3
HED 260	Foundations of Health Promotion	3
HED 333	Emotional Health and Interpersonal Relationships	3
HED 345	Professional Applications in Health Education	3
HED 362	Introduction to Health Behavior Theory	2
HED 445	Strategies for Prevention of Substance Use	1
HED 451	Teaching Strategies and Curriculum for Health Education	2
HED 482	Health Promotion in Multicultural Setting	3

Graduate Programs

Degree Offered

M.S. Health Education

Graduate Advisors

Magdalena Avila, Elias Duryea, Shawn Harris, Christina Perry

Student Information Contact

Carol Catania, Johnson Center 1150, (505) 277-5151

Contact this office for student information and application materials for graduate study.

The course of study prepares students to meet the competencies of the roles and responsibilities of the graduate-prepared Health Educator.

The Master of Science in Health Education is available under both Plan I (with thesis) and Plan II (without thesis), in accordance with regulations in the preceding part of the College section of this catalog and other sections pertaining to graduate study. The specific concentrations include:

School Health Education. This concentration provides preparation for graduate students wishing to teach or administer health education programs in a school setting. In addition to core courses, students will take support courses selected to meet the needs of each individual student. For students not currently certified to teach health education, the certification program may be taken concurrently.

Community Health Education. This concentration is designed to prepare professional community health educators. Emphasis is on preparing individuals for careers in health education and in the application of behavioral science and public health principles to health problems and health promotion; for administrative and consultant positions in agencies and institutions at local, state, and national levels; and for positions in program planning and evaluation. The program of study for the community health concentration includes a core of courses. The support courses are selected to meet the career goals and needs of each individual student.

State Licensure in Elementary or Secondary Education. Graduate students without an undergraduate teaching major or minor in health education can be certified by a planned program of study. This program consists of basic general education and professional education course work, plus core and support courses.

Community Health Education Concentration

EDPY 511	Introduction to Educational Statistics	3
HED 506	Health Behavior Theory	3
HED 507	Research Design	3
HED 511	Administration Aspects of Sch/Com Health	3
HED 571	Advanced Community Health	3
HED 572	Program Planning in Health Education	3
HED 574	Epidemiology	3
HED 582	Health Promotion in Multicultural Settings	3
HED 595	Field Experience	3
Total		27

Students will complete the 36 hour program with approved electives.

Plan 1: Thesis

Required course work, 27 hours; approved elective course work, 3 hours; thesis, 6 hours (defense of thesis required).
Total program: 36 hours

Plan 2: No Thesis (Passing Comprehensive Examination Required)

Required course work, 27 hours; approved elective course work, 9 hours.
Total program: 36 hours

School Health Education Concentration

EDPY 511	Introduction to Educational Statistics	3
HED 506	Health Behavior Theory	3
HED 507	Research Design	3
HED 511	Administration Aspects of Sch/Com Health	3
HED 545	Strat. For Prevention of Sub Abuse	1
HED 551	Teaching Strategies & Curriculum Dev.	2
HED 572	Program Planning in Health Education	3
HED 582	Health Promotion in Multicultural Settings	3
Total		21

Students will complete the 36 hour program with approved electives.

Plan 1: Thesis

Required course work, 21 hours; approved elective course work, 9 hours; thesis, 6 hours (defense of thesis required).

Total program: 36 hours

Plan 2: Non-Thesis (Passing Comprehensive Examination Required)

Required course work, 21 hours; approved elective course work, 15 hours.

Total program: 36 hours

Deadlines for Application

	Priority Deadline	Final Application Deadline
Fall semester:	June 15	August 1
Spring semester:	November 1	December 15
Summer session:	April 1	May 1

The Priority Deadline is encouraged for best consideration; however, all applications must be received by the Final Application Deadline.

Early application is recommended. These dates also apply for financial aid.

Health Education (HED)

164L. Standard First Aid. (1-3 to maximum of 3) Δ

Preparation in knowledge and skills to meet the needs in situations when basic first aid care is needed. Students eligible for Standard First Aid Certification and CPR Certificate.

171. Personal Health Management. (3)

Exploration of the major areas of health information pertinent to understanding how to achieve, maintain and promote positive health. Topics covered include mental health, drugs, human sexuality, prevention and control of diseases, nutrition, consumer health and ecology.

209. Education for AIDS Prevention. (1)

This course is designed to familiarize students about the HIV/AIDS epidemic with HIV/AIDS awareness including: basic information, prevention, history, compassion, legal issues, testing and societal implications.

212. Fundamentals of Human Sexuality. (3)

Basic knowledge about human sexuality including anatomical, physiological, psycho-social and ethical components. Reproduction, contraception, sexually transmitted disease, sexual health and sexual dysfunctions are among areas examined.

247. Consumer Health. (1)

Preparation in knowledge and skills related to consumers of health products and services.

260. Foundations of Health Promotion. (3)

For those considering becoming health majors or minors in school health or community health. Exploration of the basic philosophy and fundamental practices currently utilized in health education.

293. Topics. (1-3, no limit) Δ

306. Conflict Mediation. (1)

The course will cover methods of resolving conflict situations and methods of preventing conflict. Students will learn to design educational strategies that can be implemented as part of a classroom curriculum.

310. Injury Prevention. (1)

The course content will include specific strategies for preventing unintentional injuries in young children. Students will examine specific principles for the development of new strategies that will address unintentional injuries.

321. Violence Prevention. (1)

The course will examine strategies that have been successful in preventing violence. Students will examine the literature to understand the principles to use in the development of strategies for the prevention of violence.

333. Emotional Health and Interpersonal Relationships. (3)

Course will examine a psychological framework that is the cause of a dysfunctional lifestyle and create a psychological framework that can result in the improvement in the quality of living.

345. Professional Applications in Health Education. (1-3)

This course exposes school and community health education majors to topics appropriate for the development and enhancement of professional competencies.

Restriction: HED majors only.

362. Introduction to Health Behavior Theory. (2)

This course will provide an understanding of theoretical principles of various health behavior theories that explain the adoption of health-compromising and health-promoting behaviors.

391/591. Problems. (1-3 to a maximum of 18) Δ

Restriction: permission of health education faculty member.

445. Strategies for Prevention of Substance Use. (1)

Examines basic principles for the development of effective strategies for substance use prevention programs for youth. Evidence of principles used in successful programs from research literature will be provided.

451/551. Teaching Strategies and Curriculum for Health Education. (2)

Students will learn the principles for the development of effective teaching methods and for the development, implementation and evaluation of Health Education prevention / promotion curriculum.

471. Introduction to Community Health. (3)

New developments in research in major health problems, the ecology of local, national and world health problems. A basic foundation in the history of public health, principles in environmental health and control of disease in communities.

473. Health Issues in Death and Dying. (3)

An introduction to content in the area of death and dying: the dying process, grief, types and alternatives to funerals, out-of-body experiences, types of death and community resources available for support.

477/577. Stress Management. (3)

Deals with multiple causes of stress and its resolutions. Emphasizes chief stressors of adults, self-responsibility for change, holistic approach, emotional/mental methods of stress reduction.

481. Pre-Student Teaching. (2)

Students will be provided the experience to observe and to assist in the everyday responsibilities of the classroom health educator. This experience will help prepare them for their student teaching experience.

Restriction: permission of instructor.

482. Introduction to Health Education and Multicultural Health Beliefs. (3)

Course provides an overview of the health beliefs of people in NM with an emphasis towards Latino/Hispanics, Native Americans, African Americans, Asians and Anglos. Examines health behavior as influenced by health beliefs and practices.

487/587. Physical Activity and Aging. (3)

(Also offered as PEP 487.) Concerned with the process of aging as it affects physical activity and the potential of physical activity in adjustment to the process of aging.

489. Student Teaching in the Secondary Schools. (8)

Prerequisite: 481. Restriction: permission of instructor.

492/592. Workshop. (1-4 to a maximum of 13) Δ**493/593. Topics. (1-3, no limit) Δ****495. Field Experience. (3-6 to a maximum of 12) Δ**

Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Restriction: permission of instructor.

506. Health Behavior. (3)

This course explores multiple theories and models and their application in the development of health promotion programs to support change within individuals, families and communities.

507. Research Design in HPER. (3)

(Also offered as PEP 507.) Emphasizes an understanding of different research designs, their level of sophistication and their application from both a theoretical and practical point of view.

509. Media/Public Relations in HPER. (3)

(Also offered as PEP 509.) Introduction to principles of public relations publicity and crisis management in HPER and sports administration.

511. Administrative Aspects of School and Community Health. (3)

Provides students with administrative skills such as leadership style, communication techniques, problem solving, motivational strategies, budgeting, goal setting, evaluation, etc. as they pertain to school/community health education positions.

530. Conflict Resolution. (3)

This course addresses current theories, strategies and practices in conflict resolution for educational and organizational leaders. Topics such as bullying, peer mediation programs, and restorative justice are covered.

545. Advanced Strategies for Prevention of Substance Use. (1)

Examines basic principles for the development of effective strategies for substance abuse prevention programs. In addition, it will explore national and international initiatives that reduce substance abuse and related health impacts.

551/451. Teaching Strategies and Curriculum for Health Education. (2)

Students will learn the principles for the development of effective teaching methods and for the development, implementation and evaluation of Health Education prevention/promotion curricula.

560. Perspectives in Community Health Education. (3)

Course examines the multifaceted components of community health in NM urban/rural communities. Provides an opportunity for critical dialogue with NM Communities and health professionals working with them to address health issues impacting them.

571. Advanced Community Health Education Research. (3)

An overview of community health, its role in public health and current trends in community-based research. Examines different methodologies for conducting academic and community-based research.

572. Community Health Education Program Planning, Development and Evaluation. (3)

Designed to provide the graduate student with competencies in program planning and evaluation. Principles of the PRECEDE model and grantsmanship skills will be utilized to develop a mock proposal on a health-related topic. Prerequisite: graduate status in Health Education.

574. Epidemiological Principles for Health Educators. (3)

Designed to introduce students to statistics of diseases. Course surveys various research designs used in discovering and tracking diseases as they affect a human population.

576. Measurement and Evaluation in Health Promotion. (3)

Designed to provide graduate students in Health Promotion and related fields: competencies in major measurement/evaluation systems in HP and HE.

577/J477. Stress Management. (3)

Explores multiple causes of stress and its resolutions. Emphasizes chief stressors of adults, self-responsibility for change, holistic approach, emotional/mental methods of stress reduction.

582. Health Promotion in Multicultural Settings. (3)

Course focuses on conducting a critical analysis of health literature using various databases and social cultural frameworks for analyzing health issues as influenced by cultural health beliefs in conducting research with diverse and multi-cultural communities.

587/J487. Physical Activity and Aging. (3)

(Also offered as PEP 587.) Concerned with the process of aging as it affects physical activity and the potential of physical activity in adjustment to the process of aging.

591/391. Problems. (1-3 to a maximum of 6) Δ

Restriction: permission of Health Education faculty member.

592/J492. Workshop. (1-4 to a maximum of 13) Δ

593/J493. Topics. (1-3)

595. Advanced Field Experiences. (3-6 to a maximum of 12) Δ

Restriction: acceptance in Health Education graduate program and permission of field work supervisor.

598. Directed Readings in Health Education. (3-6 to a maximum of 6) Δ

Restriction: permission of instructor.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

604. Research Seminar. (3)

(Also offered as PEP 604.)
Prerequisite: 507 and EDPY 511.

696. Internship. (3-6 to a maximum of 12) Δ

Restriction: permission of instructor.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

Holbrook Mahn, Ph.D., University of New Mexico
Kathryn Manueltio, Ph.D., Arizona State University
Glenabah Martinez, Ph.D., University of Wisconsin
Lois Meyer, Ph.D., University of California, Los Angeles
Elizabeth Noll, Ph.D., University of Arizona
Leroy Ortiz, Ph.D., University of New Mexico
Lucretia (Penny) Pence, Ph.D., University of Pittsburgh
Eliseo Torres, Ph.D., Texas A&M University, Kingsville
Ruth Trinidad Galván, Ph.D., University of Utah

Assistant Professors

Tryphenia Peele-Eady, Ph.D., Claremont Graduate University
Chris Sims, Ph.D., University of California, Berkeley
Yoo Kyung Sung, Ph.D., University of Arizona

Lecturers

Leslie Chamberlin, M.L.S., Rutgers University
Shannon Reierson, Ph.D., University of New Mexico
Elaine Daniels, M.A., Natl-Louis University

Research Professor

Denise Wallen, Ph.D., University of New Mexico

Emeriti and Emerita

Luisa Duran, Ed.D., University of New Mexico
Mary Jiron (Belgarde), Ph.D., Stanford University
Vera John-Steiner, Ph.D., University of Chicago
William Kline, Ph.D., Stanford University
Ann Nihlen, Ph.D., University of New Mexico
Anita Pfeiffer, M.A., University of Arizona
Joseph Suina, Ed.D., University of New Mexico
Richard van Dongen, Ed.D., University of New Mexico

Student Information Contact

Contact Debra Schaffer, Hokona Hall 140, 505/277-0437, schaffer@unm.edu, for information about application procedures.

Application Deadlines

M.A.: Spring semester: September 15
Summer and Fall semester: February 1
Ph.D.: Fall semester: December 1

Degrees Offered

M.A. in Language, Literacy and Sociocultural Studies
Ph.D. in Language, Literacy and Sociocultural Studies

Language, Literacy and Sociocultural Studies offers programs leading to doctoral (Ph.D.) and master's degrees (M.A.) focusing on language and literacy education and the social and cultural study of educational institutions and practices. The program offers a rigorous but flexible course of studies that can be tailored to meet a wide range of interests and needs. All students are expected to develop a program of studies combining course work in language, literacy and sociocultural studies with course work in related disciplines in the College of Education and other colleges. The program places special emphasis on helping students develop research and inquiry skills needed for the advanced study and analysis of education in its many social, cultural, economic and political contexts.

Deadlines for the M.A. are September 15 for admittance for Spring and February 1 for Summer and Fall semesters. M.A. applications are reviewed after these deadlines. The deadline for Ph.D. candidates is December 1, for the following fall semester. Applicants to the doctoral program are reviewed after December 1. Documents describing the programs and guidelines for application are available upon request from the department office. Applicants should review these documents before applying for admission to the programs.

Master's Degree

All M.A. students must fulfill the general admission requirements and the Plan I (with thesis) or Plan II (without thesis) requirements set forth in the preceding part of the College section of this catalog and in the sections on graduate

LANGUAGE, LITERACY AND SOCIOCULTURAL STUDIES

Dan Zancanella, Department Chairperson
College of Education
Department of Language, Literacy, and Sociocultural Studies
Hokona Hall 140
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-0437

Professors

Rebecca Blum-Martinez, Ph.D., University of California, Berkeley
Richard Meyer, Ph.D., University of Arizona
Don Zancanella, Ph.D., University of Missouri-Columbia

Associate Professors

Ricky Lee Allen, Ph.D., University of California, Los Angeles
Greg Cajete, Ph.D., International College, William Lyon University
J. Anne Calhoon, Ph.D., Marquette University
Sylvia Celédon-Pattichis, Ph.D., University of Texas at Austin

studies at the University of New Mexico. The master's degree in Language, Literacy, and Sociocultural Studies may be pursued in one of the following concentrations: American Indian Education; Literacy/Language Arts; Bilingual Education; TESOL (Teaching English to Speakers of Other Languages); and Educational Thought and Sociocultural Studies; and Social Studies. A core seminar (taken in the first year of the program) provides a set of foundational perspectives in language, literacy and sociocultural studies, and a six-hour research requirement encourages students to develop a range of inquiry skills, including the ability to connect research and practice. The purpose of the Master's program is to contribute to the development of professionals in education and related fields.

American Indian Education Concentration

Program Core Requirements

LLSS 500	Issues in Language/Literacy/Sociocultural Studies	3
LLSS 590	Seminar	3

Research. Choose two from: 6

EDUC 500	Research Applications to Education
LLSS 501	Practitioner Research
LLSS 502	Introduction to Qualitative Research
EDPY 502	Survey of Statistics in Education

Concentration

American Indian Education. Choose three from: 9

LLSS 551	History of American Indian Education
LLSS 554	Teaching the Native American Child
LLSS 564	Issues in American Indian Education
LLSS 583	Education Across Culture in the Southwest

Curriculum. Choose three from: 9

LLSS 560	Language and Education in Southwest Native American Communities
LLSS 570	Science and Native American Education
LING 515	Native American Languages
ARTE 570	Art in Multicultural Education

Finally, in consultation with an advisor in the program, students will also select an **additional 6 semester hours** related to the program concentration.

Total	Plan I	30 (30 + 6 thesis hrs.)
	Plan II	36

Bilingual Education (Spanish and Indigenous Languages)

Admission requirement: 9 hours of college course work in a second language or fluency in a second language.

NOTE: This concentration includes Plan II only in order to meet very specific requirements of state endorsement.

Program Core Requirements 6

LLSS 500	Issues in Language/Literacy/Sociocultural Studies
LLSS 590	Seminar

Research 6

LLSS 503	Research in Bilingual Classrooms and Communities: Prerequisites LLSS 556 and 580
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Choose remaining course from:

EDUC 500	Research Applications to Education
LLSS 501	Practitioner Research
LLSS 502	Introduction to Qualitative Research
EDPY 502	Survey of Statistics in Education

Concentration 24
Students must take a minimum of 24 hours from courses in the following areas. Courses which are required of all students are indicated. Electives must be selected in conjunction with their faculty advisor. A maximum of 6 hours of course work outside of the Department may be taken after consultation with the student's faculty advisor.

Language and Literacy

LLSS 556	First and Second Language Development within Cultural Contexts (Required) Prerequisite: Introductory Linguistics course.
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Suggested Electives:

LLSS* 449	Teaching the Native Language to the Native Speaker
SPAN 547	Seminar in Southwest Spanish
LLSS 558	Literacy Across Cultures
LLSS 560	Language and Education in Southwest Native American Communities
LLSS 567	Home Literacy and Schooling
LLSS 579	The Teaching of Reading in the Bilingual Classroom. (La Enseñanza de la Lectura.)

Culture

LLSS 583	Education Across Cultures in the Southwest
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Suggested Electives:

LLSS* 446	Hispanic Folklore for the Classroom (Folklore en el Aula)
LLSS 560	Language and Education in Southwest Native American Communities
LLSS 566	Issues in Hispanic Education

Educational Thought

LLSS 580	Seminar in the Education of Bilingual Students (Required)
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Suggested Electives:

LLSS* 453	Theoretical and Cultural Foundations of Bilingual Education
LLSS 551	History of American Indian Education
LLSS 566	Issues in Hispanic Education

Curriculum Development and Pedagogy

Suggested Electives:

LLSS* 482	Teaching English as a Second Language
LLSS 552	Curriculum Development in Mexican History and Culture
LLSS 557	Language, Culture and Mathematics
LLSS 558	Literacy Across Cultures
LLSS 559	Second Language Literacy
LLSS 568	Alternative Assessment Practices for Second Language Learners
LLSS 579	The Teaching of Reading in the Bilingual Classroom: La Enseñanza de la Lectura
LLSS 582	Curriculum Development in Multicultural Education

Total	36
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* Indicates course is available for graduate credit.

Educational Thought & Sociocultural Studies Concentration (ETSS)

I. Core Requirement – Take During First Semester: 3

LLSS 500	Issues in Language/Literacy/Sociocultural Studies
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II. Research Courses 6

Required Research Course:
EDUC 500 Research Applications to Education

Elective Research Course, choose one from:
EDPY 502 Survey of Statistics in Education
LLSS 501 Practitioner Research
LLSS 502 Introduction to Qualitative Research

III. ETSS Concentration. Choose four from: 12

LLSS 511	History of U.S. Education
LLSS 515	Philosophy of Education
LLSS 516	Educational Classics
LLSS 518	Comparative Education
LLSS 521	Proseminar: Sociology of Education
LLSS 523	Education and Anthropology
LLSS 530	Whiteness Seminar
LLSS 587	Perspectives on Sex and Gender in Education

IV. Support Area Electives. Choose three from: 9
Should consist of graduate level courses offered by LLSS or any other UNM department. Consult advisor.

V. Degree Completion Activity. Choose one from: 3-6
(Consult advisor)

Plan I – Thesis
LLSS 599: Master’s Thesis (6)
Completion of a Master’s thesis

Plan II – Non-Thesis. Choose one from:
A. Professional Paper
LLSS 590: Seminar (3)
Completion of a literature review or licensure dossier
B. Master’s Exam.
LLSS 598: Directed Readings (3-6)
Completion of a master’s exam

Total Credit Hours (I-V):

Plan I – Thesis	36
Plan II(A) – Professional Paper	33
Plan II(B) – Comprehensive Exam	33–36

LLSS 517	Reading Informational Books, an Instructional Strategy
LLSS 538	Teaching Reading through the Content Field
CMTE 542	Principles of Curriculum Development
LLSS 544	Children’s Literature
EMLS 551	Books and Related Materials for Young Adults

Supporting Area Electives

Plan I	9
Plan II	12

The support area should focus on some aspect(s) of social studies including content from the various disciplines. In consultation with a faculty advisor, students may select from the previous list of courses as well as courses from other departments in the College of Education and/or other Colleges within the University.

Total	Plan I	30 (30 + 6 thesis hrs.)
	Plan II	36

Literacy/Language Arts Concentration

Program Core Requirements

LLSS 500	Issues in Language/Literacy/Sociocultural Studies	3
LLSS 590	Seminar	3

Research. Choose two from: 6

EDUC 500	Research Applications to Education	6
LLSS 501	Practitioner Research	
LLSS 502	Introduction to Qualitative Research	
EDPY 502	Survey of Statistics in Education	

Concentration

LLSS 595	Advanced Field Experiences	3
LLSS 532	The Reading Process	3

Two additional courses focusing on second language learning and/or cultural diversity in education, selected with advisement. 6

Support area elective(s)

Plan I	3
Plan II	12
Total	Plan I 33 (27 + 6 thesis hrs.)
	Plan II 36

Social Studies

Program Core Requirements

LLSS 500	Issues in Language/Literacy/Sociocultural Studies	3
LLSS 590	Seminar	3

Research. Choose two from: 6

EDUC 500	Research Applications to Education	6
EDPY 511	Introductory Educational Statistics	
LLSS 501	Practitioner Research	
LLSS 502	Introduction to Qualitative Research	

Sociocultural Concentration

Choose two from: 6

LLSS 511	History of U.S. Education	
LLSS 515	Philosophy of Education	
LLSS 516	Educational Classics	
LLSS 521	Proseminar: Sociology of Education	
LLSS 523	Education and Anthropology	
LLSS 582	Curriculum Development in Multicultural Education	
LLSS 583	Education Across Cultures in the Southwest	
LLSS 587	Perspectives on Sex and Gender in Education	

Social Studies Concentration

Choose one from: 3

LLSS 520	Seminar in Social Studies	
LLSS 540	Instructional Trends in the Social Studies	
LLSS 549	History Education	
LLSS 550	Seminar in History Education	

Supporting Curriculum/Instruction

Choose one from: 3

CMTE 516	Integrating Curriculum in the Classroom	
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TESOL

Admission requirement: 9 hours of college course work in a second language or fluency in a second language.

NOTE: This concentration includes Plan II only in order to meet very specific requirements of state endorsement.

Program Core Requirements 6

LLSS 500	Issues in Language/Literacy/Sociocultural Studies	6
LLSS 590	Seminar	

Research 6

LLSS 503	Research in Bilingual Classrooms and Communities. Prerequisite: LLSS 556 and LLSS 580	6
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Choose remaining course from:

EDUC 500	Research Applications to Education	
LLSS 501	Practitioner Research	
LLSS 502	Introduction to Qualitative Research	
EDPY 502	Survey of Statistics in Education	

Concentration 24

Students must take a minimum of 24 hours from courses in the following areas. Courses which are required of all students are indicated. Electives must be selected in conjunction with their faculty advisor. A maximum of 6 hours of course work outside of the Department may be taken after consultation with the student’s faculty advisor.

Language and Literacy

LLSS 556	First and Second Language Development within Cultural Contexts (Required) Prerequisite: Introductory Linguistics course	
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Suggested Electives:

LLSS* 449	Teaching the Native Language to the Native Speaker	
LLSS 560	Language and Education in Southwest Native American Communities	
LLSS 563	Seminar in Language Acquisition	
LLSS 567	Home Literacy and Schooling	
LLSS 585	The Acquisition and Teaching of Grammar in ESL	
LLSS 558	Literacy Across Cultures	
LLSS 559	Second Language Literacy	

Culture

LLSS 583	Education Across Cultures in the Southwest (Required)	
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Suggested Electives:

LLSS 560	Language and Education in SW Native American Communities	
LLSS 566	Issues in Hispanic Education	

Educational Thought

LLSS 580	Seminar in the Education of Bilingual Students (Required)	
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Suggested Electives:

- LLSS* 453 Theoretical and Cultural Foundations of Bilingual Education
- LLSS 551 History of American Indian Education
- LLSS 566 Issues in Hispanic Education

Curriculum Development and Pedagogy

Suggested Electives:

- LLSS* 482 Teaching English as a Second Language
- LLSS 557 Language, Culture and Mathematics
- LLSS 569 ESL Across the Content Areas
- LLSS 558 Literacy Across Cultures
- LLSS 559 Second Language Literacy
- LLSS 568 Alternative Assessment Practices for Second Language Learners
- LLSS 582 Curriculum Development in Multicultural Education
- LLSS 585 The Acquisition and Teaching of Grammar in ESL

Total **36**

* Indicates course is available for graduate credit.

Completed separately, the two degrees would require 69–72 credit hours. Under the dual degree program, full time students would be able to finish in approximately three years.

Students pursuing this program must meet admissions requirements of both the College of Education and Latin American Studies. Separate applications should be made simultaneously to the Department of Language, Literacy and Sociocultural Studies and Latin American Studies. It is expected that applicants to this program will already have completed the licensure requirements for secondary teaching.

Students who are not licensed upon admission may pursue licensure through the Master's in Secondary Education with Licensure (concentration in social studies). This licensure requires 36 hours of course work (at the undergraduate and/or graduate level) in the social studies plus 24 hours of professional education course work. Students should contact the College of Education Advisement Center (505/277-3190) for individual advisement. Latin American Studies students should be prepared for additional course work for licensure.

Graduate Minor in Literacy

LLSS offers a 12-credit graduate minor in Literacy with a focus on either elementary or middle school/secondary language arts. Courses are designed to help practicing teachers improve their language arts instruction.

To focus on elementary language arts, students are required to take the following:

- LLSS 532 The Reading Process
- LLSS 537L Assessment in Reading and Language Arts
- LLSS 567 Home Literacy and Schooling
- And one course from the following:
- LLSS 514 Young Children Moving Into Literacy
- LLSS 541 Seminar in Children's Literature
- LLSS 534 Seminar in Teaching Reading

To focus on middle school/secondary language arts, students are required to take the following:

- LLSS 522 Seminar in English Curriculum and Instruction
- LLSS527 Studies in Rhetoric for Teachers
- LLSS 528 Studies in Reading and Literature for Teachers
- And one course from the following:
- EMLS 551 Books and Related Materials for Adolescents
- LLSS 538 Teaching Reading Through the Content Field
- LLSS 559 Second Language Literacy
- LLSS 558 Literacy Across Cultures

MALLSS/MALAS

The College of Education and Latin American Studies offer a dual degree program leading to master's degrees in Language, Literacy and Sociocultural Studies and Latin American Studies. This program is intended to allow education professionals to enhance their secondary school teaching with Latin American topics in the humanities and social sciences. The program combines advanced professional development in education with advanced interdisciplinary study of Latin America and is designed to help students integrate the two fields through coordinated advisement and bridge courses.

The program requires 51 credits of course work for students who hold teaching certificates. It includes three components: 21 hours of Language, Literacy and Sociocultural Studies courses with a concentration on social studies education; 21 hours of Latin American Studies course work divided between two of the following concentrations: Anthropology, Art History, Brazilian Literature, Economics, Gender Studies, History, Human Rights, Philosophy and Religion, Political Science, Sociology, Spanish American Literature, and Spanish Linguistics; and 9 hours of bridge courses: two core courses and one elective.

Ph.D.

All Ph.D. students must fulfill the general admission requirements set forth in the preceding part of the College section of this catalog and in the sections on graduate studies at the University of New Mexico. The doctoral program consists of a set of core courses focusing on Language, Literacy, and Sociocultural Studies; a set of research courses and a research internship/field experience focusing on research methodology and the relationship between research and practice; an area of focus constructed by the student in consultation with their Committee; and a 24 hour minor or supporting area. Areas of focus typically correspond to the broad areas delineated in the program's name: "language," "literacy" and "sociocultural studies," but the specific elements of areas of focus are individualized to meet student needs. For example, a student interested in literacy might construct an area of focus focusing primarily on adolescent literacy, or on the teaching of writing, or on the study of literacy needs in the K–12 schools.

A maximum of 36 credit hours of transfer/applied credit is allowed in the Ph.D. program. The doctoral program in Language, Literacy and Sociocultural Studies is intended primarily for students interested in college teaching and research in education (including teacher education) and/or leadership positions in education, social services and allied professions.

Doctoral Program (72–75 credit hours, plus dissertation)

Core (24–27 credit hours, plus dissertation)		
Seminars		6
LLSS 645	Seminar in Educational Studies	
LLSS 640	Seminar in Language/Literacy	
Research. Choose from:		12
LLSS 501	Practitioner Research	
LLSS 502	Introduction to Qualitative Research	
LLSS 605	Advanced Qualitative Research	
LLSS 623	Ethnographic Research	
EDPY 502	Survey of Statistics in Education	
EDPY 505	Conducting Quantitative Educational Research	
EDPY 511	Introductory Educational Statistics (Must include at least one quantitative and one qualitative course. Appropriate research methods courses from outside COE may be substituted.)	
Research Internship/Field Experience		3–6
LLSS 595	Advanced Field Experiences	
and/or		
LLSS 696	Internship	



Dissertation Seminar LLSS 650 Dissertation Seminar	3	
Area of Focus (24 credit hours) Selected from the Catalog by candidates in consultation with their committee.	24	
Support Area (24 credit hours) The support area may consist of hours in a single field, usually within the COE, or may be an interdisciplinary support area, selected in consultation with their committee. At least 12 hours must come from outside LLSS. The support area is to be supportive of the focus.	24	
Total	72–75	
Dissertation (18 credit hours) (Maximum transfer/applied credit: 36)	18	
Language, Literacy and Sociocultural Studies (LLSS)		
183. Introduction to Education in New Mexico. (3) An exploration of contemporary issues around diversity, culture and education in New Mexico. The course is of special interest to students considering a teaching career. Projects in schools and/or community sites are part of requirements.		
300. Bilingual Teaching Methods, Materials and Techniques. (3) Required for bilingual endorsement. Course addresses theory and practice of content area instruction through languages other than English in bilingual programs, with integration of Spanish L1/L2 development and integrated cultural awarenesses. Prerequisite: 453. Restriction: Permission of instructor to determine academic proficiency in the target language.		
315. Educating Linguistically and Culturally Diverse Students. (3) Course familiarizes prospective teacher candidates with history, theory, practice, culture and politics of second language pedagogy and culturally relevant teaching. Students will be introduced to effective teaching methods for linguistically and culturally diverse learners.		
391./591. Problems. (1-3 to a maximum of 9) Δ		
393./493./593. Topics. (1-6, no limit) Δ		
424. Culture and Education. (3) (Also offered as AFST 399.) Analysis of the different child-rearing practices and their effects on the academic performances of children. Analyzes the role of culture in education.		
430. Teaching of Writing. (3) Theory and practice of teaching writing in elementary and secondary schools.		
432. Teaching of Social Studies. (3) Corequisite: EDUC 362. Restriction: permission of instructor.		
*435. Teaching Students with Reading Problems. (3) Designed to meet needs of classroom teachers in understanding and teaching children with reading problems; includes a supervised tutoring experience of 3 hours weekly. Includes 3 hours supervised laboratory each week.		
436. Teaching of English. (3)		
443./544. Children's Literature. (Literatura Infantil) (3) A survey course of the field of children's literature. Focuses on knowledge and practice of literature, literary response and classroom programs. K–8.		
445. Spanish-English Bilingualism. (3) (Also offered as LING 432.) An introduction to issues in bilingualism with emphasis on Spanish and English in the Southwest. Topics: language maintenance and shift, language policy and education, borrowing and codeswitching, first and second language acquisition, language attitudes.		
*446. Hispanic Folklore for the Classroom. (Folklor en el Aula) (3) The study of folk music, dance and ways of expression of Spanish-speakers of the Southwest and its relevancy and application in the Spanish-English bilingual classroom. Restriction: permission of instructor, to ensure academic proficiency in the language in which the course is taught.		
*449. Teaching the Native Language to the Native Speaker. (3) A comprehensive examination of characteristics, behavior and language of the native-speaking student, with specific implications for teaching the native language in schools. Restriction: permission of instructor.		
452./552. Curriculum Development in Mexican History and Culture. (3) This course introduces students to the formative aspects of Mexican history and culture, and applies them to the development of curricula for bilingual programs. (Taught in Spanish.) Restriction: permission of instructor to ensure academic proficiency in Spanish.		
*453. Theoretical and Cultural Foundations of Bilingual Education. (3) Required for ESL and Bilingual endorsements. History and theory of bilingual education in the U.S. and survey of multilingual education internationally, focusing on the socio-cultural foundations of effective programs and instructional practices. Restriction: permission of instructor.		
*455. Teaching Spanish for Bilingual Classroom. (3) This course assists bilingual teachers in developing strategies and techniques for using Spanish as a language of instruction in the classroom. Participants are also assisted in reviewing for la Prueba for bilingual endorsement. Restriction: permission of instructor to ensure academic proficiency in Spanish.		
456./556. First and Second Language Development within Cultural Contexts. (3) First and second language development addressed as life-long processes within cultural contexts, with greater emphasis on second language development in children than adults. Language development in the classroom is given special attention. Restriction: permission of instructor. (Summer, Fall, Spring)		
457./557. Language, Culture, and Mathematics. (3) This course focuses on linguistic and cultural influences on the teaching and learning of mathematics. Additionally provides information on how students construct mathematical skills and knowledge by examining best models of research and practice. (Fall)		
458./558. Literacy Across Cultures. (3) Theory and practice of literacy instruction in countries whose languages are represented in students in the Southwest. Compare/contrast with current methods of teaching reading and writing to native speakers of English.		
459./559. Second Language Literacy. (3) Current theory and practice in teaching reading and writing in English to second language learners, elementary through adult levels.		
460./560. Language and Education in Southwest Native American Communities. (3) (Also offered as LING 436 and NATV 460.) This course explores the historical context of education and its impact on Native American communities of the Southwest. Topics include native language acquisition, bilingualism, language shift, and language revitalization efforts in native communities and schools.		
469./569. ESL Across the Content Areas. (3) The course addresses ESL/content-area instruction, which integrates language and content instruction and focuses on the issues of processing content in a second language and the implied redesigning of instruction in grades K-12.		

479/579. The Teaching of Reading in the Bilingual Classroom. (La Enseñanza de la Lectura) (3)

Analysis of various reading methods and assessment of children's reading skills, with a focus on balanced approach to reading. Taught in Spanish.

Prerequisite: 456. Restriction: permission of instructor.

480. Second Language Pedagogy. (3)**482. Teaching English as a Second Language. (3)**

Required for ESL and Bilingual endorsements. Implementation of second language teaching principles through effective program models and instructional practices. Field component required.

Prerequisite: 456.

493/393/593. Topics. (1-3, no limit) Δ**495. Field Experience. (3-6 to a maximum of 12) Δ**

Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Restriction: permission of instructor.

500. Issues in Language/Literacy/Sociocultural Studies. (3)

Required core course for new LLSS Master's students. Addresses how social, political, economic, and cultural forces shape beliefs about race, class, language, gender, and literacy. Implications for teaching, learning and educational change will be examined.

501. Practitioner Research. (3)

This course focuses on the theory and practice of school-based research. Will read research by other teachers/practitioners and design and implement a research project.

502. Introduction to Qualitative Research. (3)

Designed to give students an introduction to qualitative research methodologies and methods relevant to education. Students engage in the practice of qualitative methods from various activities and exercises.

503. Research in Bilingual Classrooms and Communities. (3)

An examination of current research conducted in bilingual schools and communities. This course is designed for advanced MA and PhD students with an interest in research. Prerequisite: 556 and 580.

510. Paulo Freire. (3)

Explores the writings of one of the most important educators and thinkers of the 20th century: Paulo Freire. Also considers scholars who influenced his ideas as well as those who were influenced by his ideas.

511. History of U.S. Education. (3)

This course explores the significance and function of educational endeavors and institutions in U.S. society from the sixteenth century to the present. Emphasizes the relationship between schooling and race, class, and gender.

513. Globalization and Education. (3)

Examines the arguments of various globalization discourses, focusing on how each represents the relationship between globalization processes and educational phenomena. Problematises the impact of globalization(s) on the worldwide struggle for equitable education for all.

514. Young Children Moving Into Literacy. (3)

(Also offered as ECME 514.) This course explores the processes of young children's emergent literacy. It focuses on selection of materials and design of activities appropriate for use in the home, school and other settings.

Prerequisite: EDUC 331L, EDUC 333L.

515. Philosophy of Education. (3)

Introduces students to the foundations of educational philosophy. It focuses on thought from the 20th century while recognizing the historical influences from Western and non-Western nations. Special attention on race, class, and gender.

516. Educational Classics. (3)

This course focuses on influential educational perspectives that have provided a foundation for contemporary or emerging critical educational thought.

518. Comparative Education. (3)

Explores the connection between modes of education and the construction of inequality within and between nation-states. The impact of race, ethnicity, gender, religion, class, and politics on educational systems around the world will be considered.

521. Proseminar: Sociology of Education. (3)

Introduces students to the structures and functions of schools in the U.S. and other societies through an examination of empirical research that looks at race, class, and gender oppression.

522. Seminar in English Curriculum and Instruction. (3)

Advanced seminar focusing on current research and theory in English language arts education as well as historical perspectives on the English curriculum.

523. Education and Anthropology. (3)

An examination of the cultural context of learning and thinking. Topics include learning in the classroom, formal and informal education, sociocultural perspectives on cultural transmission, cultural theories of education and the acquisition of culture.

524. Critical Race Theory. (3)

Engages the premises of Critical Race Theory (CRT). Focuses on theorists and philosophers of color who write about racial struggle in White hegemonic societies. Explores the implications of CRT for educational research, policy, and practice.

525. Reading Recovery Training Part I. (4)

This course entails in-depth study of components and procedures of the Reading Recovery early intervention program. Classroom instruction will be coordinated with field experience of teaching four students.

Restriction: permission of instructor.

526. Reading Recovery Training Part II. (3)

This course provides an advanced study of the early detection of reading difficulties. Reading Recovery is utilized as an early intervention. Classroom instruction will be coordinated with field experience of teaching four students daily.

Prerequisite: 525. Restriction: permission of instructor.

527. Studies in Rhetoric for Teachers. (3, no limit) Δ

An advanced course in the teaching of writing focusing on recent research and theory in composition studies.

528. Studies in Reading and Literature for Teachers. (3)

(Also offered as ENGL 528.) An advanced course in the teaching of reading and literature with an emphasis on recent research and theory in literature education.

529. Race, Ethnicity, and Education. (3)

Concentrates on empirical studies that reveal how schools work to create racial and ethnic inequality. Explores current debates about the concepts "race" and "ethnicity" and evaluates the consequences of these debates for educational studies.

530. Whiteness Seminar. (3)

Looks at how white power and privilege shapes schools and society. Studies the impact for both people of color and whites. Possibilities and limitations of white antiracism, multi-racial alliances, and antiracist education are explored.

532. The Reading Process. (3)

Explores the reading process through current theories, research and implications for acquisition and instruction. Theories and research are examined from a variety of perspectives.

534. Seminar in Teaching Reading. (3)

Advanced study focused on the research, debates, practices and themes in the teaching of reading with attention to implications for multicultural/multilingual settings. (Offered upon demand)

535. Critical Literacy. (3)

This course is an exploration of the ways in which texts are used to celebrate, control, transform, conceal, move to action, manipulate, disclose, convince, and in other ways act upon individuals and groups.

537L. Assessment of Reading and Language Arts. (3)

Provides students theoretical and applied working knowledge of assessment issues and procedures. Students develop lesson plans and teach lessons grounded in evidence-based results of assessments of children.

538. Teaching Reading through the Content Field. (3)

Course explores issues of literacy development (i.e., reading, writing, listening and speaking) across core content areas of the school curriculum. Required in secondary teacher education for all content specialization areas.

540. Instructional Trends in the Social Studies. (3)

Examines social studies content, teaching practices and student learning in K–12 classrooms. Emphasis is placed on broadening and enhancing knowledge gained from personal experiences as a teacher and learner of social studies in the schools.

541. Seminar in Children's Literature. (3-12 to a maximum of 12)

Theoretical stances and issues in the study of children's literature are explored in relationship to implications for classroom practice.

544/443. Children's Literature. (3)

A survey course of the field of children's literature. Focuses on knowledge and practice of literature, literary response and classroom programs.

545. Spanish-English Bilingualism. (3)

(Also offered as LING 532.) An introduction to issues in bilingualism with emphasis on Spanish and English in the Southwest. Topics: language maintenance and shift, language policy and education, borrowing and codeswitching, first and second language acquisition, language attitudes.

551. History of American Indian Education. (3)

The course examines the history of Indian Education from 1890 to the present for Indians of the Southwest. The course examines national studies, recorded government documents, scholarly writings, and oral history.

552/452. Curriculum Development in Mexican History and Culture. (3)

This course introduces students to the formative aspects of Mexican history and culture, and applies them to the development of curricula for bilingual programs. (Taught in Spanish.) Restriction: permission of instructor to ensure academic proficiency in Spanish.

554. Teaching the Native American Child. (3)

The course explores methodologies for creating culturally appropriate curricula for Native students. Emphasis is placed on applying principles of integrated thematic instruction and research of Native learning styles and effective teaching methods.

556/456. First and Second Language Development within Cultural Contexts. (3)

First and second language development addressed as life-long processes within cultural contexts, with greater emphasis on second language development in children than adults. Language development in the classroom is given special attention. (Summer, Fall, Spring)

Prerequisite: an introductory linguistics course.

557/457. Language, Culture, and Mathematics. (3)

This course focuses on linguistic and cultural influences on the teaching and learning of mathematics. Additionally provides information on how students construct mathematical skills and knowledge by examining best models of research and practice. (Fall)

558/458. Literacy Across Cultures. (3)

Theory and practice of literacy instruction in countries whose languages are represented in students in the Southwest. Compare/contrast with current methods of teaching reading and writing to native speakers of English.

559/459. Second Language Literacy. (3)

Current theory and practice in teaching reading and writing in English to second language learners, elementary through adult levels.

560/460. Language and Education in Southwest Native American Communities. (3)

(Also offered as LING 536 and NATV 460.) This course explores the historical context of education and its impact on Native American communities of the Southwest. Topics include native language acquisition, bilingualism, language shift, and language revitalization efforts in native communities and schools.

564. Issues in American Indian Education. (3)

The course examines contemporary issues of American Indian children in southwestern classrooms faced by teachers, counselors, and administrators at the elementary and secondary levels, but may include post-secondary concerns.

565. Latino/a Identities and Schooling. (3)

From a cross-disciplinary approach this seminar focuses on the identity construction of Latinos in the U.S. so as to examine the manner they are perceived and understood in school systems.

566. Issues in Hispanic Education. (3)

This course is designed to assist educators to more fully understand historical and contemporary issues related to the education of Hispanic students in New Mexico, the Southwest and across the country.

567. Home Literacy and Schooling. (3)

Through ethnographic studies and field research, course participants learn to critically analyze, value, and build upon the diverse and rich literacy experiences that children from different ethnic groups bring to school.

568. Alternative Assessment Practices for English Language Learners. (3)

The purpose of this course is to consider the dilemmas of using traditional assessment instruments, such as standardized tests, with English language learners and to expose course participants to a variety of alternative assessment methods.

Prerequisite: 556.

569/469. ESL Across the Content Areas. (3)

The course addresses ESL/content-area instruction, which integrates language and content instruction and focuses on the issues of processing content in a second language and the implied redesigning of instruction in grades K-12.

570. Science and Native American Education. (3)

The course explores best practices and methods for presenting science to Native American learners. Students apply recent brain research and teaching methods to develop culturally responsive curricula applicable to Native learning styles and ontology.

579/479. The Teaching of Reading in the Bilingual Classroom. (La Enseñanza de la Lectura) (3)

Analysis of various reading methods and assessment of children's reading skills, with a focus on balanced approach to reading. Taught in Spanish.

Prerequisite: 556. Restriction: permission of instructor.

580. Seminar in the Education of the Bilingual Student. (3)

An advanced course which provides an overview of issues including the research, theory, and practice in bilingual education in New Mexico and other settings.

Restriction: enrolled in LLSS M.A. or Ph.D. degree program.

582. Curriculum Development in Multicultural Education. (3)

Graduate course focusing on the foundations of curriculum development for diverse populations, including the theory and practice of curriculum development in multicultural settings in the U.S. and abroad. {Summer, Fall, Spring}

583. Education Across Cultures in the Southwest. (3)

Focuses on issues, policies and school practices related to diversity and the education of native cultures of the Southwest as well as more recently arrived linguistic and cultural groups.

587. Perspectives on Sex and Gender in Education. (3)

(Also offered as WMST 487; however, it does *not* carry graduate credit.)

588. Feminist Epistemologies and Pedagogies. (3)

By engaging various understandings of epistemology, this course examines the basis of knowledge from a feminist standpoint. Feminist approaches to epistemology are then employed to understand their relation to research and pedagogy.

590. Seminar. (3)

Synthesize course work which has made up master's degree program. Enhance student's ability to defend professional ideas. Develop competence in professional communication oral and written.

591/391. Problems. (1-3 to a maximum of 9) Δ

593/393/493. Topics. (1-3, no limit) Δ

595. Advanced Field Experiences. (3-6 to a maximum of 12) Δ

Restriction: acceptance into a graduate program and permission of instructor.

596. Internship. (3-6 to a maximum of 12) Δ

598. Directed Readings. (3-6 to a maximum of 6) Δ

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

605. Advanced Qualitative Research Methods. (3)

(Also offered as LEAD 605.) A doctoral seminar focusing on helping students understand qualitative research methods, including: problem definition, data collection and analysis and how to increase the trustworthiness of one's findings. A research study is required.

Prerequisite: 502.

606. Case Study Research Methods. (3)

Students conceptualize, develop, conduct, and report a pilot case study research project. Course includes an emphasis on qualitative data analysis techniques and the writing of case narratives.

Prerequisite: 502.

614. Vygotsky Seminar. (3)

A doctoral-level seminar in which the seminal writings of the Russian psychologist, Lev Vygotsky, will be examined in depth. This seminar will be of interest to Linguistics, Early Childhood, Psychology, Special Education, and LLSS students.

615. Contemporary Philosophies of Education. (3)

Focuses on the most recent trends in educational thought from the U.S. and other societies. Special attention is paid to texts that speak directly to issues of race, class, and gender.

618. Sociological Theories of Education. (3)

This course examines major sociological theories like functionalism, structural-functionalism, conflict theory, economic reproductionism, cultural reproductionism, resistance theory, and symbolic interactionism that have shaped educational studies. Possibilities and limitations for social transformation are explored.

623. Ethnographic Research. (3)

Seminar designed to engage students in the philosophy and methods of ethnographic research. Includes finding an appropriate cultural scene, conducting the actual fieldwork, analyzing the data and writing up the study.

Prerequisite: 605.

640. Seminar in Language/Literacy. (3)

A required core doctoral seminar designed to explore theoretical issues in language and literacy from an educational perspective. Will read the important research literature in these areas.

643. Curriculum Theory Seminar. (3)

(Also offered as MSET 643.) Doctoral level seminar examining curriculum theory.

645. Seminar in Educational Studies. (3)

Required core course of first-year LLSS doctoral students. Introduces key concepts and debates in critical educational studies. The social context of schooling is examined through historical, sociological, anthropological, psychological, and interdisciplinary modes of inquiry.

Restriction: LLSS doctoral students only.

650. Dissertation Seminar. (1-3)

Designed to assist doctoral students in planning their dissertation proposal. Students conceptualize and write a proposal using qualitative methods. Participants bring drafts of various components of their proposal to class where their work is critiqued. Offered on a CR/NC basis only.

681. Seminar in Multicultural Teacher Education. (3)

Study issues related to multicultural education and student's learning and development. Focus will be on societal multilingualism, facilitation of multicultural growth and development in students and politics of the concept of multicultural education in general.

Prerequisite: admission to Doctoral Study.

696. Internship. (3-6 to a maximum of 12) Δ

Offered on a CR/NC basis only.

698. Directed Readings. (3-6 to a maximum of 12) Δ

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

NUTRITION AND DIETETICS

Deborah Riftenbary, Department Chairperson
Department of Individual, Family, and Community Education
Nutrition and Dietetics Program
Simpson Hall
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4535
<http://coe.unm.edu/nutrition>

Associate Professors

Carole Conn, Ph.D., R.D., C.S.S.D., F.A.C.S.M., University of Michigan
Donna Lockner, Ph.D., R.D., The University of New Mexico

Assistant Professor

Deborah Cohen, D.C.P., R.D., University of Medicine and Dentistry of New Jersey

Lecturer

Jean Cerami, M.S., R.D., C.D.E., The University of New Mexico

Undergraduate Program

Undergraduate Advisor Contact and Student Information Contact

COE Advisement Center, (505) 277-3190

For student program information and application for admissions Contact:

COE Advisement Center, (505) 277-3190

Major and Degree

Bachelor of Science in Nutrition and Dietetics

The curriculum leading to a Bachelor of Science in Nutrition and Dietetics includes a foundation of natural and social sciences, as well as theoretical and applied course work in Nutrition and Dietetics. This curriculum is accredited by the Commission on Accreditation for Dietetics Education (CADE) of the American Dietetic Association (ADA), 120 South Riverside Place, Suite 200, Chicago, IL 60606-6995, (800) 877-1600 ext. 5400. The curriculum meets academic requirements of the Didactic Program in Dietetics (DPD) for qualification as a registered dietitian (RD). After graduation, students who wish to become registered dietitians will need to complete a supervised practice program, such as a Dietetic Internship program. This leads to eligibility to take the National Registration Exam. Admission to a Dietetic Internship is very competitive and not guaranteed.

To be admitted to the Nutrition and Dietetics Program, students must have a minimum grade point average of 3.0. For other admission requirements see program Web site. Contact the Nutrition program for the most current information.

Nutrition and Dietetics

First Year

CJ 130	Public Speaking	3
BIOL 123	Biology for Health Related Sciences	3
BIOL124L	Non-Majors/Lab	1
CHEM 121	General Chemistry I	3
CHEM 123L	General Chemistry I Lab	1
MATH 121	College Algebra	3
STAT 145	Introduction to Statistics	3
PSY 105	General Psychology	3
ENGL 101	Composition I: Exposition	3
ENGL 102	Composition II: Analysis and Argument	3
	Social and Behavioral Science Course*	3
	Fine Arts Course*	3
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		32

Second Year

NUTR 244	Human Nutrition	3
BIOL 237	Human Anatomy and Physiology I for the Health Sciences	3
BIOL 247L	Human Anatomy & Physiology Laboratory I	1
BIOL 238	Human Anatomy and Physiology II for the Health Sciences	3
BIOL 248L	Human Anatomy & Physiology Laboratory II	1
CHEM 122	General Chemistry II	3
CHEM 124L	General Chemistry II Lab	1
CHEM 301	Organic Chemistry	3
ENGL 219	Technical and Professional Writing	3
	Electives	6
	Humanities Course*	3
	Second Language Course*	3
		<hr/>
		33

Third Year

CHEM 302	Organic Chemistry	3
NUTR 320	Methods in Nutrition Education	3
NUTR 321	Management in Dietetics I	3
NUTR 322	Management in Dietetics II	3
NUTR 344	Energy Nutrients in Human Nutrition	3
NUTR 345	Vitamins and Minerals in Human Nutrition	3
NUTR 330L	Principles of Food Science	4
CJ 314	Intercultural Communication	3
BIOL 239L	Microbiology for Health Sciences	4
	Restricted Communication Elective+	3
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		32

Fourth Year

NUTR 406	Community Nutrition	3
NUTR 424	Nutrition in the Life Cycle	3
NUTR 427	Medical Nutrition Therapy I	3
NUTR 428	Medical Nutrition Therapy II	3
NUTR 445	Applied Nutrition and Exercise	3
PEP 326L	Fund of Exercise Physiology	3
BIOC 446L	Intensive Introductory Biochem II	4
	Humanities Course*	3
	Elective	3
	Restricted Multicultural Elective+	3
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		31

A grade of C (not C-) or better is required in all coursework that counts toward the 128 hour degree.

* Course chosen from Core Curriculum list
+ Restricted Elective List

Multicultural Emphasis—Choose one:

HEd 471 Introduction to Community Health
HEd 482 Health Promotion in Multicultural Settings
or other course related to culture and approved by Nutrition Faculty

Communication Emphasis—Choose one:

CJ 221 Interpersonal Communication
CJ 225 Small Group Communication
CJ 323 Nonverbal Communication
CJ 327 Persuasive Communication
CJ 344 Interviewing

Minor Study in Nutrition

A minor in Nutrition consists of NUTR 244, 344, 345 and 424 plus a minimum of 9 hours selected from the following: NUTR 320, 330L, 406, 427, 428, 445. Grades of C or better are required in all Nutrition courses used to meet the nutrition minor requirement. The sequence of courses for the minor has a minimum prerequisite of organic chemistry (CHEM 212 or 301).

Departmental Honors

The Departmental Honors program is open to outstanding Nutrition majors who have an overall GPA of at least 3.20. Students must seek advisement from a faculty member willing to serve as mentor for the honors courses and research. An Honors thesis is written during the student's final semester. Required courses are NUTR 497, 498, and 499. These courses are in addition to those required for the major.

Graduate Programs

Graduate Advisor and Student Information Contact

Program Office at Simpson Hall (505) 277-4535

Application Deadlines

Screening of applications will begin:

Fall semester:	February 1
Spring semester:	October 1
Summer session:	February 1

Applications received by these dates will be given highest consideration for admission and financial assistance. Applications received after dates above will be reviewed through the following dates for each semester/session but will be considered on a space available basis only.

Fall semester:	June 1
Spring semester:	November 1
Summer session:	April 1

Dietetic Internship

The Dietetic Internship (DI) is a post-bachelor's program that provides the supervised practice necessary for eligibility to write the Registration Examination for Dietitians. The Dietetic Internship is accredited by the Commission on Accreditation for Dietetics Education (CADE) of the American

Dietetic Association (ADA), 120 South Riverside Place, Suite 200, Chicago, IL 60606-4876, (312) 899-0040, ext. 5400. Applications for the DI are due early in February for August admission.

The Internship includes supervised practice in the areas of clinical dietetics, community nutrition and food service management, as well as didactic (classroom) instruction. Interns are enrolled as graduate students at the University of New Mexico; however, completion of the M.S. degree is not required for DI completion. Information on applying to the DI and on additional requirements for completion of the M.S. degree are on the program Web site.

Degrees Offered

M.S. in Nutrition

The Master of Science in Nutrition is designed to prepare students for careers in the field of Nutrition and Dietetics including opportunities in administrative and clinical dietetics and community nutrition programs. It is desirable that the candidate has an undergraduate major in nutrition/dietetics. Individuals without an undergraduate degree in nutrition should consult a nutrition faculty member. Students without prior preparation in nutrition may be accepted into the program following completion of prerequisites. A list of prerequisites is available on the program Web site. The degree is available under both Plan I and Plan II in accordance with the regulations in this catalog. Course work for this degree can be chosen from a number of areas reflecting the interests and goals of the student and can include health education and exercise science.

Course requirements for the Master's degree in Nutrition are:

Nutrition (15 hours required)

Required for Plan I and Plan II:

NUTR 526	Nutrition Assessment	3
NUTR 528	Advanced Medical Nutrition Therapy	3

Nutrition electives selected from:

NUTR *424	Nutrition in the Life Cycle	3
NUTR 530	Phytochemicals in Health and Human Performance	3
NUTR 535	Seminar in Nutrition	3
NUTR 591	Problems	(1-6 credits)
NUTR 595	Advanced Field Experience	(3-6 credits)
NUTR 593	Topics	

Research Methods (15 hours required for Plan I, 6 hours for Plan II)

Required for Plan I and Plan II:

EDPY 505	Conducting Quantitative Educational Research	
—or—		
HED 507	Research Design in HPER	3
EDPY 511	Introductory Educational Statistics	3
Required for Plan I:		
EDPY 603	Applied Statistical Design and Analysis	3
NUTR 599	Master's Thesis	6

Elective Courses (6 hours in Plan I; 15 hours in Plan II)

Selected after consultation with Nutrition program faculty.

Plan I and Plan II: 36 credits

Nutrition (NUTR)

120. Nutrition for Health. (3)

General concepts of nutrition applied to food choices that support health. Cultural, psychological and economic implications of food choices.

244. Human Nutrition. (3)

This course provides an overview of all the nutrients including function in the body and food sources. Dietary guidelines intended to promote long term health are stressed. Prerequisite: BIOL 123 or 201 or CHEM 111L or 121 and 123L.

320. Methods in Nutrition Education. (3)

Principles of education basic to effective learning by individuals or groups. Selection and effective use of teaching materials and resources to promote the learning process. Pre- or corequisite: 344.

321. Management in Dietetics I. (3)

Principles of organization and management applied to dietetics practice including food service, clinical, and community nutrition. Prerequisite: 244. Restriction: Nutrition majors only.

322. Management in Dietetics II. (3)

Continuation of Management in Dietetics I. Prerequisite: 321.

330L. Principles of Food Science. (4)

Chemical and physical properties of foods, scientific principles of food preparation, objective and sensory evaluation of food modifications. Students design and conduct an independent research project based on food science principles. Special fee required. Prerequisite: 321L and (CHEM 212 or 301). Pre- or corequisite: BIOL 239L. Restriction: Nutrition majors only.

344. Energy Nutrients in Human Nutrition. (3)

Carbohydrate, fat and protein in human nutrition. Emphasis includes digestion, absorption, metabolism, food sources and dietary recommendations. Implications for health promotion and disease prevention. Prerequisite: 244 and (CHEM 212 or 301).

345. Vitamins and Minerals in Human Nutrition. (3)

Water and fat-soluble vitamins, macrominerals and trace minerals in human nutrition. Emphasis includes absorption, metabolism, food sources, dietary recommendations, deficiencies and nutrient interactions. Implications for health promotion and disease prevention are explored. Prerequisite: 344.

391/591. Problems. (1-3 to a maximum of 6) Δ

{Offered upon demand}

406. Community Nutrition. (3)

Application of community health principles to nutrition programs for individuals and groups. Experiences will include work with community nutrition programs. Prerequisite: 344. Pre- or corequisite: 345. Restriction: Nutrition majors only.

*424. Nutrition in the Life Cycle. (3)

Nutritional assessment, physical growth and development, and the physiological basis for nutrient needs in pregnancy, lactation, infancy, childhood, adolescence and old age. Application to food selection patterns and the influence of social and cultural factors. Prerequisite: 244 and BIOL 237. Restriction: junior standing or higher.

427. Medical Nutrition Therapy I. (3)

The application of diets in the treatment of impaired digestive and metabolic conditions using the case study approach. Prerequisite: 345. Restriction: Nutrition majors only.

428. Medical Nutrition Therapy II. (3)

Continuation of Medical Nutrition Therapy I. Prerequisite: 427. Restriction: Nutrition majors only.

445. Applied Nutrition and Exercise. (3)

Interrelationships between nutrition and exercise with application to energy balance, weight control, physical fitness, competitive and recreational sports and prevention of chronic disease. Prerequisite: 345 and PEP 326L.

495. Field Experience. (1-3 to a maximum of 12) Δ
Planned and supervised professional laboratory or field experiences in an agency or institutional setting.
Restriction: permission of instructor.

497. Reading and Research in Honors I. (2)
Advanced studies and research under the supervision of a faculty mentor.
Restriction: permission of instructor.

498. Reading and Research in Honors II. (2)
Advanced studies and research under the supervision of a faculty mentor.
Prerequisite: 497. Restriction: permission of instructor.

499. Honors Thesis. (2)
Prerequisite: 498. Restriction: permission of instructor.

526. Nutrition Assessment. (3)
Principles and application of nutrition assessment to determine the nutritional status of individuals or groups. Use and interpretation of data obtained from a variety of dietary methodologies, anthropometric measures, biochemical indices and clinical observation.
Prerequisite: 344 and 345.

528. Advanced Medical Nutrition Therapy. (3)
Application of nutritional sciences, energetics, physiology, biochemistry and metabolism to current topics in clinical nutrition. Evaluation of nutritional assessment of critically ill patients and modifications of diets to meet individual needs.
Prerequisite: 428.

530. Phytochemicals in Health and Human Performance. (3)
Explores phytochemicals in fruits, vegetables, grains, herbal supplements, modified foods: phytochemical classes, biochemical structures and pathways, and functions of phytochemicals with respect to chronic diseases and athletic performance. Emphasizes identification of sources of reliable information.

535. Seminar in Nutrition. (3 to a maximum of 6) Δ
Latest research on specific topics and current issues in nutrition and dietetics is synthesized, presented and discussed. Course work requires independent work, and active participation in class discussions.
Restriction: permission of instructor.

550. Applied Dietetics Practice. (3 to a maximum of 6) Δ
Planned and supervised dietetic experiences in agency or institutional setting. Experiences are based on the Performance Requirements of the Standards of Education developed by the American Dietetic Association. **Offered on a CR/NC basis only.**
Restriction: admitted to M.S. in Nutrition degree program.

591./391. Problems. (1-3 to a maximum of 6) Δ

593. Topics. (1-3 to a maximum of 12) Δ

595. Advanced Field Experience. (1-3 to a maximum of 6) Δ
Restriction: admitted to M.S. in Nutrition degree program.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

ORGANIZATIONAL LEARNING AND INSTRUCTIONAL TECHNOLOGY

Patricia Boverie, Department Chairperson
Lee Clark, Department Administrator
Department of Educational Leadership and Organizational Learning
Hokona Hall, Third Floor
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001

Professors

Patricia Boverie, Ph.D., University of Texas at Austin
William Bramble, Ph.D., University of Chicago
Charlotte N. Gunawardena, Ph.D., University of Kansas

Associate Professor

Mark Salisbury, Ph.D., University of Oregon

Assistant Professor

Fengfeng Ke, Ph.D., Pennsylvania State University

Lecturer and Technology and Training Program Coordinator

Bruce Noll, Ed.D., University of South Dakota

Student Information Contact

Loretta Brown, Hokona Hall, Room 378, (505) 277-4131,
loribrwn@unm.edu

Mission and Philosophy

The mission of the Organizational Learning & Instructional Technology (OLIT) Program is to provide quality education for individuals interested in improving the learning experiences of adults in school, business, government, military, health-care, and non-profit organizations through the application of instructional practices and organizational technologies that advance individual, group, and organizational learning.

The OLIT Program is based on a belief that learning is a life-long process, which is stimulated by active participation, a respect for the individual's past experiences and diversity, critical reflection, and dialogue. Through the teaching of new developments in learning theory, the application of new technologies, and the management of change, the OLIT Program prepares professionals to help individuals, groups, and organizations learn in more effective ways.

In light of the massive and continuous change organizations experience, it is imperative that graduates of our program be ready to not only manage change, but lead future change efforts as well. To this end, we strive to develop a community of learners who build motivation for learning in their own organizations. The learning communities they develop will be characterized by a shared vision, systems thinking, and team learning.

The OLIT Program focuses on the design, development, delivery, and evaluation of training, organization development, knowledge management, distance education, e-learning, and instructional technology systems, methods and strategies with the intent of improving human performance. The program can best be described as one that is both theory-based and practitioner oriented.

Upon graduation from the OLIT Program, depending on individualized Program of Studies, students will be able to:

- Undertake life long learning, developing in concert the cognitive and affective domains to think critically, reflect on practice, and solve problems effectively within organizations.
- Design learning environments that promote the growth and learning of individuals from diverse cultural and linguistic backgrounds, including those with special learning needs.

- Address the cultural issues that influence the design, delivery, and evaluation of instruction within diverse social and linguistic contexts.
- Integrate the scholarship of adult learning throughout their professional lives.
- Design and develop effective instructional experiences based on a variety of models of design and evaluation (systems, constructivist, socio-constructivist).
- Apply multimedia and distance learning theories, technologies and practices in the design, delivery, and evaluation of instruction.
- Address professional standards for instructional technology applications.
- Develop learning communities in real and virtual environments based on the theoretical foundations of communities of practice (Content and nature).
- Conduct research and evaluation studies.
- Administer and manage a variety of learning systems.
- Innovate and manage organizational knowledge.
- Facilitate individual and team processes, and communication.
- Lead individual, group, and organizational learning, and change.
- Engage in human resource development within local, national, and global organizations.
- Mentor and coach individuals through the process of their personal and professional development.
- Lead strategic planning and evaluation in a variety of political and social contexts.
- Balance inquiry and advocacy while respecting the individual or group within the social context.
- Model ethical practices in their work.

To ensure that these objectives are met, the content of the program's courses are grounded in theoretical and empirical research and the extant literature, and are taught by experienced faculty using new and emerging technologies to facilitate activities, discussions, lectures, exercises, readings, simulations, and collaborative projects with other institutions in the U.S. and overseas.

The courses that comprise the OLIT Program also reflect the seven domains outlined in the College of Education's Conceptual Framework. Furthermore, the program's courses have been correlated to the recommended competencies and guidelines that have been developed by the American Society for Training and Development (ASTD), the International Society for Performance Improvement (ISPI), the Association for Educational Communications Technology (AECT), the International Society for Technology in Education (ISTE), and the National Council on the Accreditation of Teacher Education (NCATE) associations, and therefore reflect the mission of the College and the requirements of the profession.

For recent updates and additional information on the OLIT Program and courses, visit our Web site at <http://www.unm.edu/~OLIT>

Undergraduate Program

Technology and Training

(2+2 Program)

Major and Degree

This program enables students who have completed an associate degree at a community college to complete a bachelor's degree at UNM.

Technology and Training: Bachelor of Science

Student contact information:

Bruce Noll, Ed.D., Technology and Training Program, Hokona Hall, Room 387
(505) 277-3657, e-mail banoll@unm.edu

Curriculum

General Education (49 hours)

1. Writing and Speaking (12 hours)
100/200 level CJ course
ENGL 101
ENGL 102
ENGL 219
2. Mathematics (6 hours MATH 121 and above)
3. Physical and Natural Science (7 hours minimum with lab) see Core Curriculum list
4. Social and Behavioral Science (9 hours)
ECON 105 or 106
SOC 101
PSY 105
5. Humanities (6 hours minimum—see Core Curriculum list: choose two from American Studies 186; Classics 107, 204, 205; Comparative Literature 223, 224; English 150, 292, 293; History 101L, 102L, 161L, 162L; Modern Language 101; Philosophy 101, 201, 202; Religious Studies 107)
6. Second Language (3 hours minimum) see Core Curriculum list
7. Fine Arts (3 hours minimum) see Core Curriculum list
8. Practical Arts (3 hours minimum)
Computer Science
9. Arts & Science Elective (Credit transfers but not counted toward Technology and Training degree requirements)

Management/Communication Skills (21 hours) from the following:

1. Management
MGMT 113 Management: An Introduction
MGMT 306 Organizational Behavior & Diversity
MGMT 307 Organization Change and Innovation
CJ 340 Communication in Organizations
2. Communication and Journalism
CJ 314 Intercultural Communication (required)
—and— Select 6 additional hours from the following:
CJ 321 Interpersonal Analysis
CJ 323 Nonverbal Communication
CJ 327 Persuasive Communication
CJ 344 Interviewing
CJ 425 Theory of Small Group Communication
CJ 441 Advanced Organization Communication
CJ 446 Organizational Analysis and Training
CJ 443 Current Developments in Organizational Communication

Technical Course Work

(30 hours of community college technical course work)*

Technology & Training (30 hours)

1. Theoretical Foundations (6 hours)
OLIT 481 Technological Change and Society
OLIT 466 Principles of Adult Learning
2. Instructional Technology (9 hours)
OLIT 420 Creativity and Technical Design
OLIT 421 Production and Utilization of Instructional Materials
OLIT 483 Instructional Applications: Computer Technology
3. Training (15 hours)
OLIT 470 Workplace Training
OLIT 471 Designing Training
OLIT 472 Training Techniques
OLIT 473 Measuring Performance in Training
OLIT 495 Field Experience

* OLIT advisor approval required to transfer technical community college courses.

Graduate Programs

Student Information Contact

Loretta Brown, Hokona Hall, Room 378, (505) 277-4131, e-mail loribwn@unm.edu.

Application Deadlines

M.A. and Education Specialist Certificate
 Fall semester: June 15
 Spring semester: October 15
 Summer session: March 15

NOTE: Application packets must be submitted to the Graduate Admissions Department one month prior to these dates, if the applicant is a new student to the University of New Mexico Graduate School.

Ph.D.
 Fall Semester: March 1
 (Doctoral admissions are made for fall semester only.)

Degrees and Certificates Offered

M.A. in Organizational Learning and Instructional Technology
 Ph.D. in Organizational Learning and Instructional Technology
 Certificate: Education Specialist, Organizational Learning and Instructional Technology

Admission

To enter the degree programs at the Masters or Doctoral level, the student must complete appropriate application materials and proceed through the admission process. Application packets and program information are available from the program office. For specific details and guidelines, contact the Program Coordinator or the Administrative Assistant. All graduate candidates are required to work under the supervision of an assigned advisor and to develop and follow a planned program of studies composed of courses selected with the approval of the faculty advisor and/or Program of Studies Committee. Courses taken without prior approval may not be accepted toward the completion of the degree.

NOTE: Several courses listed below are in the process of being reviewed and revised. Consult the program for current course titles, numbers and descriptions.

Doctoral Degree

Ph.D. in Organizational Learning and Instructional Technology

The Ph.D. is a research degree. It is designed to develop the candidate's competencies to design, conduct and report original theoretical and applied research in learning and human performance technologies. A comprehensive content foundation in theory and research is strengthened through the requirement of an interdisciplinary support area. The Program of Studies and the dissertation reflect an emphasis on theoretical concepts, inquiry skills and original research.

Requirements:

An OLIT Ph.D. candidate must complete an approved program of studies, exclusive of the dissertation, of no less than 78 graduate semester credit hours. All candidates shall complete the required core courses (18 credit hours), concentration courses (15 credit hours), interdisciplinary supporting area courses (30 credit hours) and research courses (15 credit hours).

Candidates for the Ph.D. shall be required to demonstrate inquiry skills appropriate to conducting scholarly research. The identification and certification of the inquiry skills shall be completed by the Committee on Studies prior to the candidate's starting work on a dissertation.

The dissertation for the degree of Doctor of Philosophy must demonstrate an ability to do independent research and competence in scholarly exposition. It should present original investigation at an advanced level, of a significant problem and should provide the basis for a publishable contribution to the research literature of the major field.

The Ph.D. degree in Organizational Learning and Instructional Technology includes a minimum 78 course work hours plus 18 dissertation hours.

Doctoral Core (18 hours)

Prerequisites: OLIT 501, OLIT 561 and EDPY 500 or equivalent courses. Prerequisites are not applied to the 78 course work hours required.

- OLIT 600 Science, Technology and Society
- OLIT 601 Advanced Instructional Design
- OLIT 690 Dissertation Proposal Seminar
- OLIT 696 Internship

Plus 6 credit hours of doctoral level seminar courses to be selected from the following 3-credit hour seminars:

- OLIT 641 Advanced Seminar in Organizational Development and Consulting
- OLIT 608 Advanced Seminar in Organizational and Program Evaluation
- OLIT 635 Research in Distance Education
- OLIT 639 Advanced Technology Seminar
- OLIT 661 Transformational Learning

Doctoral Concentration (15 hours)

These hours are chosen from the OLIT 500 and 600 level courses. The courses selected will be chosen in concert with the student's advisor and will reflect the student's particular programmatic interest. For example, if students were particularly interested in the use of multimedia and distance learning technologies, they would choose a set of courses that would help them develop these areas of expertise. Likewise, if students were interested in training and organization development knowledge and skills, they would choose courses that would develop these areas of expertise.

Students must seek advisor approval if they want to take any of these 15 credits outside of OLIT.

Research Requirement (15 hours)

- EDPY 511 Introductory Educational Statistics
- EDPY 505 Conducting Quantitative Educational Research
- EDPY 603 Applied Statistical Design and Analysis
- LLSS 502 Naturalistic Inquiry
- or—
- Equivalent course

Plus an additional 600-level research course:

For a Qualitative Dissertation, take one additional qualitative course (e.g., LEAD/LLSS 605).

For a Quantitative Dissertation, take one additional quantitative course (e.g., EDPY 604 or 606).

Interdisciplinary Supporting Area (30 hours)

Courses should be selected in consultation with the student's Program of Studies Chairperson to support an interdisciplinary course of study. Courses may include, but are not limited to, the following areas:

- Educational Psychology
- Educational Leadership
- Communication
- Public Administration
- Organization and Management
- Foreign Languages
- Computer Science
- Sociology
- Anthropology
- Cross-Cultural Studies
- Psychology
- Health Education

At least 24 credit hours of the interdisciplinary supporting area must be outside of OLIT. (For students who obtained a Master's degree in OLIT, only 6 OLIT credits may be used for the supporting area.)

Transfer Credits

A maximum of 18 credit hours may be transferred into the Ph.D. program from a student's Master's program. The final decision of which courses are accepted is made by the student's Program of Studies Committee. For more information on the transfer of courses, see Transfer Credit in The Graduate Program section of this catalog.

Master's Degree

Thirty-six credits for Plan I Professional Portfolio Option
Thirty-nine credits for Plan II Thesis Option

The OLIT Program offers a Master's Degree that gives students an opportunity to combine aspects of adult learning, organizational learning and development, instructional technology including multimedia design and distance learning, principles of knowledge management, and the design, development, and evaluation of training. OLIT students can expect to develop a diverse skill set that will help them hit the ground running when they enter the workforce. They will be able to design, teach, support, evaluate, lead, and manage programs for diverse audiences. Coursework includes areas such as foundations of organizational learning, the adult learner, instructional design, principles of knowledge management, cross-cultural issues in learning, instructional technology, e-learning, and program evaluation. OLIT courses require students to apply their learning in real world contexts. Not only do OLIT graduates have the flexibility to choose where they work, they also enjoy diverse and rewarding employment options which include Instructional Design, Organizational Development, Training and Development, Distance Education, Project Management, and much more.

Required Courses (24 credits):

OLIT 514	Theory and Practice of Organizational Learning	3
-OR-		
OLIT 540	Foundations of HRD and Instructional Technology	3
OLIT 561	The Adult Learner	3
-OR-		
LEAD 529	The Adult Learner	3
OLIT 501	Instructional Design	3
OLIT 505	Contemporary Instructional Technologies: Survey	3
-OR-		
OLIT 525	Instructional Multimedia	3
OLIT 535	Theory and Practice of Distance Learning	3
OLIT 507	Designing Knowledge Management Solutions	3
OLIT 508	Program Evaluation	3
OLIT 546	Cross Cultural Issues in Adult Learning	3
-OR-		
OLIT 537	Culture and Global eLearning	3

Electives (9 credits)

Students choose courses to strengthen their preparation in specific areas of their choosing. Six of these 9 credits should be from the OLIT program.

Elective courses may include:

- OLIT 509 Collaborative Knowledge Creation
- OLIT 511 Knowledge Dissemination and Application
- OLIT 521 Presentation Technologies
- OLIT 522 Digital Video Techniques for Instruction
- OLIT 528 Management of Learning Systems
- OLIT 533 Instructional Use of Computer Simulations
- OLIT 536 Instructional Television: Principles and Applications
- OLIT 538 Distance Education Course Design
- OLIT 543 Training Techniques
- OLIT 562 Team Development
- OLIT 593 The Role of Wisdom in Adult Learning and Culture

A 3 credit graduate course in a related field may be selected with the permission of the student's advisor. Such a course might be from another department in the College of Education or in business, public administration, communications, sociology, or psychology.

Professional Portfolio or Thesis Options:

Professional Portfolio Option: Students must register for OLIT 596 (3 credits). Under the professional portfolio option students complete the internship and prepare a dossier showing work products which demonstrate their capabilities in OLIT fields of study.

Thesis Option: Students must register for OLIT 599 Masters Thesis for two semesters (6 credits). Under the thesis option students plan, conduct, and report on original research conducted to address a research problem in an area related to their study in the OLIT program. OLIT students selecting the thesis option are encouraged to take EDPY 500 Survey of Research Methods in Education, EDPY 511 Introductory Educational Statistics, and/or LLS5 502 Naturalistic Inquiry under their electives for the OLIT master's degree program.

Organizational Learning and Instructional Technology (OLIT)

391./591. Problems. (1-3 to a maximum of 18) Δ

420. Creativity and Technical Design. (3)
 Design theory and principles as applied to the research and development functions of industry. Product development via team organization, brainstorming, data analysis, oral presentations and creative problem solving. Two lectures, 3 hours lab.

421. Production and Utilization of Instructional Materials. (3)
 Includes training in the use of media production and display equipment, production of graphic materials, overhead transparencies, slides, audio recordings, posters and criteria for effective design and use of media materials in training and education. Lab fee required.

466. Principles of Adult Learning. (3)
 Explores the world of the adult learner from historic, social, political and pragmatic perspectives. Issues of life stages, culture, teaching theory and andragogical practice are considered as they relate to the practice of adult learning.

470. Workplace Training. (3)
 Introduction to the concepts of training in the corporate sector.

471. Designing Training. (3)
 Introduction to the principles of planning and designing of training packages and programs.

472. Training Techniques. (3)
 Introduction to the development of instructional training methods and strategies for corporate training programs.

473. Measuring Performance in Training. (3)
 Principles of evaluation of instruction and trainee performance applied to organizational training programs.

481. Technological Change and Society. (3)
 Focus on industry as humanity's systematic effort to provide the necessities and conveniences of life. In addition to developing a historical perspective, students will study in depth a variety of industrial organizations that provide goods and services to meet the needs and desires of society.

483. Instructional Applications: Computer Technology. (3)
 An introduction to instructional applications of computer technology using integrated software. Includes instruction in techniques of using integrated software to manage computer instruction, to manage student records and achievements, and to produce and use ancillary materials. Current representative integration software will be used.



492./592. Workshop. (1-4 to a maximum of 13) Δ

493./593. Topics. (1-3, no limit) Δ

495. Field Experience. (3-6 to a maximum of 12) Δ
 Planned and supervised professional laboratory or field experiences in agency or institutional setting. **Offered on a CR/NC basis only.**

Restriction: permission of instructor.

501. Instructional Design. (3)

Application of instructional design principles used in the development of instructional materials. Students work individually on course exercises and collaboratively on two course projects. One of the first three courses taken in the Master's program.

505. Contemporary Instructional Technologies: Survey. (3)

An overview of contemporary instructional technologies and how they can be utilized to improve the effectiveness of instruction. Students will gain expertise in selecting and using appropriate instructional technologies supporting the achievement of performance-based objectives.

507. Designing Knowledge Management Solutions. (3)

Participants apply general principles and techniques for designing comprehensive knowledge management solutions that combine web-based technologies and organizational interventions. To put a theory into practice, participants utilize an iterative design process in developing a course project.

508. Program Evaluation. (3)

Provides the student with a basic understanding of the evaluation process, the application of evaluations in determining the effectiveness and/or value of a learning experience both in the classroom and in the workplace.

509. Collaborative Knowledge Creation. (3)

Focused on designing technology-supported collaborations solutions that support the collective brain power of organizational members in the creation of knowledge.

511. Dissemination and Application of Knowledge. (3)

Focused on designing organizational portals for managing and disseminating documents, instruction, best practices, and expert advice.

514. Theory and Practice of Organizational Learning. (3)

This course focuses on the theories and applications of organizational learning strategies and process. The relationship between individual and team learning to organizational learning will be addressed throughout the course. (Offered annually)

521. Presentation Technologies. (3)

Designed to increase the effectiveness of presentations for educator/trainers using a variety of presentation technologies. Utilizing ISD principles, students engage in production of media to develop an instructional package. Special Fee.

522. Digital Video Techniques for Instruction. (3)

This course provides resources and guidance as students conceive, design, script, shoot and edit digital video footage. Students will learn to create instructional video sequences based on theories of learning and instructional design principles.

Prerequisite: 501 and 561.

523. Computer Authoring Languages and Systems. (3)

Combines learning theory and authoring to teach the computer skills necessary to design and produce computer assisted instructional (CAI) programs using an authoring language. No previous programming experience is necessary. Includes demonstration of other authoring languages and systems. Special Fee.

525. Instructional Multimedia. (3)

An introduction to computer based learning environments incorporating multiple forms of media. Students study the theories applicable to multimedia learning, gain practical skills

for implementing simple systems, and design a large scale multimedia learning environment. Lab fee.
 Prerequisite: 501 and 521 and 561.

526. Artificial Intelligence and Learning. (3)

Students investigate the theories underlying artificial intelligence and education, examine techniques for producing systems which adapt to a learner's needs, learn about the latest developments in the field, and design a "smart" learning system.

Prerequisite: 501 and 525 and 561.

527. Practicum-Instructional Technology. (3)

Hands-on project-oriented introduction to the design and development of instructional multimedia. The conceptualization of the instruction is based on adult learning principles and theories of multimedia learning. Project implementation using Authoring Systems of Web Pages.

Prerequisite: 501 and 521 and 561 and (523 or 525).

528. Management of Learning Systems. (3)

Focuses on management strategies and key elements of modern systems. Discusses program planning and management, funding and budget management, technology selection and implementation, marketing, quality control and evaluation.

533. Instructional Use of Computer Simulations. (3)

Students will review shareware, public domain, and complex interactive commercial simulations; explore theory and survey recent literature. Project activity will focus on design issues and solutions, as students design a simulation and develop its prototype. Lab fee.

535. Theory and Practice of Distance Learning. (3)

Analyzes theoretical approaches to distance education and their practical applications. Examines characteristics and needs of distance learners, learner support, distance teaching, course design, delivery system selection, evaluation, policy, organization and administration of distance education.

536. Instructional Television: Principles and Applications. (3)

For educators and trainers who use instructional television for distance education. Major types of instructional TV formats are analyzed, as well as research on television and learning. Participants develop techniques for training television instructors.

537. Culture and Global eLearning. (3)

Explores the sociocultural dimensions of eLearning and issues related to designing eLearning for global contexts. Participants examine diversity in eLearning, and design eLearning for national and international contexts.

538. E-Learning Course Design. (3)

Explores new paradigms based on constructivist and sociocultural learning theories for designing e-learning. Focuses on online learning design and evaluation, and networked learning communities. Analyzes print, audio, and video for designing hybrid learning environments.

Prerequisite: 501 and 535 and 561.

540. Foundations of HRD and Instructional Technology. (3)

Foundations of HRD (training, organization and career development) and its role in facilitating individual, group and organizational learning. Students will also be introduced to instructional technologies that facilitate learning.

541. Organizational Consulting Theory and Practice. (3)

An introduction to the field of consulting. Covers conceptual knowledge of models to increase organizational effectiveness, consultant role responsibilities and needs assessment and evaluation techniques used in consulting practices.

543. Training Techniques. (3)

Introduces student to training techniques that are suitable for instructing adult learners in a variety of settings. Students will design and deliver an instructional unit to other adult learners.

Prerequisite: 501 and 561.

546. Cross-Cultural Issues in Adult Learning. (3)
Students will examine learning styles of culturally diverse populations, conduct research on cross-cultural teaching and learning, experiment with methods and techniques of cross-cultural training and design and develop cross-cultural training programs.

561. The Adult Learner. (3)
(Also offered as LEAD 529.) Examines the teaching and learning transaction with adults. Specific attention is on adult life stage development, relevant learning theories and approaches, and learning style issues of cross-cultural populations.

562. Team Development. (3)
Provides learners with information and skill development of various methods and techniques for teaching adults in a team environment. Emphasis is placed on team development and training necessary to facilitate team learning and growth.

563. Mentoring Adult Career Development. (3)
Students examine adult career patterns and organizational perspectives on employee career development. Specific emphasis is on mentoring and coaching adults in career decision making.

591/391. Problems. (1-3 to a maximum of 6) Δ
Individual Performance Contract required between student and professor.

592/492. Workshop. (1-4)
Special offerings given on demand for terms less than a semester.

593/493. Topics. (1-3, no limit) Δ
Used to test new courses.

595. Field Experiences. (3-6 to a maximum of 12) Δ
This independent study is for students to gain experiences in settings other than those in which they are employed or who are making career transitions and would benefit from shadowing a professional in the field. **Offered on a CR/NC basis only.**

596. Internship. (3-6 to a maximum of 12) Δ
This final independent study is the capstone experience for Master's students who opt not to do a thesis. The student submits a proposal for a minimum 200-hour project to his/her internship faculty supervisor. **Offered on a CR/NC basis only.**

598. Directed Readings in Organizational Learning and Instructional Technologies. (3-6 to a maximum of 6) Δ
Student will develop an Individual Performance Contract with a faculty member to determine the key readings and will produce a product.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

600. Science, Technology and Society. (3)
Defines science, technology, human values and examines the impacts and relationships among them. Discusses emerging scientific and technological developments, projects effects on society and the proposition that technology is a primary determinant of social change.

601. Advanced Instructional Design. (3)
A theory-driven and project-based doctoral level seminar on the foundations of learning environments, instructional design theory, and the instructional design process. Students develop design models based on constructivist and socioconstructivist theories for innovative learning environments.

608. Advanced Seminar in Organizational & Program Evaluation. (3)
This course is for students who wish to gain an in-depth understanding of evaluation theories and philosophies. In seminar format, students will study evaluation as a trans-discipline and its role in contemporary organizations.

635. Research in Distance Education. (3)
Advanced doctoral seminar on research in distance education and educational telecommunications. Students will critically examine current research and develop theoretical frameworks, appropriate methodologies, a research proposal and agenda for future distance education research.
Prerequisite: 501 and 508 and 535 and (561 or EDUC 500).

639. Advanced Instructional Technology Seminar. (3)
This seminar emphasized the process of applying research findings to create innovative computer-based solutions for organizational learning problems. Steps in the process include assessing organizational learning needs, designing and implementing solutions and applying formative evaluation techniques.
Prerequisite: 501 and 508 and 561.

641. Advanced Seminar on Organization Development and Consulting. (3)
This advanced course in OD for doctoral students and advanced master's is designed to enable students to develop theoretical perspectives, intensive practice and understanding of the use of OD in improving organizations.
Prerequisite: at least 9 hours of Organizational Behavior, Team Development, Consulting or similar courses. Restriction: permission of the instructor.

661. Seminar: Transformational Learning. (3)
A theory-driven, project-based advanced seminar designed to enable students to develop theoretical perspectives, intensive practice, and understanding of the use of Transformational Learning for applications with individuals, groups and organizations.

690. Dissertation Proposal Seminar. (3-6) Δ
This seminar is the capstone course for the doctoral program. It assists students in planning and developing a dissertation proposal. Course may be repeated once. **Offered on a CR/NC basis only.**
Prerequisite: students must complete the Comprehensive Examination before enrolling or take it concurrently.

696. Internship. (3-6 to a maximum of 12) Δ
Offered on a CR/NC basis only.

698. Directed Readings in Organizational Learning and Instructional Technologies. (3-6 to a maximum of 6)

699. Dissertation. (3-12, no limit) Δ
Individual performance contract required between student and professor, following formal approval of dissertation committee. **Offered on a CR/NC basis only.**

PROFESSIONAL
PHYSICAL EDUCATION

Gloria Napper-Owen, Department Chairperson
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Gloria Napper-Owen, Ed.D., University of Northern Colorado
Susanne Schneider, Ph.D., St. Louis University
David Scott, Ed.D., University of Northern Colorado

EDUCATION

372 COLLEGE OF EDUCATION

Assistant Professors

John Barnes, Ph.D., University of New Mexico
 Annie Clement, Ph.D., University of Iowa
 Ann Gibson, Ph.D., University of New Mexico
 Glenn F. Hushman, Ph.D., University of New Mexico
 Russell Mitchell, M.S., Southern Illinois University

Adjunct Faculty and Staff

Sharon Griffin, Ph.D., University of New Mexico
 Richard Leuker, M.D., University of Colorado, Denver
 Jack Loeppky, Ph.D., University of New Mexico
 Terry McIntrye, MBA, Regis University, School of Professional Studies
 Cristine Mermier, Ph.D., University of New Mexico
 Robert Scales, Ph.D., University of New Mexico

Assistant Research Professor

Virginia Wilmerding, Ph.D., University of New Mexico

Lecturer

Susan McGowen, Ph.D., EMT, ATC, LAT, University of New Mexico
 Alfredo Martinez, Ph.D., University of New Mexico

Student Information Contact

Margaret Chavez, Johnson Center, 277-5151.

Majors and Degrees

Teaching Major

Physical Education–B.S.Ed., K–12th grades license,
 7–12th grades Secondary Education License

Non-Teaching Majors

Athletic Training–B.S.
 Exercise Science–B.S.

Minor

Athletic Coaching

Endorsement Teaching Field

Physical Education

Undergraduate Program

The Professional Physical Education Program offers three majors: Physical Education-Teacher Education, Exercise Science and Athletic Training. A minor in Athletic Coaching is also available.

Mission Statement

The mission of the Department of Health, Exercise and Sports Sciences is to positively impact citizens and institutions of New Mexico and other regions through teaching, scholarship and service pertaining to healthy lifestyles, disease prevention, lifetime physical activity, and/or sports participation. The curricula offered in the program foster understanding in five areas: 1) Health Education/Promotion, 2) Physical Education, 3) Exercise Science, 4) Sport Administration, and 5) Athletic Training.

Physical Education

The curriculum leading to the degree of Bachelor of Science in Education is designed to prepare the student to teach physical education in elementary, middle and/or junior and senior high schools (K–12). Students completing the program are eligible to apply for a teaching license in New Mexico. The examinations required by the State of New Mexico are the New Mexico Assessment of Teacher Competency and the Physical Education Content Test.

State Board of Education licensure requirements are subject to periodic change. Contact a PETE advisor for specific

requirements for programs leading to educator licensure and endorsement (K–12).

A grade of C or better (Not C-) is required for each General Education course that counts toward the 132 hour degree. A Grade of B- or vetter is required for all content courses.

First Year

ENGL 101	Comp I: Exposition	3
ENGL 102	Comp II: Analysis & Arg	3
PSY 105	Gen. Psychology	3
MATH 120	Intermediate Algebra	3
STAT 145	Intro to Statistics	3
BIOL 123/124L	Principles of Biology	4
HED 164L	Standard First Aid / Lab	3
CHEM 111L	Elements of Chemistry	4
HIST 101 or 102	Western Civilization	3
PEP 223 Fall	Invasion Games	1
PEP 225 Spring	Net Games	1
PEP 227 Spring	Elementary Rhythms/Aerobic Dance/Yoga	1
PEP 234 Fall	Track and Field/Cooperative Games	1
PENP 118	Individual Tumbling	1
		35

Second Year

PEP 222 Fall	Target Activities	1
PEP 226 Fall	Lifetime Pursuits	1
PEP 228 Spring	Outdoor Pursuits	1
PEP 239	Dance	1
PEP 245-001 Fall	Prof Lab Exp in Physical Education	2
PEP 277	Kinesiology	3
PEP 288	Motor Learning	3
PEP 208 Fall	Teaching Fitness Concepts	2
NUTR 120	Nutrition for Health	3
HIST 161 or 162	Hist U.S. to 1877 or Hist U.S. since 1877	3
CJ 130	Public Speaking	3
Soc. & Behav Sci	UNM Core Requirement	3
FA	General Ed. Requirement	3
BIOL 237-247L	Human Anatomy & Physiology I Lab	4
		33

Third Year

EDPY 310	Learning and the Classroom	3
EDPY 303	Human Growth and Development	3
PEP 444 Fall	Teaching Physical Education I	3
PEP 301 Fall	Teaching of Team Sports	2
PEP 319 Fall	Physical Education in Elementary Schools	3
PEP 466 Spring	Adapted Physical Education	3
PEP 410 Spring	Assessment in Physical Education	3
PEP 430 Spring	Classroom Behavior Management in Physical Education	2
PEP 326L	Fund of Exercise Physiology	3
Second Lang.	UNM Core Requirement	3
HIST	General Education Requirement	3
		31

Fourth Year

PEP 479 Fall	Organization and Administration of Physical Education	3
PEP 485 Spring	Diversity in Sport and Physical Activity	3
PEP 461	Student Teaching - Secondary	6
PEP 400	Student Teaching - Elementary	6
CJ 314	Intercultural Communication	3
FA	UNM Core Requirement	3
EDUC 438	Reading in Content Field	3
HIST	General Education Requirement	3
HED 306	Conflict Mediation	1
HED 451	Teaching Strategies and Curriculum for Health Education	2
		33

TOTAL HOURS

132

Physical Education Teacher Education— The University of New Mexico Core Requirements

1. Writing and Speaking
ENGL 101
ENGL 102
2. Mathematics
STAT 145*
3. Physical and Natural Sciences
BIOL 123/124L*—4 hrs.
CHEM 111L—4 hrs.
4. Social and Behavioral Sciences
PSY 105*
Elective—3 hrs.
5. Humanities
HIST 101L or 102L**
HIST 161L or 162L**
6. Second Language
Elective—3 hrs.
7. Fine Arts
Elective—3 hrs.

* Program course requirement

** Senate Bill 106 requirement

Special Requirements for Physical Education Student Teaching

Admission to the College of Education and the Physical Education Teacher Education Program occurs at Checkpoint 1:

1. Complete general education courses with an overall GPA of 2.5
2. Complete content area courses with a B- or better
3. Pass the New Mexico Teacher Assessment of Basic Skills Test
4. Submit the COE application packet to the COE Advisement Center in Hokona Hall
6. Fulfill all Checkpoint 1 requirements with a rating of acceptable or better
7. Submit the Checkpoint 1 application along with Portfolio for faculty review
8. Attain Disposition rating of Basic or higher

Admission to Physical Education Student Teaching occurs at Checkpoint 2:

1. Complete general education courses with an overall GPA of 2.5
2. Complete content area courses with a B- or better
3. Receive an acceptable rating on Junior Block Instructional Evaluations
4. Complete a Graduation Check
5. Fulfill all Checkpoint 2 requirements with a rating of acceptable or better
6. Submit the Checkpoint 2 application along with Portfolio for faculty review
7. Attain Disposition rating of Basic or higher

Physical Education Degree Completion Review occurs at Checkpoint 3:

1. Complete general education courses with an overall GPA of 2.5
2. Complete content area courses with a B- or better
3. Receive an acceptable rating on Student Teacher Instructional Evaluations
4. Fulfill all Checkpoint 3 requirements with a rating of acceptable or better
5. Submit the Checkpoint 3 application along with Portfolio for faculty review

Post-Baccalaureate endorsement programs in Physical Education-Teacher Education are also available.

Athletic Training Education Program

Mission Statement:

The mission of the UNM-ATEP is to provide a comprehensive and progressive, didactic and clinical foundation to prepare qualified professionals for a career in athletic training. Strong emphasis is placed upon the provision of opportunities within the curriculum for the development of skills encompassing the domains of athletic training. Through successful completion of the UNM-ATEP, graduates are prepared to pass the Board of Certification examination, to enter into the profession of athletic training as competent allied health care professionals, and provide optimal health care to the physically active.

Overview:

The University of New Mexico Athletic Training Education Program (UNM-ATEP) is dedicated to creating and maintaining an educational program that meets the standards and guidelines set forth by the following governing bodies: National Athletic Trainers' Association Education Council (NATA-EC); Board of Certification (BOC); and Commission on Accreditation of Athletic Training Education (CAATE). Currently, the UNM-ATEP is accredited by CAATE.

The University of New Mexico (UNM) grants a Bachelor of Science Degree in Athletic Training upon completion of the UNM-ATEP. Successful completion of the UNM-ATEP is achieved through structure and content as described below:

Structure

- The number of credit hours in the UNM-ATEP is 132.
- Eighty-Nine (89) of the 132 credit hours are specific to the competencies within the twelve educational content areas set forth by the National Athletic Trainers' Association (NATA).
- Sixty (60) of the 132 credit hours are UNM core classes and electives.

Content

The BOC Role Delineation Study 5th edition (2004) concluded the profession is divided into six major areas or domains:

- Prevention;
- Clinical Evaluation and Diagnosis;
- Immediate Care;
- Treatment, Rehabilitation and Reconditioning;
- Organization and Administration;
- Professional Responsibility.

The above domains are then divided into twelve educational content areas which define the educational curricula that students enrolled in an accredited athletic training program must master. The twelve curriculum content areas include:

- Acute Care of Injuries and Illnesses;
- Conditioning and Rehabilitative Exercise;
- Health Care Administration;
- General Medical Conditions and Disabilities;
- Nutritional Aspects of Injury and Illness;
- Orthopedic Clinical Examination and Diagnosis;
- Pathology of Injuries and Illnesses;
- Pharmacology;
- Professional Development and Responsibilities;
- Psychosocial Intervention and Referral;
- Risk Management and Injury Prevention;
- Therapeutic Modalities.

Technical Standards for Program Admission

Technical Standards:

The University of New Mexico Athletic Training Education Program is an intense program that places specific educational and clinical requirements on the students enrolled in the program. Upon enrollment into this program, students are prepared to enter a variety of athletic training employment settings by achieving the skills, competencies, and knowledge of an entry level Certified Athletic Trainer. The following technical standards set forth by the University of New Mexico Athletic Training Education Program define the essential

qualities necessary for students who are considering admission into the program. These standards meet the requirements set forth by the governing body of all Athletic Training Education Programs, the Commission on Accreditation of Athletic Training Education.

Candidates for admission into the University of New Mexico Athletic Training Education Program must demonstrate:

1. The ability to communicate effectively with patients, colleagues, and instructors. This includes individuals of different social, cultural, and religious backgrounds.
2. Students must be able to speak and comprehend the English language at a level capable of communicating in a professional manner while within the health care environment.
3. Adequate postural, neuromuscular control, sensory function, and coordination to accurately, and safely perform accepted evaluation techniques.
4. The mental capacity to analyze, assimilate, problem solve, and integrate concepts essential to the practice of athletic training.
5. The ability to accurately and efficiently document treatments, rehabilitations, and evaluations.
6. Affective skills and appropriate conduct that relate to professional education, and superior patient care.
7. The capacity to maintain composure and continue to function well during periods of high stress and demands.
8. The perseverance, diligence, and commitment to successfully complete the University of New Mexico Athletic Training Education Program as outlined by the University of New Mexico Athletic Training Education Program: Athletic Training Student Handbook.

Candidates for selection into the University of New Mexico Athletic Training Education Program are required to verify that they understand and are able to meet the above technical standards, or that they believe that with certain accommodations they can meet these standards.

If a student states that he or she cannot meet these standards without accommodation, then the University of New Mexico Student Disability Services Department will confirm that the stated condition qualifies as a disability under State and Federal laws. This includes a review of the proposed accommodations, determining if these accommodations will in any way jeopardize patient and clinician safety, or the educational coursework of the student or the institution, including coursework and clinical experiences necessary for graduation from the University of New Mexico Athletic Training Education Program.

Application Procedures

Program Admission Requirements:

Admission into the University of New Mexico Athletic Training Education Program (UNM-ATEP) is a highly competitive process and the number of students accepted is limited. Acceptance is based upon academic achievement, recommendations, the number of Approved Clinical Instructors (ACI), and available clinical settings. The Athletic Training Student (ATS) may apply to the UNM-ATEP, if they have met the following requirements:

1. Successfully complete a physical examination that includes immunization records;
2. Submit a signed "Technical Standards for Program Admission" Statement;
3. Successfully complete Bloodborne Pathogens Training;
4. Complete a minimum of 50 clinical observation hours in the University of New Mexico (UNM) athletic training facilities and affiliated clinical sites.
5. Achieve a B- or better in HED 164L, PEP 273, and PEP 284;
6. Have a 2.75 Grade Point Average (GPA) or better;
7. Submit an UNM-ATEP application to the UNM-ATEP Coordinator. This includes:
 - a. An unofficial UNM transcript with UNM-ATEP application;
 - b. Copy of First Aid Certification;

- c. Copy of either American Red Cross Professional Rescuer OR American Heart Association Healthcare Provider CPR / AED certification.
8. Submit three recommendation forms.

Transfer Student Application Procedures:

In addition to the above requirements, transfer students will be considered for acceptance into the UNM-ATEP upon completion of the following:

- Completion of the UNM-ATEP undergraduate entrance application;
 - Submit syllabus and coursework (include competencies / proficiencies if applicable) from all previous athletic training courses taken;
 - The transfer student will need to demonstrate all competencies / proficiencies associated with transfer courses;
 - Advise with the UNM-ATEP Coordinator and / or the Department of Health, Exercise and Sports Sciences Chair;
 - Minimum cumulative GPA of 2.75* on all transferred courses;
 - The transfer student must have obtained a "B-" or better in all transferred athletic training course work;
 - Probationary acceptance may be considered for transfer students who have not met the grade requirement, however the student will be required to retake the corresponding athletic training course;
 - Completion of 30 observational hours in the UNM Athletic Training Facilities (not 50 hours as listed above).
- * Although the minimum GPA requirement to be admitted at UNM is a cumulative 2.0, the UNM-ATEP requires a cumulative 2.75 GPA for acceptance into the UNM-ATEP.

Transfer Course Acceptance Procedure

The University of New Mexico Athletic Training Education Program (UNM-ATEP) Coordinator along with the Department of Health, Exercise and Sports Sciences (HESS) Chair, will review all course descriptions and syllabi. Materials submitted will be compared to University of New Mexico (UNM) course descriptions, objectives and competencies / proficiencies to determine if they are compatible.

If the course does not have comparable credit hours, content, objectives, and / or clinical experiences, the course will not be substituted for a UNM course and the student will follow the normal athletic training curricular plan. If the course is equivalent to the UNM course, the student will be required to demonstrate all competencies / proficiencies associated with the transfer course. The course will then be placed within the curricular plan where deemed appropriate by the UNM-ATEP Coordinator and the HESS Chair.

Progression and Retention Policy

In order to progress and continue in the UNM-ATEP, the Athletic Training Student **must** comply with the following:

1. Current American Red Cross Professional Rescuer or American Heart Association Healthcare Provider CPR / AED certification;
2. Current First Aid Certification;
3. Annual Bloodborne Pathogens Module current certificate of completion;
4. Appropriate progression through the UNM-ATEP Educational Competencies and Clinical Proficiencies Manuals, Levels I-IV, as described in course syllabi;
5. Satisfactorily complete Athletic Training Student evaluations as per course syllabi;
6. Maintain compliance with the UNM-ATEP: Athletic Training Student Handbook and all UNM policies and procedures as outlined in the UNM Catalog and UNM Student, Pathfinder;
7. Achieve a "B-" or better in **all** athletic training courses;
8. Achieve a "C" or better in **all** general education courses;
9. Maintain cumulative Grade Point Average (GPA) of a 2.75;

- 10. Attend academic advisement session with UNM-ATEP faculty each semester;
- 11. Adhere to the National Athletic Trainers' Association (NATA) Code of Ethics.

Spring		
PEP 474	Athletic Training Administration	3
Electives	Upper-Division electives 300+	3
PEP	Upper-Division electives 300+	3
UNM Core	Social/Behavior Science	3

Total 12
Curriculum Total 132

Athletic Training Curriculum:

Athletic Training Students must obtain a "B-" or better in all athletic training courses to advance in the UNM- ATEP. A Grade of C (not C-) or better is required for all general content courses work that counts toward the 132 hour degree.

COURSE		HOURS
First Year		
<i>Fall</i>		
ENGL 101	Comp I: Exposition	3
CHEM 111L	Elements of General Chemistry	4
HED 164L	Standard First Aid/Lab	3
PEP 273	Introduction to Athletic Training	3
PEP 284	Athletic Training Observation Lab	3
		Total 16

<i>Spring</i>		
ENGL 102	Comp II: Analysis & Arg.	3
MATH 120 or 121	Interm Algebra or College Algebra	3
BIOL 123/124L	Biology for Health Related Sciences & Non Majors	4
HED 171	Personal Health Management	3
PEP 285	Athletic Training Clinical I	3
		Total 16

Second Year		
<i>Fall</i>		
BIOL 237/247L	Human Anatomy & Physiology I for the Health Sciences/Lab	4
EMS 113	Emergency Medical Technician – Basic	6
EMS 142	Emergency Medical Technician – Basic Lab	2
PSY 105	General Psychology	3
PEP 286	Evaluation of Athletic Injuries – Extremities	3
		Total 18

<i>Spring</i>		
BIOL 238/248L	Human Anatomy & Physiology II for the Health Sciences/Lab	4
PEP 277	Kinesiology	3
STAT 145	Intro to Statistics	3
PEP 287	Evaluation of Athletic Injuries – Trunk/Torso	3
CJ 130	Public Speaking	3
		Total 16

Third Year		
<i>Fall</i>		
PEP 289	Tests and Measurements in Physical Education	3
PEP 326L	Fundamentals of Exercise Physiology	3
PEP 374	Therapeutic Modalities	3
PEP 373	General Medical Conditions in Athletic Training	3
PEP 481	Athletic Training Clinical II	3
NUTR 244	Human Nutrition	3
		Total 18

<i>Spring</i>		
PEP 288	Motor Learning and Performance	3
PEP 473	Rehabilitation of Athletic Injuries	3
PEP 375	Pharmacology in Athletic Training	3
PEP 483	Athletic Training Clinical III	3
PSY 220	Developmental Psychology	3
UNM Core	Humanities	3
		Total 18

Fourth Year		
<i>Fall</i>		
PEP 488	Athletic Training Clinical IV	3
PEP 470	Designs for Fitness	3
UNM Core	Humanities Requirement	3
UNM Core	Second Language	3
UNM Core	Fine Arts	3
Elective	General Education Upper-Division 300+ elective	3
		Total 18

Exercise Science

The curriculum leads to a Bachelor of Science in Exercise Science and includes course work in the theoretical and applied aspects of exercise science. The major prepares health/fitness instructors for a variety of settings including fitness centers, corporate fitness programs and outpatient physical therapy and cardiopulmonary rehabilitation programs.

The Exercise Science Program requires a 3.0 GPA for admission into the undergraduate program. A grade of B- or better is required for all PE-P and PE-NP courses; a grade of C or better (Not C-) is required for each general education course towards the 130-hour degree.

First Year		
ENGL 101	Composition I: Exposition	3
ENGL 102	Composition II: Analysis and Argument	3
PSY 105	General Psychology	3
MATH 121	College Algebra	3
NUTR 244	Human Nutrition	3
BIOL 123/124L	Biology for Health Related Sciences and Non-Majors/Lab	4
CHEM 111L	Elements of General Chemistry/Lab	4
CHEM 212L	Integrated Organic Chemistry and Biochemistry/Lab	4
PENP 114	Weight Training and Physical Conditioning I	1
PEP 273	Introduction to Athletic Training	3
PEP 288	Motor Learning and Performance	3
		34

Second Year		
CJ 130	Public Speaking	3
STAT 145	Introduction to Statistics	3
HED 164L	Standard First Aid/Lab	3
BIOL 237–247L	Human Anatomy and Physiology I/Lab	4
BIOL 238–248L	Human Anatomy and Physiology II/Lab	4
ENGL 219	Technical and Professional Writing	3
UNM Core	Social/Behav Sci	3
PENP 162	Jogging Fitness	1
PEP 277	Kinesiology	3
PEP 289	Tests and Measurements in Physical Education	3
PEP 326L	Fundamentals of Exercise Physiology	3
		33

Third Year		
PHYC 102	Introduction to Physics	
–or– 151	General Physics	3
NUTR 344	Energy Nutrients in Human Nutrition	3
NUTR 345	Vitamins and Minerals in Human Nutrition	3
PENP 165	Yoga	2
PEP 305	Teaching Group Exercise	3
PEP 469	Management Concepts in Sport and Fitness Settings	3
PEP 470	Designs for Fitness	3
PEP 475	EKG Interpretation	3
PEP 476	Exercise Testing and Interpretation	3
PEP 495	Practicum	3
UNM Core	Humanities	3
PENP 102	Intermediate Swimming	1
		33

EDUCATION

Fourth Year		
PEP 391	Problems	1
PEP 426	Intern Exercise Physiology	3
PEP 471	Exercise and Disease Prevention	3
PEP 478	Sports Physiology	3
PEP 495	Practicum	3
	Elective: Advisor Approval Required	3
	Elective: Advisor Approval Required	3
UNM Core	Humanities	3
UNM Core	Fine Arts	3
UNM Core	Second Language	3
		28
Total		128

Athletic Coaching Minor

HED 164L	Standard First Aid	3
PEP 238	Yoga/Weight Training	1
PEP 273	Athletic Training	3
PEP 277	Kinesiology	3
-or-		
PEP 326L	Fundamentals of Exercise Physiology	3
PEP 288	Motor Learning	3
PEP 479	Organization and Administration of Physical Education	3
PEP 480	Principles of Coaching	3
PEP 495	Field Experience	3

Choose a minimum of 3 hours from the following group:

PEP 245	Professional Lab Experience in Physical Education	2
PEP 277	Kinesiology	3
-or-		
PEP 326L	Fundamentals of Exercise Physiology	3
PEP 386	Women in Sports	3
PEP 464	Theory of Football	3
PEP 465	Theory of Basketball	3
PEP 466	Adapted Physical Education	3
HED 171	Personal Health Management	3
NUTR 244	Human Nutrition	3
		24

Additional Information

Students who, for any reason, interrupt their progress in the physical education program at the University of New Mexico for more than two consecutive semesters must reapply.

High School Preparation: Students intending to study professional physical education should prepare themselves adequately in high school with courses in biology, algebra, chemistry and physics.

Graduate Program

Degrees Offered

M.S. in Physical Education
Ph.D. in Physical Education, Sports and Exercise Science

Contact for Graduate Advisor and Student Information

Carol Catania, Johnson Center, Room 1150, (505) 277-5151

Deadlines for Application

	Priority* Deadline	Final Application* Deadline
Fall semester:	March 1	August 1
Spring semester:	November 1	December 15
Summer session:	April 1	May 1

*Applicants for the Ph.D. in PESES with a concentration in Sport Administration have a priority deadline of February 15 and a final deadline of April 1. This applies for all semesters.

The priority deadline is encouraged for best consideration; however, all applications must be received by the final application deadline.

Early application is recommended. These dates also apply for financial aid.

Graduate Admissions Requirements

Formal/complete application for admission, UNM entrance requirements, GRE scores, letter of intent, prerequisite course work depending upon concentration.

Master of Science in Physical Education

Minimum Degree Requirements. Thirty-three to 36 approved hours, depending on the concentration, and completion of a statistics course and/or a research course or their equivalents, thesis or pass comprehensive exam.

The Master of Science in Physical Education is offered under both Plan I and Plan II in accordance with the regulations in this catalog. Each candidate must have had an undergraduate major, or equivalent, in physical education or an acceptable area. Course work for this degree can be chosen from one of several concentrations reflecting the interests and goals of the student.

Curriculum and Instruction. Designed for students interested in the development of physical education curriculum for different levels, and in pedagogy, including the supervision of instruction.

**Curriculum and Instruction
Concentration-Master of Science in Physical Education**

Master of Science Requirements: 36 hours

Plan I – Thesis

Core Requirements

EDPY 511/ PEP507 Introductory Educational Statistics/Research Design in HPER	6
EDPY 503 Principles of Human Development	3
EDPY 510 Principles of Classroom Learning	3
PEP 510 Curriculum Construction in PE	3
PEP 526 Motor Assessment for Individuals with Disabilities	3
PEP 570 Analysis of Teaching PE	3
PEP 571 Concepts in PE	3
PEP 590 Supervision of PE Programs	3
PEP 516 Seminar in PE	3
PEP 599 Masters Thesis	6
	36

Master of Science Requirements: 33 hours

PLAN II – Non Thesis

Core Requirements

EDPY 500/502 Survey Research Methods in Education/ Survey of Statistics in Education.	6
OR	
EDPY 511/PEP 507 Introductory Educational Statistics/ Research Design in HPER	6
EDPY 503 Principles of Human Development	3
EDPY 510 Principles of Classroom Learning	3
PEP 510 Curriculum Construction in PE	3
PEP 526 Motor Assessment of Individuals with Disabilities	3
PEP 570 Analysis of Teaching PE	3
PEP 571 Concepts in PE	3
PEP 590 Supervision of PE Programs	3
PEP 516 Seminar in PE	3
	30

Electives:

Three hours within Physical Education or a related area approved by advisor.

**General Physical Education
Concentration– Masters of Science in Physical Education**

Master of Science Requirements– 33 credit hours*

Core Requirements

PEP 507 Research Design in HPER	3
PEP 521 Motor Learning for People with Disabilities	3
12 Credit hours in each of TWO following areas:	24

Adapted Physical Education
Curriculum and Instruction
Exercise Science
Sport Administration**

**If Sport Administration is one of the two chosen areas, then the following courses should be taken:

- PEP 545 Sport Leadership
- PEP 547 Sport Marketing and Promotions
- PEP 561 Risk Management in Sport
- and—
- One of the following:
- PEP 548 Financing Sport
- PEP 549 Administration of Sport Personnel
- PEP 575 Sport Facilities Planning and Construction

Elective One	
<u>elective approved by Plan of Studies advisor</u>	3
Total	33

*The committee of studies must include at least one faculty from each of the two selected areas. The planned program of studies must be approved prior to the completion of 12 credit hours in the Masters program at UNM.

Exercise Science. The M.S. Physical Education degree is designed to prepare students for one or more of the following American College of Sports Medicine Certifications: Health/Fitness Instructor, Exercise Test Technologist and Exercise Specialist. Students are also prepared to take the Exercise Physiologist Certification Exam from the American Society of Exercise Physiologists. Students who are ACSM-certified prior to entering this program are encouraged to obtain the next level of ACSM certification. A minimum of 34 credit hours of course work beyond the B.S. degree is required for this program.

**Exercise Science
Concentration— Masters of Science in Physical
Education**

Master of Science Requirements— 34 credit hours*

Core Requirements	
EDPY 603 Statistical Designs in Education	3
EDPY 505 Planning and Conducting Research	3
—or— PEP 507 Research Design in HPER	3
PEP 500 Exercise Science Seminar	1
PEP 501 Intermediate Exercise Physiology	3
PEP 502 Designs for Fitness	3
PEP 503 EKG Interpretation	3
PEP 508 Exercise Testing and Interpretation	3
PEP 530 Laboratory Procedures in Exercise Science	3
PEP 532 Body Composition	3
PEP 696 Internship in Exercise Science	3
Electives (Advisor Approval)	6

*Elective courses from Exercise Science or related disciplines (e.g. Nutrition, Biology, Biomedical Sciences, Chemistry, etc.) may be substituted for any required courses that were satisfactorily completed prior to acceptance into the Master's degree program.

Sports Administration. This concentration is designed to prepare students to provide leadership in positions such as high school athletic directors, college athletic administrators and directors of amateur and professional sport organizations. The concentration is comprehensive in nature, but course work can be designed around the core requirements to meet unique objectives of each student.

Course work and experiences in each concentration above are developed with an advisor within the structure of each area. Details about each area can be obtained from the Department Graduate Administrator.

**Sport Administration
Concentration—Master of Science in Physical Education**

Master of Science Requirements— 36 credit hours

Plan I – Thesis

Core Requirements	
PEP 507 Research Design in HPER	3
PEP 540 Sport Sociology	3
PEP 541 Ethics in Sport and Fitness	3
PEP 545 Sport Leadership	3
PEP 547 Sport Marketing and Promotions	3
PEP 548 Financing Sport	3
PEP 561 Risk Management in Sport	3
PEP 599 Master's Thesis	6
	27

Electives:
Nine hours within Physical Education or a related area, approved by advisor. 36 Hours total

Plan II – Non-Thesis

Core Requirements	
PEP 507 Research Design in HPER	3
PEP 540 Sport Sociology	3
PEP 541 Ethics in Sport and Fitness	3
PEP 545 Sport Leadership	3
PEP 547 Sport Marketing and Promotions	3
PEP 548 Financing Sport	3
PEP 561 Risk Management in Sport	3
PEP 696 Internship	6
	27

Electives:
Nine hours within Physical Education or a related area, approved by advisor. 36 Hours total

**M.S. with Sport Administration Concentration + School
Administrative Licensure**

This is an interdisciplinary program available to students who want to pursue administrative positions in interscholastic athletics and desire to be licensed school administrators in New Mexico. The curriculum is listed below and requires students to complete a MS in Sport Administration with an additional minor in School Leadership from the Department of Educational Leadership and Organizational Learning. The program requires students to complete a total of 51 hours including Internships in both Sport Administration and Educational Leadership. Also, it should be noted that completion of the coursework does not constitute administrative licensure. An individual must also hold a New Mexico Level III teaching license for one year prior to applying for New Mexico Administrative Licensure. To obtain a Level III teaching license, an individual must have a minimum of 6 years teaching experience. Administrative licensure is awarded through the NM Public Education Department (PED).

Plan I-Thesis

Core Requirements	
PEP 507 Research Design in HPER	3
PEP 540 Sport Sociology	3
PEP 541 Ethics in Sport and Fitness	3
PEP 545 Sport Leadership	3
PEP 547 Sport Marketing and Promotions	3
PEP 548 Financing Sport	3
PEP 561 Risk Management in Sport	3
PEP 599 Master's Thesis	6
PEP 696 Internship	3
LEAD 501 Ed. Leadership in Dem. Soc.	3
LEAD 503 Data Driven Decision Making	3
LEAD 521 School Finance & Res. Mgt.	3
LEAD 560 Instructional Leadership	3
LEAD 561 Legal Issues for School Leaders	3
LEAD 596 Internship	6
	51

Plan II-Non-Thesis

Requirements

PEP 507	Research Design in HPER	3
PEP 540	Sport Sociology	3
PEP 541	Ethics in Sport and Fitness	3
PEP 545	Sport Leadership	3
PEP 547	Sport Marketing and Promotions	3
PEP 548	Financing Sport	3
PEP 561	Risk Management in Sport	3
PEP 696	Internship	6
LEAD 501	Ed. Leadership in Dem. Soc.	3
LEAD 503	Data Driven Decision Making	3
LEAD 521	School Finance & Res. Mgt.	3
LEAD 560	Instructional Leadership	3
LEAD 561	Legal Issues for School Leaders	3
LEAD 596	Internship	6
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Electives:

Three hours within Sport Administration or a related area, approved by advisor 51 hours total

Adapted Physical Education. This program is designed to prepare professional physical educators with the ability to develop and implement appropriate physical education programming for individuals with mental retardation and severe disabilities.

An advisor from the concentration will assist students with the course selection and ensure progression through the program. In conjunction with their advisor, the MS in Physical Education degree student may choose from two plans: Plan I (Thesis) or Plan II (Non-Thesis). The Committee on Studies must have at least one faculty member from the concentration and one faculty member from within Physical Education. The planned program must be approved prior to the completion of 12 credit hours. Only licensed physical education teachers may pursue this concentration. For specific details of the program interested applicants should contact the concentration coordinator.

**Adapted Physical Education
Concentration-Master of Science in Physical Education**
Master of Science Requirements— 36 credit hours

Plan I – Thesis

Core Requirements

EDPY 500/502	Survey of Research Methods in Education/ Survey of Statistics in Education	6
OR		
EDPY 511/PEP 507	Introductory Educational Statistics/ Research Design in HPER	
PEP 529	Physical Disabilities and Causes	3
PEP 526	Motor Assessment of Individuals with Disabilities	3
PEP 521	Motor Learning of People with Disabilities	3
PEP 599	Master's Thesis	6
SPCD 507	Collaboration of Inclusive Education	3
SPCD 519	Applied Behavior Analysis	3
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Electives:

Nine hours within Physical Education or a related area (Curriculum and Instruction, Exercise Science, or Sport Administration), **approved by an advisor.** 36 hours total.

Plan II – Non -Thesis

Core Requirements

EDPY 500/502	Survey of Research Methods in Education/ Survey of Statistics in Education	6
OR		
EDPY 511/PEP 507	Introductory Educational Statistics/ Research Design in HPER	
PEP 529	Physical Disabilities and Causes	3
PEP 526	Motor Assessment of Individuals with Disabilities	3
PEP 521	Motor Learning for Individuals with Disabilities	3
PEP 595	Advanced Field Experience	6
SPCD 507	Collaboration of Inclusive Education	3
SPCD 519	Applied Behavior Analysis	3
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Electives:

Nine hours within Physical Education or a related area (Curriculum and Instruction, Exercise Science, or Sport Administration), approved by an advisor. 36 hours total

**Doctoral Degree in Physical Education,
Sports and Exercise Science**

Minimum Degree Requirements. Minimum of 72-74 approved hours beyond the B.S. degree, completion of a dissertation, completion of courses in statistics, research design and philosophy or ethical standards, or their equivalents, and 24 hours from an approved supporting area.

For the University requirements for doctoral (Ph.D.) programs, refer to appropriate sections of this catalog. For details, contact the Department Graduate Administrator.

Within the PESES doctoral degree, there are options available to design a program of studies in physical education that fits with students' interests and career directions. Specific concentration areas are described below and students should contact the department for information specific to each concentration. A 24 hour supporting area is also required and is determined with advisor approval.

Sports Administration Concentration. This doctoral program is designed to prepare students to provide leadership in positions such as high school athletic directors, college athletic administrators and directors of amateur and professional sports organizations, as well as those interested in careers in higher education. Areas of focus within the program are determined in consultation with a faculty advisor. Students entering the program with previous degrees other than sport administration or physical education will be considered. The Sport Administration Program has received "Approved Program" status from NASPE/NASSM.

Sport Administration Concentration – Ph.D. in Physical Education, Sports and Exercise Sciences

Ph.D. Requirements

Minimum 72 hours plus 18 hours of dissertation. A minimum of 24 credit hours of classroom work beyond the master's must be taken in Sport Administration at UNM. Six foundational courses, in addition to the core requirements, are required for graduation. Any of the foundational or core courses or their equivalents may be accepted from previous master's course work and/or transfer credit with advisor approval.

Foundational Core Courses

PEP 540	Sport Sociology	3
PEP 541	Ethics in Sport and Fitness	3
PEP 545	Sport Leadership	3
PEP 547	Sport Marketing and Promotions	3
PEP 548	Financing Sport	3
PEP 561	Risk Management in Sport	3
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Core Courses

PEP 612	Organizational Theory in Sport*	3
PEP 614	Sport Consumer Behavior**	3
PEP 615	Legal Aspects of Sport***	3
PEP 618	Seminar in Sport Research	3
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*prerequisite of PEP 545
**prerequisite of PEP 547
***prerequisite of PEP 561

Inquiry Skills-Minimum 18 hours required

LLSS 502	Naturalistic Inquiry	3
PEP 507	Research Design in HPER	3
EDPY 511	Introductory Education Statistics	3
EDPY 603	Applied Statistical Design and Analysis	3
PEP 604	Research Seminar	3
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+1 elective in research or statistics approved by advisor

Secondary/Supporting Area

Twenty-four credit hours of course work in an approved secondary or supporting area outside of the program are required. Inquiry skills courses cannot be used to satisfy secondary/ supporting area requirements.

Electives

Additional elective courses in Sport Administration to be selected with advisor

Curriculum and Instruction Concentration Area. The concentration in curriculum and instruction (pedagogy) is directed to prepare individuals for college teaching and research in those portions of professional preparation programs dealing with curriculum development, teaching, school environments and supervision of teachers and programs in physical education. Prospective students are those individuals with teaching experience in physical education who desire to work within the aforementioned areas in a teacher education program. Upon completion of the proposed program of studies, individuals should be equipped to teach courses in curriculum design, methods of teaching, foundations of physical education and be able to supervise student teachers. Students should contact program advisor for details about course work.

Curriculum and Instruction Concentration – PhD in Physical Education, Sports and Exercise Science

PEP 541	Ethics in Sport and Fitness	3
PEP 510	Curriculum Construction in PE	3
PEP 526	Motor Assessment for Individuals with Disabilities	3
PEP 570	Analysis of Teaching PE	3
PEP 571	Concepts Teaching in PE	3
PEP 572	Critical Issues in Elementary PE	3
EDPY 503	Human Growth and Development	3
EDPY 510	Principles of Classroom Learning	3
PEP 590	Supervision of Physical Education Programs	3
PEP 591	Problems	3
PEP 696	Internship	6
PEP 699	Dissertation	18
		54

Inquiry Skills Minimum of 18 hours is required

EDPY 511	Introductory Educational Statistics	3
PEP 507	Research Design in HPER	
-or-		
EDPY 505	Conducting Quantitative Educational Research	3
EDPY 603	Applied Statistical Design & Analysis	3
PEP 604	Research Seminar	3
PEP 691	Problems	3
	Approved Elective	3

Minor/Supporting Area

Twenty-four credit hours of course work in an approved minor or supporting area outside of the program is required.

Exercise Science Concentration. This concentration is designed to prepare exercise scientists for academic research and clinical settings. Prerequisite course work includes: cadaver anatomy and physiology, general chemistry, organic/biochemistry, physics, college algebra, statistics, English composition, technical writing, public speaking, motor learning, kinesiology, exercise physiology, human nutrition, energy nutrients in human nutrition and vitamins and minerals in human nutrition. Students should contact program advisor for details about course work.

Exercise Science Concentration– Ph.D. in Physical Education, Sports and Exercise Sciences

Ph.D. Requirements: 73 credit hours

Core Courses: 13 credit hours		
PEP 500	Exercise Science Seminar	1
PEP 541	Ethics Sport/Fitness	3
EDPY 505	Planning & Conducting Research	3
-or-	PEP 507 Research Design in HPER	3
PEP 604	Dissertation Seminar	3
PEP 625	Writing for Professional Publication	3

Exercise Science Courses: 36 credit hours

PEP 501	Intermediate Exercise Physiology	3
PEP 502	Designs for Fitness	3
PEP 503	EKG Interpretation	3
PEP 508	Exercise Testing and Interpretation	3
PEP 530	Laboratory Procedures in Exercise Science	3
PEP 535	Exercise Biochemistry	3
PEP 627	Seminar in Applied Physiology	3
PEP 691	Research Problem	3
PEP 696	Research Internship	3
PEP 696	Teaching or Clinical Internship	3
Electives	(Advisor Approval)	6

Biomedical/Technologies: 12 credit hours

BIOM 510	Physiology	3
OLIT Elective	Computers/Technology in Teaching	3
Electives	Biomedical Sciences, Health, Physical Therapy, Epidemiology, Nutrition, OLIT, or related disciplines (Advisor Approval)	6

Research/Statistics: 12 credit hours

Elective	Elective in Research/Statistics (Advisor Approval)	3
EDPY 603	Statistical Designs in Education	3
EDPY 604	Multiple Regression Analysis	3
EDPY 606	Multivariate Analysis	3

All course substitutions must be approved by Ph.D. Committee on Studies.

Professional Physical Education (PEP)

Some of the following courses are scheduled to meet more periods or hours per week than indicated by the number of credit hours. These courses, in addition to lectures, include professional activity, laboratory or field types of class experiences. To identify these courses, the number of class meetings or hours per week is stated after the course description.

208. Teaching Fitness Concepts. (2)

Designed to provide physical education preservice students a basic background in exercise and health related fitness concepts. Planning, conducting and evaluating lessons in the area of fitness will be emphasized.

222. Target Activities. (1)

This course is designed to provide physical education teachers with the background needed to instruct students in the target activities of archery, softball, flickerball, bowling. Restriction: Physical Education majors only.

223. Invasion Games. (1)

Designed to provide physical education teachers with the background needed to instruct students in the invasion games of basketball, soccer, team handball, flag football and floor hockey. Restriction: Physical Education majors only.

225. Net Games. (1)

Designed to provide physical education teachers with the background needed to instruct students in the net games of badminton, tennis, volleyball, pickleball. Restriction: Physical Education majors only.

226. Lifetime Pursuits. (1)

This course is designed to improve the student's skill and knowledge in planning and teaching lifetime pursuits such as swimming, weight training, and golf. Restriction: Physical Education majors only.

227. Elementary Rhythms, Aerobic Dance, Yoga. (1)

Designed to improve the student's skill and knowledge in planning and teaching elementary rhythmic activity, aerobic dance, and yoga. Restriction: Physical Education majors only.

228. Outdoor Pursuits. (1)

This course is designed to improve the student's skill and knowledge in planning and teaching outdoor pursuits. Restriction: Physical Education majors only.

234. Track and Field/Cooperative Games. (1)

This course is designed to provide physical education teachers with the basic background needed to instruct students in the areas of track and field and cooperative games.
Restriction: Physical Education majors only. {Fall}

239. Dance. (1)

Comprehensive skill and knowledge in folk, square and contra dance.
Restriction: Physical Education majors only.

245. Professional Laboratory Experience in Physical Education. (2 to a maximum of 8) Δ

Designed to provide an introduction to the teaching of physical education. For physical education majors only.

273. Introduction to Athletic Training. (3)

An introduction to the field of athletic training and the basis of prevention and treatment of athletic injuries.

277. Kinesiology. (3)

Anatomical and biomechanical bases of human movement and exercise.
Prerequisite: BIOL 237 and 247L.

284. Athletic Training Observation Lab. (3)

Clinical program for athletic training, which introduces the ATS to basic tapings, daily operations and UNM-ATEP policies and procedures. Minimum of 60 clinical hours.

285. Athletic Training Clinical I. (3)

Allows athletic training students to practice the sports medicine principles and skills required in their course of study in preparation for NATABOC Examination. Emphasis is placed upon injury prevention and use of athletic protective equipment. Minimum of 150 clinical hours.
Prerequisite: 273 and 284.

286. Evaluation of Athletic Injuries—Extremities. (3)

A clinical experience that provides information relative to the assessment techniques and procedures essential to properly evaluate orthopedic and athletic injuries specific to the extremities. Minimum 200 clinical hours.
Prerequisite: 273 and 284 and 285.

287. Evaluation of Athletic Injuries—Trunk/Torso. (3)

A clinical experience that provides information relative to the assessment techniques and procedures essential to properly evaluate orthopedic and athletic injuries specific to the trunk and torso regions. Minimum of 200 clinical hours.
Prerequisite: 273 and 284 and 285 and 286.

288. Motor Learning and Performance. (3)

Psychological and neurophysiological factors related to the development of motor skills, emphasis on the teacher's role in facilitating learning.

289. Tests and Measurements in Physical Education. (3)

Designed to provide exercise science, physical education and athletic training students the knowledge of, and ability to understand, select and administer fitness, skill, and evaluation techniques for various populations.
Prerequisite: STAT 145.

293. Topics. (1-3, no limit) Δ

301. Teaching of Team Sports. (2)

Organization, methods, skills necessary to teach a wide variety of team sports. Four hours per week.
Prerequisite: 230 and 231 and 233 and 234 and 237.
Corequisite: 319 and 444.

305. Teaching Group Exercise. (3)

An overview of the educational concepts, performance techniques, program design and leadership skills needed to teach group exercise. The course will include analysis and application of effective exercise procedures for all fitness levels.
Prerequisite: 277.

310. Teaching of Dance in Schools. (2)

Organization and methods in teaching social, folk and square dance.
Prerequisite: 239. Four hours per week.

319. Physical Education in the Elementary School. (3)

Introduction to all methods of teaching elementary physical education. Four hours per week.
Prerequisite: 245 and 208 and 288. Corequisite: 301 and 444.

326L. Fundamentals of Exercise Physiology. (3)

Study of the immediate and long-term effects of exercise on physiological systems of the human body.
Prerequisite: BIOL 237 and 247L.

373. General Medical Conditions in Athletic Training. (3)

This course is designed to provide information relative to general medical conditions. Emphasis will be placed on the etiology, development and treatment of pathophysiological processes.
Prerequisite: 287 and 481.

374. Therapeutic Modalities. (3)

This course is designed to provide information relative to the physiological principles and operational procedures of contemporary therapeutic modalities as they relate to the care and treatment of athletic injuries.
Prerequisite: 287.

375. Pharmacology in Athletic Training. (3)

This course is designed to provide the athletic training student with an understanding of pharmacological applications and governing pharmacy regulations relevant to athletic training.
Prerequisite: 374.

386. Women in Sports. (3)

An historical and sociological study of women and sports in American culture and an examination of the recent changes in women's athletics.

391./591./691. Problems. (1-3, no limit) Δ

Restriction: permission of instructor.

400. Student Teaching in the Elementary School. (6)

Prerequisite: 444 and 466 and EDPY 303 and 310.
Restriction: permission of instructor.

410. Assessment in Physical Education. (3)

Provide physical education students the ability to select, design, and implement performance-based assessment.
Prerequisite: 301 and 319 and 444. Corequisite: 430 and 466.

426./501. Intermediate Exercise Physiology. (3)

Continuation of 326L. Specific topics of interest to those who need an introduction to the practice of exercise physiology and to become familiar with research possibilities and career opportunities in the field of exercise physiology.
Prerequisite: 326L.

430. Classroom/Behavior Management in Physical Education. (2)

Provide physical education students with strategies and techniques for effective classroom/behavior management.
Prerequisite: 301 and 319 and 444. Corequisite: 466 and 410.

444. Teaching of Physical Education I. (3)

Theories and concepts related to teaching physical education.
Prerequisite: 245 and 208 and 288. Corequisite: 301 and 319.

461. Student Teaching in the Secondary Schools. (6)

Prerequisite: 444 and 466 and EDPY 303 and 310.
Restriction: permission of instructor.

464. Theory of Football. (3)

To review and enlarge the student's knowledge of the basic techniques of football and to acquaint them with the principles, techniques and strategy of coaching football at the junior high, high school and college levels.
Restriction: junior or senior standing.

465. Theory of Basketball. (3)

To review and enlarge the student's knowledge of the basic techniques and strategy of coaching basketball at the junior high, high school and college levels.
Restriction: junior or senior standing.

466. Adapted Physical Education. (3)

The field of adaptive and corrective physical education and its relationship to the regular curriculum in PE.
Prerequisite: 444 and 301 and 319.

467./529. Physical Disabilities and Causes. (3)

(Also offered as SPCD 467.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.

468. Worksite Wellness Programs. (3)

This course is designed to provide students with a practical overview of the skills and knowledge necessary to provide leadership in designing, implementing and evaluating worksite wellness programs.

469. Management Concepts in Sport and Fitness Settings. (3)

This course is designed to prepare prospective managers, directors and program coordinators for sport and fitness settings. Human relations and management skills will be emphasized.

470./502. Designs for Fitness. (3)

Focuses on physical fitness assessment and exercise prescription and includes 1) use of field tests and laboratory tests to appraise physical fitness levels; 2) designs of individualized physical fitness programs; and 3) evaluation of exercise programs.
Prerequisite: 277 and 289 and 326L.

471. Exercise and Disease Prevention. (3)

Identification and analysis of current disease prevention issues related to exercise, physical activity and lifestyle.
Prerequisite: 326L and 470.

473. Rehabilitation of Athletic Injuries. (3)

Designed to provide the athletic training student with the basic components of a comprehensive rehabilitation program, therapeutic goals, modalities and exercise, progression criteria and methods of evaluating/re-evaluating and recording rehabilitation progress.
Prerequisite: 277 and 285 and 287 and 374 and BIOL 237 and BIOL 238 and BIOL 247L and BIOL 248L.

474. Athletic Training Administration. (3)

The student will learn to plan, coordinate and supervise administrative components of an athletic training program for a high school, college or professional athletic organization.
Prerequisite: 374 and 481.

475./503. EKG Interpretation. (3)

Anatomical and physiological approach to the interpretation of resting 12-lead electrocardiograms. Course fee.
Prerequisite: 326L.

476./508. Exercise Testing and Interpretation. (3)

Practical and theoretical skills necessary to safely conduct graded exercise tests on treadmills and ergometers.
Prerequisite: 475.

478./579. Sports Physiology. (3)

The student will learn to properly analyze any sport in terms of specific conditioning demands and be able to design a training prescription for any sport.
Prerequisite: 277 and 326L and 426 and 470.

479. Organization and Administration of Physical Education. (3)

Program building, including criteria for the selection of activities and progression, and other factors affecting course of study such as facilities, equipment, budget, laws, policies, professional responsibilities.

480./582. Principles of Coaching. (3)

This course consists of an in-depth study of the coaching profession, helping students develop an understanding of the nature of the profession and its inherent responsibilities.

481. Athletic Training Clinical II. (3)

Provide an introduction to basic clinical skills used in the professional activities of the athletic trainer. Fieldwork in the athletic training room is included. Minimum of 200 clinical hours.
Prerequisite: 287.

483. Athletic Training Clinical III. (3)

Provide the athletic training student with an opportunity to apply clinical skills. The athletic training student gains practical experience through assignment to an approved clinical instructor. Minimum of 200 clinical hours.
Prerequisite: 481.

485./585. Diversity in Sport and Physical Activity.

[African Americans, Hispanics, Native Americans & Physical Activity.] (3)
Knowledge of African American, Hispanic, Native American world views, cultural values, societal and socioeconomic factors form a basis for evaluation and development of physical activity/sport programs to assist academic retention and success.

487./587. Physical Activity and Aging. (3)

(Also offered as REC, HED 487.) Concerned with the process of aging as it affects physical activity and the potential of physical activity in adjustment to the process of aging.

488. Athletic Training Clinical IV. (3)

Provides the opportunity to apply clinical skills and gain field experience through assignment to an off-campus high school and/or clinic setting. Minimum of 200 clinical hours.
Prerequisite: 483.

493./593. Topics. (1-3, no limit) Δ

495. Practicum. (3-6 to a maximum of 12) Δ

Planned and supervised professional laboratory or field experiences in agency or institutional setting.
Restriction: permission of instructor.

500. Exercise Science Seminar. (1)

Designed to orient students to Exercise Science graduate programs and serves as a forum for exchange of research in the field.

501./426. Intermediate Exercise Physiology. (3)

Continuation of 326L. Specific topics of interest to those who need an introduction to the practice of exercise physiology and to become familiar with research possibilities and career opportunities in the field of exercise physiology.
Prerequisite: 326L.

502./470. Designs for Fitness. (3)

Focuses on physical fitness assessment and exercise prescription and includes 1) use of field tests and laboratory tests to appraise physical fitness levels; 2) designs of individualized physical fitness programs; and 3) evaluation of exercise programs.
Prerequisite: 277 and 289 and 26L.

503./475. EKG Interpretation. (3)

Anatomical and physiological approach to the interpretation of resting 12-lead electrocardiograms. Course fee.
Prerequisite: 362L.

507. Research Design in HPER. (3)

(Also offered as HED 507.) Emphasizes an understanding of different research designs, their level of sophistication and their application from both a theoretical and practical point of view.

508./476. Exercise Testing and Interpretation. (3)

Practical and theoretical skills necessary to safely conduct graded exercise tests on treadmills and ergometers.
Prerequisite: 475 or 503.

509. Media/Public Relations in HPER. (3)

(Also offered as HED 509.) Introduction to principles of public relations publicity and crisis management in HPER and sports administration.

510. Curriculum Construction in Physical Education. (3)

Designed for those individuals engaged in curriculum development and revision. Theoretical and practical application for construction of physical education courses/programs.

516. Seminar in Physical Education. (3)

The course covers current topics, trends and issues in physical education and sport.

521. Motor Learning for Individuals with Disabilities. (3)

Review and discussion of factors affecting motor learning of individuals who have mental, physical, emotional or behavioral disabilities and are situated in schools and community programs.

526. Motor Assessment for Individuals with Disabilities. (3)

Reviews current formal and informal assessment methods used to assess children with disabilities in physical education. Emphasizes the critical examination of assessment methods and provides practical experience using assessment methods.

Restriction: permission of instructor.

528. Neuromuscular Basis of Human Performance. (3)

Designed to relate concepts of nerve and muscle physiology to physical performance. Selected applied topics, as well as research techniques used in their field, are investigated.

Prerequisite: 326L.

529./467. Physical Disabilities and Causes. (3)

(Also offered as SPCD 529.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.

530. Laboratory Procedures and Instrumentation in Applied Physiology. (3)

Use of all routine testing procedures and instrumentation in the Center for Exercise Laboratory. Requires considerable extra-class independent work in the laboratory. Completion of this course is mandatory for any student planning to use the laboratory facilities.

Prerequisite: 326L.

532. Body Composition. (3)

Covers theoretical and applied aspects of body composition assessment. Students critically analyze currently used and newly developed laboratory and field techniques for evaluating body composition.

Prerequisite: 470.

535. Exercise Biochemistry. (3)

Specific focus on the biochemistry of exercise stress. Study of responses and adaptations to physical exertion in healthy adults and athletic performance in sports participants.

Prerequisite: 426.

536. Exercise Biochemistry Laboratory. (3)

Students gain experience, in class and 4–8 hours weekly outside of class, using equipment found in a typical biochemistry laboratory suited to assays of blood and muscle metabolites.

Prerequisite: 426.

539. Introduction to Sport Administration. (3)

Provides the opportunity for students interested in pursuing a career in the broad field of sport administration to identify the skills, knowledge and experiences needed by managers of sport programs. Analyze potential career opportunities.

540. Sport Sociology. (3)

Investigates: a) the reciprocal impact of sport on society; b) individual and group behavior as influenced by social relationships within social settings; and c) the multiple roles of sport in cross-cultural contexts.

541. Ethics in Sport and Fitness. (3)

Designed to promote critical self-evaluation, examine one's philosophy/values, refine moral reasoning skills and study moral/ethical issues in sport and exercise environments.

545. Sport Leadership. (3)

Study of leadership theory and its application to the effective administration of sport programs. Course also examines current sport leadership research as well as the governance of amateur and professional sport organizations.

547. Sport Marketing and Promotions. (3)

A study of the current approaches sport managers utilize for conducting relationships with consumers in sport environments. The course will focus on evaluation of sport sponsorships, promotional strategies and development of a marketing plan.

548. Financing Sport. (3)

A study of the approaches sport managers utilize for acquiring revenue and managing funds in sport environments. The course will focus on economic impact studies, public subsidization of sport facilities and innovative revenue acquisition strategies.

549. Administration of Sport Personnel. (3)

Focuses on personnel issues in sport organizations with emphasis on job design, recruitment and selection, evaluation of coaches, conflict resolution and contract negotiations with athletes and coaches.

550. Governance of Intercollegiate Athletics. (3)

A study of the relationships evident in intercollegiate sport environments. The course will focus on evaluation of policies established, ramifications for violation of rules and the procedures utilized by the NCAA to govern intercollegiate athletics.

561. Risk Management in Sport. (3)

Study of safety, negligence and liability in sport. Designed to help teachers, coaches, facility managers, program directors, etc. develop the knowledge and skills to recognize and eliminate dangerous situations before they become a problem.

562. Exercise in Extreme Environment. (3)

Classic and recent published research is used to explore the altered exercise-related human physiology during human exposure to our main environmental stressors—altitude/hypoxia, heat/dehydration, positive g-forces and microgravity.

Prerequisite: 426.

565. Exercise Endocrinology. (3)

An in-depth study of the research evidence documenting changes in endocrine function during different exercise conditions and in specific populations such as diabetics, women, children and the elderly.

Prerequisite: 426.

566. [615.] Legal Aspects of Sport. (3)

A study of selected areas of the law and how they relate to the world of sports, physical activity, physical education and recreation. An emphasis will be placed on current issues and practical applications.

Prerequisite: 561.

570. The Analysis of Teaching Physical Education. (3)

Investigates education in contemporary society, examines theories and styles of teaching, reviews research related to teaching, studies methods for determining teacher effectiveness and discusses other topics related to teaching physical education.

571. Concepts Teaching in Physical Education. (3)
 Course is concerned with the concepts approach for teaching physical education. Course content utilized in concepts approach and methods of teaching this content will be presented.

572. Critical Issues in Elementary Physical Education. (3)
 This course is designed to examine the current issues confronting elementary physical education. Students will consider the role elementary physical education plays in the development of the total child and the physically educated student.

575. Sport Facilities Planning and Construction. (3)
 This course provides an overview of the fundamentals of planning, design and construction of athletic, physical education, recreation and sport facilities and the relationship of facilities to programs.

576. Sport Event Management. (3)
 Provides students with the knowledge, skills and understanding necessary to propose, develop and conduct sport-related contests and special events. Also covers elements of facility and game management.

579/478. Sports Physiology. (3)
 The student will learn to properly analyze any sport in terms of specific conditioning demands and be able to design a training prescription for any sport.
 Prerequisite: 277 and 326L and 426.

581. Administration of Interscholastic Athletics. (3)
 Principles of administration with regard to middle school and high school athletic programs. Topics include state governance, promotion and publicity, budgeting, scheduling, legal issues and working with coaches, athletes and parents.

582/480. Principles of Coaching. (3)
 This course consists of an in-depth study of the coaching profession, helping students develop an understanding of the nature of the profession and its inherent responsibilities.

585/485. Diversity in Sport and Physical Activity.
 [African Americans, Hispanics, Native Americans & Physical Activity.] (3)
 Knowledge of African American, Hispanic, Native American world views, cultural values, societal and socioeconomic factors form a basis for evaluation and development of physical activity/sport programs to assist academic retention and success.

586. Women in Sport. (3)
 A critical analysis of women's experience in sport and physical activity. Through a study of specific women in sport, students will critically analyze the women's sport experience.

587/487. Physical Activity and Aging. (3)
 (Also offered as HED 487.) Concerned with the process of aging as it affects physical activity and the potential of physical activity in adjustment to the process of aging.

588. Sport Psychology I. (3)
 Investigates theories and applied techniques for psychological skills enhancement in sport and physical activity settings. Main topics include arousal management, imagery, self talk, concentration control and feedback principles.

589. Sport Psychology II. (3)
 Investigates theory and applied interventions that enhance psychological skill development in sport and physical activity settings. Main topics include motivation, goal setting, self-esteem, decision-making, group cohesion, injury/pain control and termination issues specific to sport.

590. Supervision of Physical Education Programs. (3)
 Designed to examine supervisory theory and research to help students acquire an understanding of all the areas supervision in physical education encompasses and to assist the student to develop specific supervisory skills.

591/391/691. Problems. (1-3 to a maximum of 12) Δ
 Restriction: permission of instructor.

593/493. Topics. (1-3, no limit) Δ

595. Advanced Field Experiences. (3-6, no limit) Δ
 Prerequisite: acceptance into a graduate program. Restriction: permission of instructor.

598. Directed Readings in Physical Education. (3-6 to a maximum of 6) Δ

599. Master's Thesis. (1-6, no limit) Δ
 Offered on a CR/NC basis only.

604. Research Seminar. (3)
 (Also offered as HED 604.) Specifically designed for graduate students in the final stages of thesis or dissertation proposal development to be able to present proposals in a seminar setting.
 Prerequisite: 507 and EDPY 511.

612. Organizational Theory in Sport. (3)
 Examines current research related to organizational study in amateur, professional and commercial sport. Requires analysis of topic related to sport organization goals and effectiveness, structure, strategy, change, politics and organizational culture.
 Prerequisite: 545.

614. Sport Consumer Behavior. (3)
 This course will compare and contrast the various research methodologies most commonly practiced in sport marketing settings. Through systematic analysis of the sport marketing mix, students will demonstrate proficiency in conducting and presenting sport market research.
 Prerequisite: 547.

618. Seminar in Sport Research. (3)
 Provides an understanding of the foundational research and literature in Sport Administration. An in-depth literature review of a selected topic will be conducted and future research questions will be identified.

625. Writing for Professional Publication. (3)
 Designed to guide the student through the process of writing, organizing, illustrating and submitting scientific papers for publication in scholarly journals.

627. Seminar in Applied Physiology. (3)
 Latest research on specific topics of present interest is synthesized, presented and discussed. Course requires independent work, active participation in class discussions and advanced standing in exercise physiology.

691/391/591. Problems. (1-3 to a maximum of 12) Δ
 Restriction: permission of instructor.

695. Advanced Field Experiences. (3-6 to a maximum of 12) Δ
 Restriction: permission of instructor.

696. Internship. (3-6 to a maximum of 12) Δ
 Restriction: permission of instructor.

698. Directed Readings in Physical Education. (3-6 to a maximum of 12) Δ
 Restriction: permission of instructor.

699. Dissertation. (3-12, no limit) Δ
 Offered on a CR/NC basis only.

Physical Education (PENP) Physical Education Non-Professional Program

Introduction Statement

The Physical Education Non-Professional Program is designed to provide students with the essential skills, knowledge and attitudes necessary to sustain regular, lifelong

physical activity as a foundation for a healthy, productive and fulfilling life. The learning experiences are designed to promote personal enrichment of all participating students in a carefully planned, comprehensive, and innovative environment that promotes self-discipline, self-evaluation and an understanding of personal strengths and weaknesses. It is an integral part of the total education process and significantly contributes in the areas of affective, cognitive and psychomotor development, along with health related fitness. PENP courses may be repeated an infinite number of times, yet only a limited amount may count toward scholarship and degree programs.

Basic Instruction Program—Physical Education
Most activity courses are offered every semester.

- 101. Beginning Swimming. (1-2, no limit) Δ**
Instruction for students who have not been in the water or have a fear of water.
- 102. Intermediate Swimming. (1-2, no limit) [1, no limit] Δ**
Instruction in all basic strokes. For students who can swim.
- 103. Advanced Swimming. (1-2, no limit) Δ**
Instruction and practice in perfecting all swimming strokes; competitive skills; synchronized skills.
- 105. Water Polo. (1-2, no limit) Δ**
Basic skills, strategy, rules and terminology to play and officiate the game.
- 112. Introduction to Triathlon Training. (1-2, no limit) Δ**
Instruction and practice of the three components of triathlon.
- 113. Aikido. (1-2, no limit) Δ**
Instruction and practice of the basic skills and techniques of Aikido.
- 114. Weight Training and Physical Conditioning. (1, no limit) Δ**
Individual training programs for development of general strength, tone, endurance and weight control. Fitness Test Fee.
- 115. Intermediate Weight Training. (1, no limit) Δ**
Instruction in advanced weight-lifting principles and techniques as well as fitness related topics. Fitness Test Fee.
- 116–117. Handball. (1, no limit) Δ**
Instruction and practice in all the four-wall handball shots and rules.
- 118. Individual Tumbling. (1-2, no limit) [1, no limit] Δ**
A class for the beginner to help develop coordination, agility, flexibility, a kinesthetic sense and neuromuscular control.
- 119. Advanced Tumbling. (1-2, no limit) Δ**
Advanced instruction to continue development of coordination, agility, flexibility, a kinesthetic sense and neuromuscular control.
- 120. Nia Dance Fitness. (1-2, no limit) Δ**
Instruction and practice in the basic movements in Nia, a fitness program designed to increase participant's strength, endurance and balance.
- 121. Beginning Belly Dance. (1, no limit) Δ**
Instruction in the basic moving steps and rhythms of the oriental dance.
- 122. Intermediate Belly Dance. (1, no limit) Δ**
Instruction on the isolation and slow movements of Middle Eastern dance, including use of the veil and improvisation.
- 124. Ballroom Dance. (1-2, no limit) Δ**
Instruction in the basic movements of social dances such as fox trot, waltz, lindy, rumba, tango and cha-cha.
- 125. Intermediate Ballroom Dance. (1-2, no limit) Δ**
Instruction dependent upon experience of students in basic movements of all segments of ballroom dance.

128. Beginning Country Western Dance. (1, no limit) Δ
Instruction in the basic movements of the Waltz, Two-Step, Swing and Polka.

129. Intermediate Country Western Dance. (1, no limit) Δ
Instruction dependent upon experience of students in basic movements of all segments of Country Western Dance.

130–131. Tai Chi Ch'uan. (1, no limit) Δ
Instruction and practice in techniques to enhance body awareness, reduces stress, improve balance and increase strength.

132. Beginning Tae Kwan Do. (1-2, no limit) Δ
Instruction in the basic skills, blocks, strikes and kicks of Tae Kwan Do.

133. Intermediate Tae Kwan Do. (1-2, no limit) Δ
Advanced instruction in the basic skills, blocks, strikes and kicks of Tae Kwan Do.

134. Beginning Kung Fu. (1-2, no limit) Δ
Instruction in the basic skills, blocks, strikes and kicks of Kung Fu.

135. Intermediate Kung Fu. (1-2, no limit) Δ
Advanced instruction in the basic skills, blocks, strikes and kicks of Kung Fu.

136. Personal Defense. (1-2, no limit) Δ
Instruction in the basic skills needed to defend oneself against assault.

138–139. Karate. (1, no limit) Δ
Instruction in the basic skills, blocks, strikes, and kicks of Japanese karate.

140. Beginning Golf. (1, no limit) Δ
Instruction in the basic skills, equipment, rules, etiquette and shot-making.

141. Intermediate Golf. (1, no limit) Δ
Instruction emphasizes actual play.

143. Beginning Tennis. (1-2, no limit) Δ
Instruction in the basic skills and rules of tennis.

144. Intermediate Tennis. (1-2, no limit) Δ
Instruction dependent upon experience and skills of students in basic fundamentals. Perfection of strokes.

146. Bowling. (1-2, no limit) Δ
Special fees. Instruction and practice in the basic skills of bowling.

148. Archery. (1, no limit) Δ
Instruction in the basic skills and knowledge of range archery.

152. Racquetball. (1, no limit) Δ
Instruction and practice in the skills and rules of racquetball.

154. Intermediate Racquetball. (1, no limit) Δ
Instruction dependent upon experience and skills of students in basic fundamentals. Perfection of all strokes and strategies used in the game of racquetball.

155–156. Pilates. (1, no limit) Δ
Instruction in movements that increase balance, core fitness and cardiorespiratory endurance.

158. Aerobic Dance I. (1, no limit) Δ
Instruction in continuous movement using basic dance steps for improved cardiorespiratory endurance. Fitness Test Fee.

159. Aerobic Dance II. (1, no limit) Δ
Instruction in a longer aerobic workout using more advanced dance steps for improved cardiorespiratory endurance. Fitness Test Fee.

161.–162. Jogging Fitness. (1, no limit) Δ
Individualized running programs for improved cardiorespiratory endurance. Fitness Test Fee.

165. Yoga. (1-2, no limit) Δ
Introduction to five areas of yoga which are particularly significant to the Western World.

166. Intermediate Yoga. (1-2, no limit) Δ
Instruction in more advanced techniques of Yoga emphasizing the physical aspects of Hatha Yoga.

167. Basketball. (1-2, no limit) Δ
Instruction and practice of basic skills.

168. Basketball Competition. (1-2, no limit) Δ
Instruction and practice of game skills in a team setting.

170. Volleyball. (1-2, no limit) Δ
Instruction and practice of basic game skills, with emphasis upon power techniques.

171. Power Volleyball. (1-2, no limit) Δ
Advanced instruction and practice of the skills of volleyball in a competitive setting.

173. Soccer. (1-2, no limit) Δ
Instruction and practice of basic skills of soccer and speed-away.

174. Softball. (1, no limit) Δ
Practice in playing and learning the fundamentals of softball and team handball, a team game which can be described as being similar to a combination of basketball and hockey, sometimes called European handball.

177.–178. Fundamentals of Stretching and Relaxation Techniques. (1, no limit) Δ
Instruction and practice of various techniques to enhance flexibility and reduce stress.

180.–181. Feldenkrais: Awareness Through Movement. (1, no limit) Δ
A class to develop and experience a deeper awareness of a person's body and its capabilities.

188. Modified Physical Education. (1-2, no limit) Δ

193. Topics. (1-2, no limit) Δ
New activities offered on an exploratory basis.

SPECIAL EDUCATION

Ruth Luckasson, Department Chairperson
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Special Education Program, Hokona Hall, Zuni Room 105
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
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Susan Copeland, Ph.D., Vanderbilt University
Cathy Huaqing Qi, Ph.D., Vanderbilt University
Elizabeth Keefe, Ph.D., University of New Mexico
Elizabeth Nielsen, Ph.D., Purdue University
Julia Scherba de Valenzuela, Ph.D., University of Colorado (Boulder)

Assistant Professors
Joanna Cosbey, Ph.D., University of Utah

Lecturers
Erin Jarry, Ph.D., University of New Mexico
Veronica Moore, Ph.D., University of New Mexico
Kelley Peters, Ph.D., University of New Mexico

Instructors
Nitasha Clark

Undergraduate Program

Special Education offers degrees and programs at the following levels: A non-teaching minor and an undergraduate dual major in Special Education and Elementary Education.

Undergraduate Advisement and Student Information:
Contact the College of Education Special Education Program, Hokona Hall Zuni, 277-5018.

Majors and Degrees

Special Education (Pre-K–12 grades): Bachelor of Science in Education (B.S.Ed.), results in dual licensure in Special Education and Elementary Education.

Minor

Non-Teaching Undergraduate Minor

Non-Teaching Undergraduate Minor (20 hours)

A 20-hour non-teaching minor in Special Education is offered. Students should plan to enroll in Special Education courses during the fall and spring semesters since courses in this sequence are seldom offered during the summer sessions. The following courses are required for the minor and a general sequence for completing required courses is suggested:

Step One

Enroll in SPCD 201 and SPCD 204	
SPCD 201 Education of Exceptional Persons	3
SPCD 204 Introduction to Special Education (Field Experience and Seminar)	2

Step Two
Complete application for non-teaching minor, which can be obtained from the Special Education administrative office. Meet with a faculty member to develop an individual program of studies.

Step Three
Complete course sequence as outlined on individual program of studies. Advisor assistance should be sought.

Choose five of the following:

SPCD 302 Introduction to Communicative Disorders	3
SPCD 420 Introduction to Mental Retardation	3
SPCD 430 Introduction to Students with Emotional and Behavioral Disorders	3
SPCD 440 Introduction to Learning Disabilities	3
SPCD 450 Introduction to Early Childhood Special Education	3
SPCD 452 Teaching Students with Mental Retardation and Severe Disabilities	3
SPCD 465 Art and the Exceptional Child	3
SPCD 467 Physical Disabilities and Causes	3
SPCD 470 Introduction to Gifted Education	3
SPCD 481 Introduction to Assistive Technology in Special Education	2

Undergraduate Major

An undergraduate dual major in Special Education and Elementary Education is available. It requires 30 hours of Special Education, 30 hours of Elementary Education, 24 hours in a minor and 11 hours of supporting courses in educational foundation. Students also complete 57 hours of general course work which includes core curriculum



requirements. Upon completion, the Special Education Dual License Program graduates are eligible for Special Education Licensure (K-12) and Elementary Licensure (K-8). Interested students should make an appointment with a faculty advisor through the Special Education administrative office.

Application and Admission

Applicants must contact the College of Education Special Education Program administrative office for information on application and admission procedures for the Special Education Dual License Program and the non-teaching minor. Individuals interested in the non-teaching minor should contact the Special Education Office for an application. Applications are accepted only in the Spring.

Requirements

Students must earn a grade of B or better in SPCD 201 and SPCD 204 and must have a minimum grade point average of 2.50 prior to admission to the Special Education Dual License program. Other specific requirements are stated in program documents. Upon acceptance, the students will be assigned a faculty advisor who will assist in the preparation of the program of studies.

Graduate Program

Graduate Advisor

Inquire within the program.

Student Information Contact

Jo Sanchez, Hokona Hall Zuni, Room 273, (505) 277-5018

Priority Applications Deadlines

M.A., Ed.D. and Ph.D.

Fall semester: March 31
Spring semester: September 30
Summer session: March 31

The priority application deadlines are encouraged for best consideration and for financial aid; however, program faculty review applications throughout the year.

Degrees Offered

M.A. in Special Education
Ed.D. in Special Education
Ph.D. in Special Education

Education Specialist (Ed.Spc.), Special Education Certificate: Transcribed Certificate in Instruction for

Students with Intensive Social, Language, and Behavioral Needs

Special Education offers graduate programs leading to special education teacher licensure, the Master's degree, a transcribed graduate certificate in Instruction For Students with Intensive Social, Language and Behavioral Needs, sixth year certificate (Ed.Spc.) and doctoral degrees (Ed.D. and Ph.D.). Concentrations include: 1) the Special Education concentration in Mental Retardation and Severe Disabilities: Studies in Educational Equity for Diverse Exceptional Learners (which includes mental retardation, severe disabilities, autism, intensive communication needs, cultural and linguistic diversity and inclusive education); and 2) the Special Education concentration in Learning and Behavioral Exceptionalities: Studies in Instruction, Curriculum, Collaboration and Transition of Diverse Learners (which includes learning disabilities, behavior disorders, early childhood and gifted/twice exceptional). Contact the program for specific information and related requirements.

Application Process

Graduate Admissions
University of New Mexico
P.O. Box 4849
Albuquerque, NM 87196-4849
(505) 277-2447

University of New Mexico
College of Education - Special Education
MSC 05 3040, Hokona Hall Zuni 273
1 University of New Mexico
Albuquerque, NM 87131-0001

New Applications: M.A./Licensure

Send to Office of Admissions (address above)

Completed and signed Graduate Application form, or apply online, <http://www.unm.edu/grad> (online application for first-time domestic applicants ONLY).
Residency form.

\$50.00 non-refundable application fee.

One official transcript from each college you have attended (Exception: UNM transcripts).

Send to Special Education Program (address above)

Letter of Intent.

Department Application form

Letters (3) of Recommendation.

One official transcript from each college you have attended (Exception: UNM transcripts).

Doctoral Programs/Certificate Education Specialist/ Graduate Certificate (address above)

Send to Office of Admissions (address above)

Completed and signed Graduate Application form, or apply online, <http://www.unm.edu/grad> (online application for first-time domestic applicants ONLY).
Residency form.

\$50.00 non-refundable application fee.

One official transcript from each college you have attended (Exception: UNM transcripts).

For Ph.D./Ed.S.

Send to Special Education Program (address above)

Letter of Intent

Department Application form

Resume

Writing Sample

Letters (5) of Recommendation.

One (1) official transcript from each college you have attended (Exception: UNM transcripts).

For Graduate Certificate

Send to Special Education Program (address above)

Department Application form

One-page philosophy statement on community participation of persons with autism spectrum disorders (ASD)

Letters (3) of Recommendation

One official transcript from each college you have attended (Exception: UNM transcripts)

Requirements

Students are required to take SPCD 601 prior to screening for Ph.D. or Ed.D. SPCD 615 must also be completed as soon as possible. Other specific requirements are stated in program documents, which describe individual programs.

Graduate Degree and Graduate Licensure Programs

Special Education offers a graduate licensure program leading to New Mexico teacher licensure in special education. Admission decisions are based on the application package. Particular attention is paid to the grade point average (a minimum of a 3.0 over the last 60 credit hours for the licensure program and a 3.2 for the master's degree are required.) Graduate licensure is typically earned through satisfactory completion of 30 credit hours in Special Education in an approved program, including the core courses (15 credit hours) required by the New Mexico Public Education Department Licensure and Preparation Unit. Students are encouraged to choose an area of concentration upon entry to the Special Education Program at the University of New Mexico. The core licensure courses address the same identified content and general competencies across both concentrations (see Table 1 below). However, the student's concentration of choice will determine the specific courses that fulfill the core content requirements.

Core Content for Special Education Licensure

Introduction to Special Education and Individuals Served
 Assessment of Diverse Exceptional Learners
 Methods for Teaching Diverse Exceptional Learners
 Behavioral Supports/Classroom Management in Special Education
 Supervised Teaching in Special Education

The Master of Arts requires a minimum of 36 credit hours. Students not presently holding a valid teaching certificate may anticipate taking more classes in order to fulfill program requirements. It is strongly recommended that applicants hold or be eligible for a New Mexico teaching certificate. For specific details of the program interested applicants should contact the program coordinator, or the concentration coordinator.

The Special Education graduate and licensure programs' curricular offerings follow two pathways: 1) Special Education **Concentration I** in Mental Retardation and Severe Disabilities: Studies in Educational Equity for Diverse Exceptional Learners and 2) Special Education **Concentration II** in Learning and Behavioral Exceptionalities: Studies in Instruction, Curriculum, Collaboration and Transition of Diverse Learners. A minimum of 36 credit hours at the graduate level is required for each concentration. Up to 45 credit hours at the graduate level may be required based on the student's educational background. A complete list of concentration course work can be obtained at the program office. Applicants should complete the Special Education application form and indicate their preferences for either Concentration I or Concentration II.

Special Education **Concentration I** in Mental Retardation and Severe Disabilities: Studies in Educational Equity for Diverse Exceptional Learners is available for graduate and licensure students. Applicants should complete the Special Education application form and indicate their preference for Concentration I, Mental Retardation and Severe Disabilities. An advisor from within this Concentration will assist the student in selecting appropriate courses, such as:

- SPCD 507 Collaboration for Inclusive Education
- SPCD 511 Social Construction of Disabilities
- SPCD 516 The Brain, Mind and Education
- SPCD 519 The Application of Applied Behavior Analysis in the Special Education Classroom
- SPCD 520 Nature and Needs of Students with Mental Retardation
- SPCD 527 Assessment for Diverse Exceptional Learners: Mental Retardation and Severe Disabilities.

Special Education **Concentration II** in Learning and Behavioral Exceptionalities: Studies in Instruction, Curriculum, Collaboration and Transition of Diverse Learners is available for graduate and licensure students. Applicants should complete their application form and submit it to the Special Education Program, indicating their preference for Concentration II, Learning and Behavioral Exceptionalities. Examples of Concentration II courses are listed below, plus courses from one of several specialization areas: learning disabilities, behavior disorders, early childhood and gifted/twice exceptional. An advisor from this concentration will assist students with course selection and ensure a smooth progression through the program. Examples of concentration II courses are listed below.

- SPCD 501 The Psychology and Education of Exceptional Persons (Prerequisite)
- SPCD 502 At Risk for School Failure and Disabilities (Prerequisite)
- SPCD 503 Instructional Strategies in Special Education
- SPCD 504 Practicum in Special Education
- SPCD 506 Fostering Creativity, Cooperation and Problem Solving Among Diverse Learners
- SPCD 508 Collaboration with Family, School and Community
- SPCD 513 Curriculum Development in Special Education
- SPCD 514 Teaching Reading to Students with Learning and Behavior Exceptionalities
- SPCD 517 Assessment of Diverse Students with Learning and Behavior Exceptionalities
- SPCD 518 Classroom Organization and Positive Behavioral Supports

- SPCD 534 Social Competence, Self Determination and Resiliency

In conjunction with their advisors, M.A. degree students may choose one of the following capstone experiences to culminate their degree programs: (a) comprehensive examination, (b) M.A. project or (c) M.A. thesis.

Students from outside the Special Education Program seeking a supporting area may select courses from a Special Education Concentration. An advisor from the selected concentration will assist the student in selecting appropriate courses for the supporting area.

Graduate Certificate in Instruction for Students with Intensive Social, Language, and Behavioral Needs

The Graduate Certificate in Instruction for Students with Intensive Social, Language, and Behavioral Needs is designed for in-service general education and special education teachers, related service professionals (e.g., speech/language pathologist), and parents wishing to acquire advanced instructional skills and knowledge in the area of communication, social, and behavioral interventions for students with significant support needs. The Graduate Certificate program is open to students pursuing a graduate degree in Special Education and in other related fields (e.g., Speech Language Pathology, Family Studies, Early Childhood Education) at the University of New Mexico, and to individuals who minimally hold a bachelor's degree and are interested in having specialized training in working with students with social, language, and behavioral needs (e.g., students with autism spectrum disorders [ASD]). To obtain the certificate, students must successfully complete a minimum of 18 credit hours and an approved final capstone project.

Total Required Course work: 18 hours

- SPCD 519 Applied Behavioral Analysis in the Classroom 3
- SPCD 552 Teaching Students with Mental Retardation and Severe Disabilities 3
- SPCD 582 Teaching Students with Intensive Communication Needs 3
- SPCD 583 Introduction to Autism Spectrum Disorders 3
- SPCD 584 Research and Teaching/Intervention in Autism Spectrum Disorders 3
- SPCD 595 Advanced Field Experience 3

Education Specialist Certificate

A sixth year Education Specialist (Ed.Spec.) certificate is also offered. This certificate is available for persons wishing to specialize beyond their M.A. degree in Special Education but for whom the doctorate is not appropriate for his/her career objectives. The Ed.Spec. requires a minimum of 30 hours (primarily in Special Education) beyond the M.A. degree in Special Education, and includes a capstone experience, typically an in-depth project.

Special Education offers both the Ed.D. and Ph.D. degrees. Interested applicants should contact the program for a detailed description.

Special Education (SPCD)

201. Education of the Exceptional Person. (3)
 A survey of the characteristics and educational needs of exceptional children. Includes definition, etiology, characteristics and various educational alternatives for each of the exceptionalities.

204. Introduction to Special Education. (2)
 Field experience and seminar in special education settings. Required of all undergraduate majors.

***302. Introduction to Communicative Disorders. (3)**

(Also offered as SHS 302.) The nature of speech, language and hearing disorders in children and adults; overview of speech and hearing anatomy and physiology; multicultural issues; emphasizes the impact of communicative disorders on individuals and families.

Restriction: permission of instructor.

303. Methods and Materials for Students with Mild Disabilities. (3)

To provide the undergraduate special education student with specific strategies and a knowledge of materials which are important in meeting the needs of students with mild disabilities in a variety of classroom settings.

Prerequisite: 201 and 204. Restriction: permission of instructor.

304. Practicum. (1-4 to a maximum of 6) Δ

Emphasis will be on developing a functional understanding of the instructional needs of the mildly handicapped, developing initial competencies in basic skills, content and in affective programming, development of skills in behavior management and integration of initial course content. Also accompanied by a weekly seminar and an initial four-week, 32-hour instructional block.

Restriction: permission of instructor.

313. Curriculum for Learners with Disabilities. (2)

Primary focus areas: altering/adapting basic curriculum, implementing behavioral, affective, academic curriculum and selecting/altering curriculum content for special needs of handicapped learners.

Restriction: permission of instructor.

319. Classroom Organization and Management. (3)

Provides future teachers with technical management skills needed to cope with the behaviors of exceptional students across all categories, age groups and service levels. Emphasis on management and organization of environment, instruction, behavior and record keeping.

Restriction: permission of instructor.

383. Education of the Mexican-American: Trends, Issues, Problems. (3)

Educational trends, issues and problems of the Mexican-American and the solutions necessary to alleviate these problems.

391. Problems. (1-3 to a maximum of 6) Δ

Restriction: permission of instructor.

420/520. Introduction to Mental Retardation. (3)

Introductory course on social, medical, emotional, physical and cognitive characteristics of people with mental retardation. Emphasizes classification, diagnosis and treatment from medical, psychological, sociological and educational points of view.

430/530. Introduction to Students with Emotional and Behavioral Disorders. (3)

Introductory course on characteristics of emotionally or behaviorally disordered children. Emphasis on historical development, identification, behavioral description, classification, assessment and an introduction to intervention strategies in various therapeutic environments.

440/540. Introduction to Learning Disabilities. (3)

Covers the characteristics of persons with learning disabilities. Emphasis on the historical development of the field, definitions, etiologies, characteristics, diagnosis and research findings about assessment and instructional approaches.

450/550. Introduction to Early Childhood Special Education. (3)

Course overviews the nature and history of the field of early childhood special education. Emphasis is given to typical and atypical development as this relates to young children with delays/exceptionalities birth to age 8.

Restriction: permission of instructor.

452/552. Teaching Students with Mental Retardation and Severe Disabilities. (3)

Designed to give an overview of general programming considerations for students with mental retardation. Students are to demonstrate competencies in writing instructional objectives, task analysis, instructional program design and developing evaluation procedures for instructional programs.

462. Student Teaching in Special Education. (1-7 to a maximum of 7) Δ

Students will be placed in an elementary or secondary classroom, preferably at B or C service level. They will spend all day for one semester in the classroom setting and spend one to two hours per week in a seminar session.

Restriction: permission of instructor.

464. Classroom Assessment and Program Planning. (3)

Provides functional instruction in observation and informal/formal diagnostic procedures. Instruction in the merits/limits of diagnostic procedures and instruments. Use of case information/test protocols to determine functioning level and program plan.

Restriction: permission of instructor.

465/565. Art and the Exceptional Child. (3)

(Also offered as ARTE 465.) Designed to acquaint teachers with the value and therapeutic uses of art in special education classrooms and to acquaint art education majors with adaptations of art to various exceptional cases. Special fee required.

467/529. Physical Disabilities and Causes. (3)

Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.

470/570. Introduction to Gifted Education. (3)

Introductory course focused on gifted and talented children and youth. Emphasis placed on (a) historical development of the field; (b) characteristics and identification; (c) academic and social/emotional needs; and (d) educational programs and interventions.

481. Introduction to Assistive Technology in Special Education. (2)

This course is designed to introduce the special educator to various assistive technology devices, software and instructional uses of the computer.

493. Topics in Special Education. (1-3, no limit) Δ**495. Field Experience. (3 to a maximum of 6) Δ**

Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Restriction: permission of instructor.

501. The Psychology and Education of Exceptional Persons. (3)

Introduction to all areas of exceptionality including state and national issues, history, incidence, etiology, identification, treatment and service alternatives.

502. At Risk for School Failure and Disabilities. (3)

This course surveys a variety of issues and behaviors (e.g., homelessness, suicide) that place students at risk of school failure. Particularly vulnerable to these issues/behaviors are children with disabilities. School and community interventions will be addressed.

503. Universal Design in Special Education. (3)

Covers the selection, adaptation, and use of instructional materials in special education. It also covers classroom organization and prescriptive use of materials and methods. There are several methods classes designed to emphasize early childhood, elementary, secondary and bilingual special education. See program for other restrictions.

504. Practicum in Special Education. (1-6 to a maximum of 9) Δ

Supervised experience with exceptional persons. May be repeated to a maximum of 6 credit hours total for Masters Plan I and a maximum of 12 credit hours total for Masters Plan II. Restriction: major in Special Education Ed.D., M.A., or Ph.D. program and permission of instructor.

505. Seminars in Special Education. (3, no limit) Δ

Research in current trends in the various topic areas of special education.

506. Fostering Creativity, Cooperation and Problem Solving Among Diverse Learners. (3)

Introduces students to instructional methods and materials to foster thinking skills including: creative and critical thinking, decision making and problem solving. Also covers theories of group development and multiple intelligences.

507. Collaboration for Inclusive Education. (3)

This course addresses issues surrounding the inclusion of students with exceptionalities into general education. The course will include an examination of the sociocultural context of inclusion, methods and materials and strategies for collaboration.

508. Collaboration with Family, School and Community. (3)

Explores family issues and environmental variables related to assessment and community influences of family members, especially students at risk of failure and who have exceptionalities. Home, school and community interventions are also presented.

510. Special Education Law. (3)

This course explores the legal rights and responsibilities of special educators in their actions with students who have exceptionalities and the families of those students. The course includes study of applicable Constitutional law, statutes, regulations and interpretive case law.

511. Social Construction of Disabilities. (3)

This course explores the concept of disability as a "social construction" from a variety of perspectives: historical, educational, bureaucratic, cultural and linguistic, gender and from that of the individual.

512. Career Development/Transition Across the Lifespan. (3)

Course focuses on lifespan movement of students with exceptionalities through preK-16 system to employment and adult life. Participants will identify essential curricula, make critical linkages within their communities and prepare transition plans within the IEP.

513. Curriculum Development in Special Education. (3)

Provides the special education teacher with a theoretical background and practical experience in the use of a model of curriculum development, task analysis and evaluation of pupil progress.

514. Teaching Reading to Students with Learning and Behavior Exceptionalities. (3)

Focus is on specific materials, techniques and programs that have been adapted or developed for learners with severe problems in reading. Includes depth in direct instruction, cognitive/behavioral merged approaches and multisensory approaches.

515. Mathematics/Science Instruction for Diverse Exceptional Learners. (3)

This hands-on class teaches methods and materials for working with exceptional students in the areas of mathematics and science. Connected to CEC instructional content and practice standards.

516. The Brain, Mind and Education. (3)

This course focuses on the neurology of learning and disability. Students will study evolving knowledge and concepts of the brain and central nervous system and consider neuroscience applications to education and supports for students with disabilities.

517. Assessment of Diverse Students with Learning and Behavior Exceptionalities. (3)

Reviews special education eligibility assessment and instructional assessment. Focuses on knowledge and skills necessary for (a) interpreting and applying formal assessment data and (b) designing and monitoring instruction of diverse students with learning and behavior exceptionalities.

518. Classroom Organization and Positive Behavioral Supports. (3)

The course promotes the area of positive support interventions and environmental management. It includes procedures for organizing and managing a classroom as well as behavioral techniques that foster successful student behavior.

519. The Application of Applied Behavior Analysis in the Special Education Classroom. (3)

Students are taught the use of behavioral technology to manage academic and social behavior in the classroom.

520./420. Introduction to Mental Retardation. (3)

Introductory course on social, medical, emotional, physical and mental characteristics of people with mental retardation. Emphasizes classification, diagnosis and treatment from medical, psychological, sociological and educational points of view.

523. Teaching Students with Mental Disorders and Mental Retardation or Severe Disabilities. (3)

Examines a range of interventions for students with mental disorders and mental retardation or severe disabilities. Focus is on developing appropriate supports for individuals with both mental disorders and cognitive or severe disabilities. Prerequisite: 420 or 520.

524. Advocacy and Empowerment with Individuals with Mental Retardation or Severe Disabilities. (3)

Examines advocacy and empowerment with individuals with mental retardation and severe disabilities, including related legislation, supports and interdependence, self-determination, influence of culture, and strategies that increase school-age individuals' involvement in their education.

525. Legal Rights of Persons with Disabilities. (3)

Study of substantive law in areas affecting the lives of exceptional persons and an analysis of the legal and practical reasons for the law's involvement.

526. Motor Assessment for Individuals with Disabilities. (3)

(Also offered as PEP 526.) Reviews current formal and informal assessment methods used to assess children with disabilities in physical education. Emphasizes the critical examination of assessment methods and provides practical experience using assessment methods. Restriction: permission of instructor.

527. Assessment for Diverse Exceptional Learners: Mental Retardation and Severe Disabilities. (3)

This course exposes students to a variety of assessment methods appropriate for use with diverse exceptional learners, including those with mental retardation and severe disabilities. Emphasis will be placed on assessments which provide direction for instruction.

528. Sexuality Education for Individuals with Disabilities. (3)

Contemporary and historical study of social development and sexuality education and expression, including: attitudes toward sexuality and disability; anatomy and physiology; myths; teaching strategies; roles of schools and others; and legal issues.

529./467. Physical Disabilities and Causes. (3)

(Also offered as PEP 529.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs. Prerequisite: 201.

530/430. Introduction to Students with Emotional and Behavioral Disorders. (3)
 Introductory course on characteristics of emotionally or behaviorally disordered children. Emphasis on historical development, identification, behavioral description, classification, assessment and an introduction to intervention strategies in various therapeutic environments.

532. Education and Transition of Students with Emotional and Behavioral Disorders. (3)
 Instruction in development and maintenance of educational intervention programs for children with behavioral disorders. Emphasis on philosophical approach, intervention strategies, environmental arrangement, program organization, behavior management, classroom management, parent involvement, transition procedures and case conferencing.

534. Social Competence, Self Determination and Resiliency. (3)
 Review of the history of social competence and self-determination skills training for children/youth receiving special education services. Provides experiences in group training and individualized programming. Related information concerning resiliency among children/youth.

540/440. Introduction to Learning Disabilities. (3)
 Covers the characteristics of persons with learning disabilities. Emphasis on the historical development of the field, definitions, etiologies, characteristics, diagnosis and research findings about assessment and instructional approaches.

542. Teaching Individuals with Learning Disabilities. (3)
 Covers the primary approaches developed and adapted for K-16 students with learning disabilities. Includes major instructional models, teaching methods, specific techniques and materials that have been empirically proven effective for these students.
 Prerequisite: permission of instructor, program majors only, 540 recommended.

545. Language Issues/Methods LD/CD/ELL. (3)
 Focuses on distinguishing between language disorders and second language learning characteristics of English Language Learners (ELLs) with exceptionalities; and appropriate instructional strategies for ELLs with learning disabilities and/or communication disorders. Offered once yearly.
 Restriction: permission of instructor.

550/450. Introduction to Early Childhood Special Education. (3)
 Course overviews the nature and history of the field of early childhood special education. Emphasis is given to typical and atypical development as this relates to young children with delays/exceptionalities birth to age 8.

551. Teaching Young Children with Exceptionalities. (3)
 Overviews teaching/intervention approaches for children with exceptionalities from birth to age 8. Covers methods/materials/procedures appropriate for these children in a variety of settings. Also addresses strategies for working with families in transdisciplinary contexts.

552/452. Teaching Students with Mental Retardation and Severe Disabilities. (3)
 Designed to give an overview of general programming considerations for students with mental retardation. Students are to demonstrate competencies in writing instructional objectives, task analysis, instructional program design and in developing evaluation procedures for instructional programs.

553. Advanced Field Seminar: ECSE-Elementary Special Education. (3)
 Refines and enhances students' knowledge and skills by applying learned principles and strategies to real and simulated cases. Students videotape and analyze their teaching. Questions and issues specific to on-site teaching are identified and addressed.

554. ECSE-Elementary Special Education Extended Study: _____ . (1-3, no limit) Δ
 Special in-depth offerings on various areas of interest (e.g., trauma, bilingualism) linked to material presented in other ECSE courses.

559. Cultural and Linguistic Diversity among Individuals with Mental Retardation. (3)
 This course addresses issues of cultural and linguistic diversity among individuals with mental retardation. Perspectives from bilingual education, bilingual special education and mental retardation are included.

560. Introduction to Bilingual/Multicultural Special Education. (3)
 This course is an overview of the interface between language, culture and disability. Content supports those making decisions in referral and education of culturally and linguistically diverse exceptional students.

561L. Educational Diagnosis: Diagnostic Assessment of Young Children. (3)
 Explores issues related to the educational diagnosis of young children, including standardized assessment procedures, family issues and factors impacting development.
 Prerequisite: 564. Restriction: permission of instructor.

562. Teaching Bilingual/Multicultural Special Education. (3)
 This hands-on course provides teachers with ESL and native language instructional strategies for working with culturally and linguistically diverse students. Theory and practice are integrated for effective program planning and teaching.

563L. Educational Diagnosis: Multidisciplinary Collaboration for Diagnostic Assessment. (3)
 Emphasis on working with multidisciplinary teams for educational diagnosis of students and integration of assessment information from related service providers.
 Prerequisite: 564. Restriction: permission of instructor.

564L. Educational Diagnosis: Introduction to Assessment for Eligibility for Special Education Supports. (3)
 Examination of issues related to the educational assessment and diagnosis of students for eligibility for special education supports. Restriction: permission of instructor.

565/465. Art and the Exceptional Child. (3)
 (Also offered as ARTE 565.) Study of the special use of art activities with exceptional children along with practicum experience in field situations. Lab fee.

566L. Educational Diagnosis: Differential Diagnosis I [Differential Diagnosis I.] (3)
 Designed to develop competencies in administration, scoring and diagnostic interpretation of various individual tests of intelligence. Adaptive behavior rating scales will be included to supplement the diagnostic evaluation.

567L. Educational Diagnosis: Differential Diagnosis II [Differential Diagnosis II.] (3)
 Designed to teach educational diagnosticians to be proficient in administration and interpretation of tests in the areas of language aptitudes, self-concept and learning processes.
 Prerequisite: 566L.

568L. Educational Diagnosis: Diagnostic Assessment of Culturally and Linguistically Diverse Students [Diagnosis of Multicultural Exceptional Children.] (3)
 Specifically designed for the educational diagnostician to develop skills necessary for the educational evaluation and programming of children whose language and/or culture is other than English.
 Prerequisite: 566L.

569L. Educational Diagnosis: Clinical Internship. (1-6 to a maximum of 6) Δ

Supervised community-based experience in educational diagnosis (primarily in public school system). Designed to provide opportunities for direct application of theoretical and practical knowledge.

Prerequisite: 566L and 567L and 568L. Restriction: permission of instructor.

570/470. Introduction to Gifted Education. (3)

Introductory course focused on gifted and talented children and youth. Emphasis placed on (a) historical development of the field; (b) characteristics and identification; (c) academic and social/emotional needs; and (d) educational programs and interventions. 470/570 is a recommended prerequisite to other courses in gifted education.

574. Teaching Twice-Exceptional Learners. (3)

Focuses on the educational needs of twice-exceptional learners, that is, gifted students with learning and behavioral difficulties. Issues related to characteristics, identification and instructional interventions to simultaneously address the giftedness and the disability are explored.

576. Instructional Strategies for Gifted Students. (3)

This application-based course presents instructional strategies designed to address the unique learning needs of gifted students. These differentiated instructional strategies include modifications in content, process, products and environment. Access to gifted/talented students is required.

Prerequisite: 470 or 570.

577. Curriculum for Gifted Students. (3)

This course focuses on the development of appropriate curriculum (i.e., courses and units for gifted students tied to benchmarks and standards. Topics include models for curriculum development, integrative/interdisciplinary curriculum, pre-packaged curricular materials and problem-based curriculum. Prerequisite: (470 or 570) and 576. Restriction: permission of instructor.

582. Teaching Students with Intensive Communication Needs. (3)

This course explores the identification, assessment and facilitation of the development and function of communication in educational settings. For young children, and those with severe disabilities, communication through alternative means to oral language is paramount.

583. Introduction to Autism Spectrum Disorders. (3)

Introductory course on social, communication, and behavioral characteristics of students with autism spectrum disorder (ASD). Emphasis on intervention models, curricular issues, and instructional practices used in the education of students with ASD.

584. Research and Teaching/Intervention in Autism Spectrum Disorders. (3)

Provides students with an in-depth knowledge of evidence-based teaching/intervention strategies for students with ASD. Includes critique of published studies in this area and hands-on activities. Focuses on specific techniques/programs designed for ASD students.

585. Math Methods for Students with Mental Retardation and Severe Disabilities. (3)

This course addresses the teaching of mathematics to students with mental retardation and severe disabilities and emphasizes assessment, the developmental sequence of math skill acquisition, and research-based strategies for teaching skills using a conceptual approach. Prerequisite: 420 or 520.

586. Differentiating Reading Instruction in Inclusive Settings for Students with Mental Retardation and Severe Disabilities. (3)

This course addresses the basic components of planning and teaching reading in inclusive classrooms, emphasizing strategies for differentiating instruction for learners with a range of needed intensities of supports using evidence-based reading methods.

587. Reading Methods for Students with Mental Retardation and Severe Disabilities. (3)

Designed to teach selection and implementation of appropriate reading instruction approaches for individuals with mental retardation or severe disabilities. Includes examination of varied formal and informal reading assessments and planning and organization of reading instruction.

588. Organization and Supervision of Special Education Programs. (3)

This course will explore administrative, managerial and supervisory theories and strategies related to special education programs and services. Participants will acquire leadership concepts, skills, strategies and trends for administration of these programs and services.

589. Teaching Exceptional Students in General Education. (1-3 to a maximum of 3) Δ

This course is specifically designed for general education majors with no minor in special education. It provides information about student characteristics, legal issues, resources, parent partnerships, and appropriate modifications in curriculum, instruction, and behavioral supports.

591. Problems. (1-3 to a maximum of 12) Δ

May be repeated to a maximum of 6 credit hours for Masters Plan I and a maximum of 12 credit hours for Masters Plan II. Restriction: permission of instructor.

592. Workshops in Special Education. (1-4 to a maximum of 9) Δ

May be repeated to a maximum of 5 credit hours for Masters Plan I and a maximum of 8 credit hours for Masters Plan II.

593. Topics. (1-3, no limit) Δ**595. Advanced Field Experience. (3-6 to a maximum of 12) Δ**

Planned and supervised professional laboratory experiences in agencies or institutional settings. Restriction: permission of instructor.

596L. Educational Diagnosis: Advanced Application of Skills. (1 to a maximum of 3) Δ

Provides experiential practice to prepare students to select, administer, and score standardized assessments used for educational diagnosis.

Restriction: permission of instructor.

598. Directed Readings in Special Education. (1-3 to a maximum of 6) Δ

Independent readings to be arranged collaboratively with individual faculty member. Student will develop an Individual Performance Contract with a faculty member to determine the key readings and to delineate the final product to be produced. Open to Special Education graduate students only. Restriction: permission of instructor.

599. Master's Thesis. (1-6, no limit) Δ Offered on a CR/NC basis only.

Restriction: permission of instructor.

601. Professional Seminar in Special Education. (3)

A seminar for post-master's students in special education degree programs. It is recommended this seminar be taken during the first semester of enrollment.

Restriction: permission of instructor.

615. Trends and Issues in Special Education. (3)

Culminating course in doctoral program in special education. Designed as experience in applying acquired knowledge and skills to current issues and trends in the field of special education.

Restriction: admission to post-master's work in Special Education.

619. The Application of Applied Behavior Analysis to Academic Research in Special Education. (3)

Designed for advanced graduate students wishing to learn to conceptualize, design, conduct, analyze, and disseminate applied academic research using behavior analysis research methodology. Course comprises both didactic and field experience.

Prerequisite: 519. Restriction: permission of instructor.

696. Internship. (3-6 to a maximum of 12) Δ

A planned and supervised experience for doctoral students. This course allows the student to apply theoretical concepts to a relevant problem. This experience may include but is not limited to research, teaching, administration, organization, and evaluation.

Restriction: permission of instructor.

699. Dissertation. (3-12, no limit) Δ

Students may not receive credit in Dissertation until the semester in which the doctoral comps are passed. **Offered on a CR/NC basis only.**

Restriction: permission of instructor.

TEACHER EDUCATION

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 Karla V. Kingsley, Ph.D., University of Nevada at Las Vegas
 Marjori Krebs, Ed.D., Bowling Green State University
 Rebecca M. Sanchez, Ph.D., New Mexico State University
 Cheryl Torrez, Ph.D., University of Virginia

Lecturers

Tom Keyes, Ph.D., University of New Mexico
 Janet Lear, M.A., University of California, Berkeley
 Michele Raisch, Ph.D., University of New Mexico
 Teresa Sheldahl, Ph.D., University of New Mexico
 Eileen Waldschmidt, Ph.D., University of New Mexico
 Irene Welch-Mooney, Ph.D., Georgia State University

Programs: Elementary Education; Secondary Education; Multicultural Teacher and Childhood Education

Introduction

The UNM Department of Teacher Education supports educators at all stages of their careers to become qualified, competent and caring professionals in the diverse classrooms of New Mexico.

Aspiring teachers may seek initial teacher licensure in our Elementary or Secondary Education Programs. In addition to baccalaureate degrees with standard licensure, we also offer graduate students licensure within the M.A. with the Alternative Route to Licensure Program.

Teaching practitioners who desire to refine or expand their practice in a structured academic program may enroll in the M.A. in Elementary or Secondary Education Program for Licensed Teachers. Our graduate programs of studies will help practicing teachers acquire or expand the knowledge, skills and leadership capacities needed for advancement within the NM Three-Tiered Teacher Licensure System. A graduate concentration in Mathematics, Science and Educational Technology is available in the M.A. in Elementary Education and in Secondary Education.

Post-master's degree candidates may pursue advanced studies in curriculum and instruction or teacher development in the Ph.D or Ed.D. in Multicultural Teacher and Childhood Education. An Educational Specialist Certificate in Curriculum and Instruction is also available.

Degrees/Certificate Offered

B.S.Ed. in Elementary Education
 M.A. in Elementary Education
 B.A.Ed. in Secondary Education
 B.S.Ed. Secondary Education
 M.A. in Secondary Education
 Ph.D. and Ed.D. in Multicultural Teacher and Childhood Education
 Educational Specialist Certificate in Curriculum and Instruction

Graduate Concentrations Available

Early Childhood Education Concentration in the M.A. in Elementary Education
 Mathematics, Science and Educational Technology (MSET) Concentration in the M.A. in Elementary Education and M.A. in Secondary Education

Elementary Education

Elementary Education is a program that offers both undergraduate and graduate degrees. These degrees contain components for licensure as an elementary educator in the State of New Mexico. A graduate degree for practicing teachers is also available for continued professional development.

The program strives to prepare the very best entry level teachers for all of New Mexico's children; such preparation is enriched by the diverse, contrastive linguistic and cultural communities of the region. The program also takes advantage of the many professional partnerships that the College holds with school districts and their teaching faculties.

Degrees Offered

B.S.Ed. in Elementary Education
 M.A. in Elementary Education

Undergraduate Study

Undergraduate Advisor Contact and Student Information
 Contact:
 College of Education Advisement Center
 Hokona Hall, Room 134, (505) 277-3190
 FAX (505) 277-4166

The Elementary Education program offers an undergraduate degree with specialty areas in a number of teaching fields for the preparation and development of the professional educator.

Minimum Eligibility Criteria for Undergraduate Application to the Pre-Professional Admission (Professional Sequence)

1. Twenty-six hours of course work completed. Students are encouraged to apply as soon as possible after completing 26 hours.
2. Grade point average: 2.50 overall, or 2.50 for the last 60 hours (all course work, all institutions).

Minimum Criteria for Undergraduate Application to the Elementary Education Program

Submission of a Professional Portfolio providing the following:

1. College grade point average 2.50 criteria (See above, eligibility criteria)
2. 2.70 GPA for last 24 hours, or
3. 3.0 for last 12 hours at the University of New Mexico (content courses only) plus 2.50 GPA on the previous two semester/quarters wherever taken
4. Program applicants must have no more than 9 hours remaining in addition to their required Teacher Education hours. Advisors determine eligibility.
 - a. Provide documentation of successfully passing the Professional Skills Assessments: New Mexico Teacher Assessment Tests – Basic Skills section. (The New Mexico Teacher Assessment Tests will be given at scheduled times in different locations in the state. Contact the College Advisement Center for schedule.)
 - b. Demonstrated experience with children and/or youth.
 - c. Satisfactory completion (C or better) of designated courses (if applicable). See program area for specific requirements.
 - d. Submission of three letters of recommendation (from previous teachers or supervisors in child/youth related experiences).
 - e. Specific program requirements (contact the College Advisement Center).

There is a core set of General Education requirements necessary for Elementary Educators. Contact the Advisement Center or go to the website (<http://ted.unm.edu>) for a copy of the current advisement sheets.

Elementary Education Curriculum

General Education Requirements and Pre-Professional Study (69)

1. Communication Arts (12 hours)
ENGL 101, ENGL 102, LING 101, CJ 220 or 130
2. Mathematics (9 hours)
MATH 111, 112, 215
3. Social Science (6 hours)
Select from SOC 101, PSY 105, POLS 110, 200, 220, 240, ANTH 101 or 130, ECON 105, 106, or GEOG 102
4. Second Language (3 hours)
Select from any of the lower-division, non-English language offerings of the Departments of Linguistics, Spanish and Portuguese, and Foreign Languages and Literatures
5. History (12 hours)
HIST 101L or 102L, 161L, 162L, 260 or 463
6. Science (12 hours)
Recommended NTSC 261L, 262L, 263L. Will accept any science course that meets the undergraduate core curriculum (See The Undergraduate Program).
7. Fine Arts (6 hours)
Select ARTE 214 or 414 and MUSE 298
8. Pre-professional Study (9 hours)
EDPY 303, LLSS 443, MSET 365

Professional Study (36 hours)

EDUC 321L Teaching of Social Studies in Elementary School	3
EDUC 330L Teaching of Reading	3
EDUC 331L Teaching of Reading in the Elementary School	3
EUDC 333L Teaching Oral and Written Language in the Elementary School	3
EDUC 353L Teaching of Science in the Elementary School	3
EDUC 361L Teaching of Mathematics in the Elementary School	3
EDUC 400 Student Teaching in the Elementary School	9
EDPY 310 Learning in the Classroom	3
LLSS 315 Education Linguistically and Culturally Diverse Students	3

SPCD 493 Topics: Special Needs Students in the Regular Classroom

3

Each student must have a teaching field in one of the disciplines or an endorsement in a specialty area.

NOTE: Changes in state requirements or state reform initiatives in education may require periodic revisions of the curriculum and admission process.

Teaching Fields

Language Arts is designed for students wishing to pursue a broad field of study in language arts. Disciplines include English, Linguistics, Theatre, Communication and Journalism and Speech and Hearing Sciences. 24 Credit Hours.

Mathematics is designed for students wishing to pursue a teaching field in mathematics. Topics include set theory, logic, number theory, probability, statistics, geometry, measurement and calculus. 24 Credit Hours.

Science is designed for students wishing to pursue a broad field of study in science. The program includes course work in astronomy, biology, chemistry, earth and planetary sciences, physical science and physics. 24 Credit Hours.

Social Sciences is a teaching field designed for students wishing to pursue a broad field of study in the social sciences. The program includes course work in anthropology, economics, geography, political science, history, sociology and psychology. This minor must include at least 12 semester hours of study in each of two disciplines (such as geography, political science, anthropology and economics) and at least 6 hours in a third discipline. 24 Credit Hours.

Fine Arts is designed for students wishing to develop a teaching field in theatre or dance.

Theatre endorsement consists of 24 hours of courses that cover all aspects of educational theatre, including acting, stage craft, directing, dramatic literature, creative drama and children's theatre.

Dance endorsement consists of 24 hours of courses, eight of which are in modern dance technique and the other 16 cover dance appreciation, improvisation, rhythmic fundamentals, movement analysis, curriculum development and methods and materials for teaching dance.

Specific course requirements are listed in the Department of Theatre and Dance section of the catalog. See the advisor in the Department of Theatre and Dance.

Bilingual Education/TESOL is designed for students who are seeking an endorsement in Bilingual Education or TESOL. 24 Credit Hours. (See Bilingual/English/Spanish advisement in LLSS. TESOL Education. See advisement sheet in the department of LLSS.

Dual Major in Elementary Education and Special Education is available. It requires 30 hours of Special Education, 30 hours of Elementary Education, 24 hours in a minor and 11 hours of supporting courses in educational foundations. Students also complete 57 hours of general course work which includes core curriculum requirements. Upon completion, the Dual License Program offers eligibility for Special Education Licensure (K-12) and Elementary Licensure (K-8). Interested students should check with the Undergraduate Coordinator in Special Education for updated information.

Graduate Study

- M.A. in Elementary Education with Alternative Route to K-8 Licensure
36 Credit Hours
- M.A. in Elementary Education for licensed teachers
32+ Credit Hours



Graduate Advisement:

For program information and application materials contact:

Department of Teacher Education
 Hokona Hall-Zuni, Room 121
 (505) 277-4533
 ted@unm.edu
<http://ted.unm.edu>

A complete paper application packet must be submitted to the Department of Teacher Education.

Application Deadlines

M.A. in Elementary Education	
Summer/Fall semester:	March 30
Spring semester:	October 30

M.A. in Elementary Education with Alternative Route to K-8 Licensure

Summer/Fall semester:	March 30
Spring semester:	October 30

Degrees Offered

M.A. Elementary Education

Professional Prerequisites for Graduate Study

The M.A. in Elementary Education is for those who already hold an elementary teaching license.

The M.A. in Elementary Education with alternative route to K-8 licensure is for those who wish to obtain an elementary teaching license and a master's degree.

M.A. in Elementary Education with Alternative Route to K-8 Licensure

This program is for an individual interested in obtaining a K-8 elementary teaching license and completing a Master's degree in Elementary Education. A student in this program is one who has a Bachelor's, Master's or Doctoral Degree and who is interested in obtaining a K-8 Elementary teaching license. This is a two-part program leading to Licensure and a Master's Degree in Elementary Education. Students complete licensure courses, advanced field experiences through student teaching, and then begin Master's Degree courses.

Licensure Required Course Work	21 hours
EDUC 595 Advanced Field Experiences	6
EDUC 330L Teaching of Reading	3
EDUC 531 The Reading Program in the Elementary School	3
EDUC*461 The Mathematics Program in the Elementary School	3
EDUC*453 The Science Program in the Elementary School	3
EDUC*421 The Social Studies Program in the Elementary School	3

*can be taken for Graduate credit with appropriate approvals.

M.A. Program (without thesis) 36 hours

24 graduate credit hours from the Alternative/Standard Licensure requirements plus the following 12 core hours:

LLSS 583 Education Across Cultures in the Southwest	3
EDUC 590 Seminar	3
-and- Curriculum Core (choose 1)	3
ARTE 510 Curriculum Development in Art Education	
MSET 507 Developing Curriculum for Middle Schools	
EDUC 511 Curriculum in the Elementary School	
EDUC 542 Principles of Curriculum Development	
EDUC 574 Curriculum for Early Childhood	
LLSS 582 Curriculum Development in Multicultural Education	

Research Core (choose 1)	3
EDUC 500 Research Applications to Education	
EDPY 500 Survey of Research Methods in Education	

EDPY 502 Survey of Statistics in Education	
EDPY 572 Classroom Assessment	
LLSS 501 Practitioner Research	
LLSS 502 Naturalistic Inquiry	

Standard License 30 hours

21 hours from Alternative Licensure requirements plus:	
SPCD 507 Collaboration for Inclusive Education	3
LLSS 593 1st & 2nd Language Development	3
-and- Choose 1:	
EDPY 503 Principles of Human Development	3
EDPY 510 Principles of Classroom Learning	3

NOTE: Changes in state requirements or state reform initiatives in education may require periodic revisions of the curriculum and admissions process.

M.A. Elementary Education

This degree is designed for an applicant who already has an elementary teaching license and may have teaching experience. This individual is interested in furthering his or her professional growth by completing a Master's Degree that incorporates advanced study of specific areas of education including advanced study in elementary education, mathematics education, science education, and educational technology.

The M.A. in Elementary Education is designed to be a journey in personal and professional growth. With purposeful work in each of the major content strands: Social Justice, Diversity, and Transformational Practices; Instructional Strategies; Curriculum; Research; Focused Electives; and culminating in the Final Capstone Experience, students will improve their teaching and their thinking about the teaching process, resulting in greater depth of meaning for their students.

Students working under Plan I (thesis) will satisfy the requirements as set forth in preceding parts of the College section of this catalog and other sections describing graduate study.

1. A minimum of 24 hours of course work. (Many Programs of study require more than the minimum).
2. A thesis (minimum 6 hours credit).
3. EDPY 511 or other approved research course (excluding EDUC 500).
4. One curriculum course: MSET 507, EDUC 511, EDUC 542, EDUC 574 or LLSS 582.
5. At least 6 hours of 500-level courses.
6. A minimum of 7 hours in a minor content field.
7. Not more than 5 hours of workshop credit.
8. Oral examination.

Candidates working under Plan II will satisfy the requirements as set forth in earlier pages of this catalog, with the following specifications:

1. A minimum of 32 hours of course work. Many Programs of study require more than the minimum.
2. EDUC 500-or one 3-hour problems course EDUC 591).
3. EDUC 500 or EDPY 511.
4. One curriculum course: MSET 507, EDUC 511, EDUC 542, EDUC 574 or LLSS 582.
5. LLSS 583.
6. EDUC 590 or EDUC 579.
7. A minimum of 3-9 hours in a minor content Field.
8. At least 12 hours of 500-level courses.
9. Not more than 8 hours of workshop credit.
10. Written comprehensive examination.

NOTE: Changes in state requirements or state reform initiatives in education may require periodic revisions of the curriculum and admissions process.

M.A. Elementary Education With Early Childhood Education Concentration

Plan 1: 26 hours plus 6 credit hours of thesis plus Final Oral Examination

Plan 2: 32 credit hours including Problems Course EDUC 591.

Master of Arts in Elementary Education Core

Requirements:

- EDUC 500 or EdPsy 500 Research Applied to Education
- ECME 574 Early Childhood Curriculum
- ECME 579 Seminar in Early Childhood Education
- LLSS 583 Education Across Cultures of the Southwest
- EDUC 591 Problems in Early Childhood Education (Note: problems course must be taken with an ECME faculty).

Concentration Specific Course Requirements:

- In addition to ECME 574, 579, and 591 above, at least two courses must be chosen from:
 - ECME 576 Learning Through Play
 - ECME/LLSS 514 Young Children Moving Into Literacy
 - ECME 575 Early Childhood Language Development and Curriculum
 - SPCD 550 Introduction to Early Childhood Special Education

Remaining courses to be selected from the following:

- ARTE 520 Art in Early Childhood
- FS 501 Parent Education
- FS 502 Development in Early Childhood
- FS 512 Working with Children and Families
- FS 546 Family Systems Theory
- FS 514 Fatherhood
- EDPY 510 Principles of Human Development
- EDPY 520 Motivation Theory and Practice
- EDPY 524 Computers in the Classroom
- EDPY 572 Classroom Assessment
- LLSS 544 Children's Literature
- LLSS 556 First and Second Language Development
- LLSS 558 Literacy Across Cultures
- LLSS 582 Curriculum development in Multicultural Education
- Or Other Courses Approved by ECME Advisor

NOTE: Changes in state requirements or state reform initiatives in education may require periodic revisions of the curriculum and admissions process.

M.A. Elementary Education Mathematics, Science and Educational Technology (MSET) Concentration (Plan I)

MSET Concentration (Plan I) 33 hours

MSET	3
MSET 512 Technology and the Learning Process	
Curriculum (Choose 1)	3
MSET 511 Curriculum in the Elementary School	
MSET 542 Principles of Curriculum Development	
Instructional Strategies (Choose 1)	3
MSET 500 Advanced Instructional Strategies	
MSET 515 Teaching Environmental Education	
Diversity (Choose 1)	3
MSET 525 Multicultural Environmental Education	
LLSS 557 Language, Culture and Mathematics	
LLSS 583 Education Across Cultures in the Southwest	
Research (Choose 1)	3
EDUC 500 Research Applications to Education	
EDPY 500 Survey of Research Methods in Education	
EDPY 502 Survey of Statistics in Education	
EDPY 511 Introductory Educational Statistics	
LLSS 501 Practitioner Research	
LLSS 502 Naturalistic Inquiry	
Thesis	6
MSET 599 Master's Thesis	
Elective Content Courses	12

With the approval of the faculty advisors, students select a support content area in Mathematics, Science, or Educational Technology and complete 12 credit hours of graduate level courses.

M.A. Elementary Education With Mathematics, Science and Educational Technology (MSET) Concentration

MSET offers a concentration for elementary teachers interested in the fields of mathematics, science and educational technology. Students will complete core content classes as determined by their advisor, as well as elective classes in MSET or in the Departments of Mathematics, Biology, Chemistry or Physics.

Secondary Education

Degrees Offered

- B.A. Ed. in Secondary Education
- B.A. Ed. in Art Education
- B.S. Ed. in Secondary Education
- M.A. in Secondary Education

Undergraduate Program Advisement

Undergraduate Advisor Contact:
College of Education Advisement Center
Hokona Hall, Room 136,
(505) 277-3190 Fax (505) 277-4166

Admission Information

Steps in the admission process for a B.A. and B.S. degree with secondary licensure in a content field can be found at our department website:
http://ted.unm.edu/secondary_undergrad.html

Undergraduate Study

The curriculum leading to the Bachelor's Degree (B.A.Ed. or B.S.Ed.) in Secondary Education is designed for students preparing to teach in middle schools, junior high schools or senior high schools (grades 7-12). The program of studies for the Secondary Education major and licensure preparation has three components:

- a. General Education Requirements
- b. Teaching Field Requirements
- c. Professional Education Requirements

Application Deadline: Fall semesters: March 1
Spring semesters: October 1

Undergraduate Concentrations—Teaching Fields and Degrees (for teaching grades 7–12)

- Communicative Arts Education
- Earth Science Education
- French
- German
- Life Science Education
- Mathematics Education
- Physical Science Education with an emphasis in Chemistry
- Physical Science Education with an emphasis in Physics
- Social Studies Education
- Spanish

Students must meet with a College of Education Academic Advisor for initial consultation about their program, and their secondary faculty advisor through out their program. The Secondary Education faculty advisor must approve enrollment into the professional licensure courses that are offered in a fall/spring sequence.



General Education Requirements (66 hours)

General education requirements include the following disciplines and courses:

1. Communication Arts (12 hours)
ENGL 101, ENGL 102, LING 101, C&J 130 or 220
2. Mathematics (6 hours)
MATH 120, STAT 145
3. Science (12 hours)
Select from BIOL 110 and 112L, 201, 202 and 203
CHEM 111L, 121 and 123L or 131L, 122 and 124L or 132L; EPS 101 and 105L, 201L; ENVS 101; PHYC 102-102L, 151-152, 160-160L, 161-161L; ASTR 101
4. History (12 hours)
HIST 101L and/or 102L, 161L, 162, 260 or 463.
5. Social Science (6 hours)
Sect from SOC 101, PSY 105, POLS 110 or 220, ANTH 101 or 130, ECON 105 or 106, or GEOG 102
6. Fine Arts (6 hours)
ARTH 101 or 251, MUS 139
7. Second Language (3 hours)
Select from any of the lower-division, non-English language offerings of the Departments of Linguistics, Spanish and Portuguese, and Foreign Languages and Literature.
8. Teaching and Learning Support Courses (9 hours)
EDUC 313 or EDPY 303 and 310; MSET 365

Students must achieve a 2.5 overall GPA in General Education courses to qualify for student teaching.

NOTE: Changes in state requirements or state reform initiatives in education may require periodic revisions of the curriculum and admissions process.

Secondary Education Concentration—Teaching Field Requirements

In New Mexico, teachers must complete one or more teaching fields (endorsements) to apply for a Secondary Teaching License (grades 7-12). The Concentration–Teaching Fields included within the B.A.Ed. and the B.S.Ed. in Secondary Education degrees meet the state teaching field (endorsement) requirements for initial licensure and federal NCLB requirements for Highly Qualified teachers. Students must achieve a 2.5 GPA overall in Concentration-Teaching Field courses in order to qualify for student teaching.

The B.A.Ed. in Secondary Education includes at least one of the following concentration-teaching fields:

Concentration-Teaching Field in Communicative Arts Education (54 hours):

This concentration-teaching field includes interdisciplinary study in literature, writing, communication and journalism and theatre arts. Course requirements include the following:

1. Communication Arts courses from General Education Requirements (12 hours)
2. World Literature (6 hours): Select from ENGL 292, 293, 330, 331, 332, 333, 334, 335, 336, 337
3. American Literature (6 hours): ENGL 296 or 297 and one of the following: ENGL 460, 461, 462, 463
4. Shakespeare (3 hours): ENGL 352 or 353
5. Perspectives on Literature (3 hours): Choose one from ENGL 264, 265, 281, 364, 365 or 381
6. Grammar (3 hours): ENGL 240
7. Writing (6 hours): LLSS 430 and one of the following: ENGL 219, 223, 224 or 324
8. Communication & Journalism (3 hours): Select from CJ 225, 323, 327, or 331
9. Non-Print Media (3 hours): CJ 110 or MA 110
10. Intercultural Communication (3 hours) : CJ 314
11. Books for Young Adults (3 hours) : EMLS 451
12. Co-Curricular Perspectives (3 hours) : Select from THEA 418, THEA 419, CJ 271, CJ 374, CJ 273, CJ 344, CJ 171 or MA 330

Concentration-Teaching Field in French (30 hours): Completion of this concentration-teaching field leads to a Modern & Classical Languages endorsement in French. Course requirements include the following (at least 12 credit hours at the 300 level or above):

1. Language (12-18 hours): Select from FREN 101, 102, 103, 108, 201, 203, 275, 276, 301, 302, 305,
2. Literature, Civilization & Culture (12-18 hours): Select from FREN 335, 345, 346, 351, 352, 407, 432, 465

Concentration-Teaching Field in German (30 hours): Completion of this concentration-teaching field leads to a Modern & Classical Languages endorsement in German. Course requirements include the following (at least 12 hours at the 300 level or above):

1. Language (12-18 hours): Select from GRMN 101-102, 201-202, 203-204, 275-276, 301-302, 303, 405
2. Literature, Civilization & Culture (12-18 hours): Select from GRMN 304, 305, 307, 308, 336, 401, 450, 498, 499

Concentration-Teaching Field in Social Studies Education (54 hours): This concentration-teaching field includes interdisciplinary study in social studies including history (U.S. and Western Civilization), political science, anthropology, economics, geography, economics and sociology. Course requirements include the following:

1. General Education Requirements for History and Social & Behavioral Courses (18 hours)
2. Required Core Courses (15 hours): GEOG 140, POLS 200, POLS 220, SOC 216, HIST 260
3. Support courses to complete one of the following emphasis areas (at least 12 hours at the 300 level or above)

Anthropology	33 hours
Sociology	31 hours
Economics	33 hours
Geography	33 hours
History	21 hours
Political Science	30 hours

Concentration-Teaching Field in Spanish (24-36 hours): Completion of this concentration-teaching field leads to a Modern & Classical Languages endorsement in Spanish. Course requirements include the following (at least 12 hours at the 300 level or above):

1. Language (12-18 hours): Select from SPAN 101, 102, 103-104, 111, 112, 200, 201, 202, 203, 211, 212, 275, 276, 301, 302
2. Linguistics, Philology & Methodology, Literature, Peninsular Literature, Spanish American Literature, Southwest Hispanic Studies (12-18 hours): Select from SPAN 350, 351, 352, 371, 449, 307, 411, 412, 423, 429, 450, 431, 432, 433, 435, 438, 439, 370, 375, 377, 47

The B.S.Ed. in Secondary Education includes at least one of the following concentration-teaching fields:

Concentration-Teaching Field in Earth Science (52-58 hours): This concentration-teaching field requires 30 hours of earth and planetary sciences and eight hours EACH in biology, chemistry, physics and mathematics. Course requirements include the following:

1. Core Courses (32 hours): BIOL 201, BIOL 202, CHEM 121 and 123L, CHEM 122 and 124L, EPS 101/105L, EPS 201L, PHYC 151L, PHYC 152L
2. Support for Emphasis Area (20-26 hours, 12 hours at 300 level or above):
Select from the following: EPS 225, EPS 250 or EPS 255L, EPS 301/302L, EPS 303L, EPS 304L, EPS 307L, EPS 333 or 481L, EPS 365 or ASTR 101/101L, EPS 352

Concentration-Teaching Field in Life Science (52-58 hours): This concentration-teaching field requires 30 hours of biology and eight hours EACH in earth and planetary sciences, chemistry, physics and mathematics.

1. Core Courses (32 hours): BIOL 201, BIOL 202, CHEM 121 and 123L, CHEM 122 and 124L, EPS 101/105L, EPS 201L, PHYC 151L, PHYC 152L
2. Support for Emphasis Area (20-26 hours, 12 hours at the 300 level or above):
Select from BIOL 203L, BIOL 204L, BIOL 351L, 352L, BIOL 360L, BIOL 371L or BIOL 386L, BIOL 300, BIOL 310L, BIOL 324 or BIOL 407L

Concentration-Teaching Field in Mathematics Education (36 hours): This concentration teaching field requires mathematics courses that enable students to develop proficiencies in calculus, algebra, geometry, probability and statistics, computing, application of mathematics and history of mathematics. Course requirements include the following:

1. Required Courses (30 hours): CS 151L, MATH 162, 163, 264, 305, 306, 314, 338, STAT 345
2. MATH Elective Options (6 hours): Select from 300, 308, 309, 317, 318, 319, 350

Concentration-Teaching Field in Physical Science with Chemistry Emphasis (52-58 hours): This concentration-teaching field requires 30 hours in chemistry and eight hours EACH in biology, earth and planetary sciences, physics and mathematics.

1. Core Courses (32 hours): BIOL 201, BIOL 202, CHEM 121, CHEM 123L, CHEM 122, CHEM 124L, EPS 101/105L, EPS 201L, PHYC 151L, PHYC 152L
2. Support for Emphasis area (20-26 hours, 12 hours at 300 level or above):
Select from CHEM 253L, CHEM 301/303L, CHEM 302/304L, CHEM 315 or CHEM 311/312, CHEM 421, CHEM 431

Concentration-Teaching Field in Physical Science with Physics Emphasis (52 hours): This concentration-teaching field requires 30 hours in chemistry and eight hours EACH in biology, earth and planetary sciences, physics and mathematics.

1. Core Courses (32 hours): BIOL 201, BIOL 202, CHEM 121, CHEM 123L, CHEM 122, CHEM 124L, EPS 101/105L, EPS 201L, PHYC 160/160L, PHYC 262/262L
2. Support for Emphasis Area (20 hours):
Select from PHYC 301, PHYC 302, PHYC 303, PHYC 304, PHYC 307, PHYC 308, PHYC 327, PHYC 330, PHYC 405, PHYC 406, PHYC 452, PHYC 491, PHYC 492

Other Content Areas/Endorsement Programs of Studies Available for Secondary Education Majors

Interested students may elect to pursue programs of studies in other COE or university programs that will lead to a K-12 license or endorsement in addition to one of the Concentration-Teaching Fields offered through the Secondary Education program. For more information about licenses or endorsements in other programs or colleges within the university, contact the following appropriate programs:

Teaching Field in Fine Arts–Dance (36 hours): Completion of this teaching field leads to an endorsement in Fine Arts-Dance. This program is administered by the Secondary Education Program, but students should to seek advisement early in the program from both the College of Education and the Department of Theatre and Dance. Requirements may change. See the Theatre and Dance advisor for current information.

Current course requirements include the following (at least 12 credit hours at the 300 level or above):

DANC 105, 212, 250, 311, 416, 462 or 463, 14 hours of dance technique (8 hours must be in Modern, the other hours must be completed in three of the following areas: Ballet, Ethnic, Folk, Jazz or Tap) DANC 105, 212, 250,

311, 416, 462 or 463, 14 hours of dance technique (8 hours must be in Modern, the other hours must be completed in three of the following areas: Ballet, Ethnic, Folk, Jazz or Tap).

Teaching Field in Fine Arts-Theatre (36 hours): Completion of this teaching field leads to an endorsement in Fine Arts-Theatre. This program is administered by the Secondary Education Program, but students should seek advisement early in the program from both the College of Education and the Department of Theatre and Dance. Requirements may change. See the Theatre and Dance advisor for current information.

Current course requirements include the following (at least 12 credit hours at the 300 level or above):

THEA 120, 121, 122, 192, 194, 196, 223, 224, 403, 418 and 419.

Visual Art Licensure: The College of Education offers course work towards a Visual Art Licensure K-12. Those interested should see the section on Art Education in this Catalog and contact a program advisor.

Bilingual Education (27 hours): Students may elect to pursue a New Mexico K-12 endorsement in Bilingual Education with a Spanish/English or Navajo/English area of focus. However, in order to meet federal and state requirements for the 7-12 school curriculum, secondary students interested in a bilingual education endorsement must have a first concentration-teaching field in one of the academic content areas such as Communicative Arts, Social Studies, Mathematics, Life Science, or Earth Science, or French, German, or Spanish listed above in the Secondary Concentration-Teaching Fields section. They may then complete requirements for the bilingual education endorsement as an additional teaching credential. Students must see a Bilingual Education Program advisor in the Department of Language, Literacy and Sociocultural Studies (LLSS) for current information about Bilingual Education Endorsement requirements and approval of entry into Bilingual Education concentration courses.

Teaching English to Speakers of Other Languages (36 hours): Students may elect to pursue a K-12 endorsement in Teaching English to Speakers of Other Languages (TESOL). However, in order to meet federal and state requirements for the 7-12 school curriculum, secondary students must have a first concentration-teaching field in one of the academic content areas such as Communicative Arts, Social Studies, Mathematics, Life Science, Earth Science, or French, German, or Spanish listed above in the Secondary Concentration-Teaching Fields section. They may then complete requirements for the TESOL endorsement as an additional teaching credential. See a TESOL Program advisor in the Department of LLSS for current information about the TESOL Endorsement requirements and approval of entry in TESOL concentration courses.

Professional Education Requirements (27 hours)

The following professional education sequence is required of all undergraduate students pursuing a secondary education major and eligibility for an initial teaching license for grades 7-12. The two-semester sequence includes consecutive fall and spring semesters of the same academic year (i.e., teaching experiences and related courses). In order to qualify for the professional education sequence, students should complete all general education and concentration-teaching field requirements. However, if space is available and other requirements have been met, students may be allowed with faculty approval to proceed into the professional education sequence if lacking no more than six hours total of all other requirements. Students must achieve a 2.5 GPA in their general education courses, a 2.5 GPA in their concentration-teaching field courses, and a 3.0 overall GPA in their professional education courses to advance to student teaching.

Professional Education Courses

SPCD 489	Working with Special Needs Populations	3
EDUC* 438	Teaching Reading in the Content Field	3
EDUC 362	Teaching Experience I (offered Fall only)	3
EDUC 450	Issues in Secondary Education	3
	(offered Fall only)	3
	One of the following teaching-field methods courses	
	(offered Fall only):	3
MSET* 429	Teaching of Secondary Mathematics	
MSET 431	Teaching of Secondary Sciences	
LLSS 432	Teaching of Social Studies	
LLSS 436	Teaching of English	
LLSS* 480	Second Language Pedagogy	

Student Teaching Courses (offered Spring only)

EDUC 462	Student Teaching	9
EDUC 464	Student Teaching Seminar	3

EDUC 362: Teaching Experience I and EDUC 462: Student Teaching require a field experience in a secondary school. In EDUC 362: Teaching Experience I (pre student teaching), students are in the school every week assisting and teaching in one class (the same class) for the entire semester. Days and times vary depending on the schedule at the school. Students in EDUC 362: Teaching Experience I may begin their field experience at the beginning of the UNM semester. EDUC 462: Student Teaching requires full-time teaching and related educational responsibilities (all day, Monday-Friday) for one semester. A total of 12 credit hours are required for this experience, which includes EDUC 462: Student Teaching (9 hours) and EDUC 464: Student Teaching Seminar (3 hours). EDUC 462: Student Teaching 5. begins at the start of the UNM semester and ends with the conclusion of the UNM Spring semester in May.

Students are required to consult an advisor in the COE Advisement Center and a faculty advisor early in their college careers to ensure that they finish their program in a timely manner. See introductory information in the College of Education section in this catalog regarding application for licensure following completion of all requirements for the B.A.Ed. or B.S.Ed. in Secondary Education.

NOTE: Changes in UNM/New Mexico curricular requirements or state educational reform initiatives may require periodic revisions of the curriculum and admissions process.

Graduate Programs

The University of New Mexico also offers graduate programs developed to assist teachers as they acquire skills and abilities in the classroom. Application to these graduate programs requires licensure or experience in secondary education. Steps in the admission process for MA degrees in Secondary Education can be found at our department website: <http://ted.unm.edu/secondary>. For information on a graduate application contact:

Department of Teacher Education
Hokona Hall-Zuni, Room 121
(505) 277-4533
ted@unm.edu
<http://ted.unm.edu>

Application Deadlines

Summer session: March 1
Fall semester: March 1
Spring semester: October 1

Applications after these dates will be considered on a needs and space available basis.

M.A. in Secondary Education

Prospective students must apply for admission and be formally admitted by the program faculty. Candidates are required to develop and follow a planned program of studies made up of courses selected with the approval of a faculty advisor. Courses taken without an advisor's prior approval may not be accepted toward completion of the M.A. degree.

Specialty areas in bilingual, educational technology, language arts, mathematics, middle school, science, social studies and teaching English as a second language (TESOL/ESL) as well as general secondary education are offered by the secondary faculty. Contact designated specialty area office listed above. Note that some of these areas are offered within the M.A. in Secondary Education or the Ph.D./Ed.D. in Multicultural Teacher and Childhood Education. Other areas are offered within the M.A. or Ph.D. in Language Literacy Sociocultural Studies (LLSS).

The program is offered under the general requirements of Plan I (with thesis) or Plan II (without thesis) described in other sections of this Catalog. Plan I requires a minimum of 24 semester hours plus thesis. Plan II requires a minimum of 32 semester hours and a written exam. A minor of 15 hours in a subject taught in the secondary schools is recommended. Minor work distributed among other areas of education is permissible with the advisor's consent.

Curriculum Requirements for Plan I and Plan II

1. All students must complete the M.A. core, which consists of classes in: a) educational research; b) curricular studies; c) pedagogical practices; d) educational diversity; and e) a synthesis capstone seminar.
2. Students considering a Plan I program must consult with a faculty advisor for an appropriate completion to their program.
3. A written examination must be successfully completed for all students in a Plan II program.
4. Not more than 4 hours of problems (591) may be a part of the program.

NOTE: Changes in state requirements or state reform initiatives in education may require periodic revisions of the curriculum and admissions process.

Master of Arts Program with Licensure (Plan II only)

Students holding a bachelor's degree without a professional education background are eligible for the Master's with licensure. Students should meet with a faculty advisor about the 45-hour Master's in Secondary Education Program with Licensure. A 15-hour overlap between the basic licensure requirements and the Master's degree program is permitted, with the approval of the faculty advisor. Any student who wishes to work toward teacher licensure in Secondary Education must be formally admitted to the graduate program and the licensure plan.

Basic Requirements, all M.A. applicants

In order to be admitted to the M.A. in Secondary Education with licensure, you must

1. meet graduate school and program requirements, including an overall GPA of 3.0.
2. meet teaching field requirements; including a 2.5 content area GPA and sufficient course work in the content area.
3. register for, take and pass the Basic Skills section of the New Mexico Teacher Assessment. The second and third sections, the Assessments of Teacher Competency and Content Knowledge, may be completed during or after your field experience courses.

If you do not meet these requirements but wish to apply, meet with the Secondary Education Faculty member who is the advisor for your chosen content-teaching field.

Formal admission to graduate status occurs concurrently with admission to Secondary Education.

Application packets are available in the Department of Teacher Education.

Curriculum Requirements for Master's Degree and Licensure (45 hours)

Standard Licensure Component (24 hours):

- | | | |
|-----------------|---|---|
| 1. EDPY 303/503 | Human Growth and Development | 3 |
| 2. EDUC *438 | | |
| -or- LLSS 538 | Teaching Reading and Writing in the Content Field | 3 |
| 3. SPCD 507 | Collaboration for Inclusive Education | 3 |

The following courses are offered Fall only:

- | | | |
|--|-----------------------------------|---|
| 4. EDUC 362 | Teaching Experience I | 3 |
| 5. EDUC 493 | T: Issues in Secondary Education | 3 |
| 6. One of the following methods courses: | | 3 |
| MSET *429 | Teaching of Secondary Mathematics | |
| MSET 431 | Teaching of the Sciences | |
| LLSS 432 | Teaching of Social Studies | |
| LLSS 436 | Teaching of English | |
| LLSS *480 | Second Language Pedagogy | |

The following course should be taken during Spring only.

- | | | |
|-------------|---------------------------|---|
| 7. EDUC 595 | Advanced Field Experience | 6 |
|-------------|---------------------------|---|

Optional Alternative Licensure Component (18 hours): (For Secondary Education Graduate Students Seeking Alternative Licensure Only)

- | | | |
|---------------|---|---|
| 1. EDUC *438 | | |
| -or- LLSS 538 | Teaching Reading and Writing in the Content Field | 3 |
| 2. SPCD 507 | Collaboration for Inclusive Education | 3 |

The following courses are offered Fall only:

- | | | |
|--|-----------------------------------|---|
| 3. EDUC 362 | Teaching Experience I | 3 |
| 4. EDUC 493 | T: Issues in Secondary Education | 3 |
| 5. One of the following methods courses: | | 3 |
| MSET *429 | Teaching of Secondary Mathematics | |
| MSET 431 | Teaching of the Sciences | |
| LLSS 432 | Teaching of Social Studies | |
| LLSS 436 | Teaching of English | |
| LLSS *480 | Second Language Pedagogy | |

*can be taken for Graduate credit with appropriate approvals

The following course should be taken during Spring only.

- | | | |
|-------------|---------------------------|---|
| 6. EDUC 595 | Advanced Field Experience | 3 |
|-------------|---------------------------|---|

All students pursuing a Master's degree program with licensure must complete a core of graduate courses, including classes in: a) educational research; b) curricular studies in a general or specialty area; c) pedagogical practices in a general or specialty area; d) educational diversity; and e) synthesis seminar. Students may also complete up to 6 hours or more in related coursework. More information is available on applicable courses from Secondary Education Faculty Advisors and the programs of study. Students must consult with a secondary education faculty advisor and complete an approved program of studies early in their program.

M.A. Elementary Education With Mathematics, Science and Educational Technology (MSET) Concentration

MSET offers a concentration for secondary teachers interested in the fields of mathematics, science and educational technology. Students will complete core content classes as determined by their advisor, as well as elective classes in MSET or in the Departments of Mathematics, Biology, Chemistry or Physics.

Graduate Degrees and Post-Master's Certificates

Ph.D.
Ed.D.
Ed. Spec.

Multicultural Teacher and Childhood Education Doctoral Degree

The Ph.D. and the Ed.D. in Multicultural Teacher and Childhood Education are offered in the Department of Teacher Education. This degree provides for the study of teaching and curriculum and instruction in multicultural settings. Both the Ph.D. and Ed.D. and require a core of Foundational Studies, Curriculum Theory, Pedagogy in Teacher Education, Technology and Teacher Education and Multicultural Education.

Applications: In addition to all materials required by the University of New Mexico Office of Admissions, the following must be submitted directly to the Department of Teacher Education: five letters of recommendation, a letter of intent, a professional writing sample, official copies of transcripts, GRE scores, and a curriculum vitae/resume.

Admission Requirements: 1) Meet graduate school and program requirements, including an overall GPA of 3.0; 2) Hold a valid teaching license and three (3) years of teaching in K-12 settings; 3) A Master's degree in education or related field; 4) GRE Scores; 4) Evidence of potential to conduct scholarly research and academic writing.

A complete paper application packet must be submitted to the department of Teacher Education.

Application Deadlines

Summer/Fall Semester: March 1
Spring Semester: October 30

Degree Requirements: The doctoral program requires 72 hours of coursework (not including the dissertation) comprised of 48 hours in the major doctoral core and 24 hours in a focused support area that will draw from academic areas outside of the College. Details for other requirements can be found in the College of Education's description of Doctoral Programs. A midpoint evaluation is completed at 24 credit hours.

For more information contact:

Department of Teacher Education
Hokona Hall-Zuni, Room 121
(505) 277-4533
ted@unm.edu
<http://ted.unm.edu>

Educational Specialist Certificate

An Educational Specialist Certificate in Curriculum and Instruction is offered for practitioners interested in studies beyond the master's level, but not in a doctoral program. The certificate is intended to deepen knowledge and experiences in one area of interest to strengthen a practitioner's contributions to schools, communities, and educational agencies. The certificate requires 30 hours beyond the master's degree. Courses taken in this certificate program may not be transferred to the doctoral degree.

For more information contact:

Department of Teacher Education
Hokona Hall-Zuni, Room 121
(505) 277-4533
ted@unm.edu
<http://ted.unm.edu>

Department of Teacher Education Courses

Courses in the Teacher Education Program for Elementary Education, Secondary Education, and Multicultural Teacher and Childhood Education use two course subject codes: EDUC (Education) and MSET (Mathematics, Science and Educational Technology).

Education (EDUC)

124. Intro to Computers for Educators. (1)

An introduction to microcomputers, software and telecommunications. Emphasis placed on educational applications of software and hardware. Macintosh and DOS classes available.

220. Exploring Schools and Teaching. (2)

This course is open to all University students interested in exploring schools, teaching, contemporary education issues and teaching as a profession.

291. [CMTE 291.] Problems. (1-3 to a maximum of 3) Δ
Restriction: permission of instructor.

293. Topics in Education. (1-3, no limit) Δ

Various topics related to education from an interdisciplinary perspective.

296. [CMTE 296.] Internship. (3-6 to a maximum of 12) Δ

313. Developmental, Psychological and Social Issues in Education. (6)

Designed to meet the New Mexico State Board of Education entry-level competencies for teachers. Considers the critical and controversial issues in human development, learning and social problems in education.

321L. Teaching of Social Studies in the Elementary School. (3)

Development of conceptual framework for study of community-based curriculum with emphasis on the diverse cultures of the southwest and value clarification. Supervised work with children allows for in-depth analysis of both content and process. Three lectures, 1 hr. lab.

330L. Teaching of Reading. (3)

Study of reading process for emergent and intermediate readers focusing on: cueing systems, assessment, family and community contexts, language, culture and instruction in individual and small group settings. Lab includes supervised tutoring and discussion group.

331L. Teaching of Reading in the Elementary School. (3)

Establishing a theoretical framework for exploring various approaches to reading/language development, instruction and evaluation in multicultural classroom settings. Three lectures, 1 hr. lab.

333L. Teaching Oral and Written Language in the Elementary School. (3)

Study of oral and written forms of language. Background theory in language development and use in teacher-child interactions is presented and followed by carefully designed experiences with children. Three lectures, 1 hr. lab.

353L. Teaching of Science in the Elementary School. (3)

Methods, processes, content and management of children's science observation, exploration, discovery and invention; attitudes of inquiry and wonderment. Science integrated with math and other areas of life. Three lectures, 1 hr. lab.

361L. Teaching of Mathematics in the Elementary School. (3)

Strategies and materials appropriate for traditional and innovative instructional programs in elementary school mathematics. Supervised work with children allows for in-depth analysis of both content and process.
Pre- or corequisites: Math 111 and 112 and (MATH 121 or MATH 215).

362. Teaching Experience I. (3)

An early experience working in the schools to develop familiarity with students and the school culture. Seminar with six hours of field work weekly. **Offered on a CR/NC basis only.**

391./591. [CMTE 391./591.] Problems. (1-3 to a maximum of 3) Δ
(Also offered as MSET 391.)

400. Student Teaching in the Elementary School. (1-2-3-6-9-12-15 to a maximum of 15) Δ
Pre- or corequisites: 321L or 331L or 333L or 353L or 361L. Additional requirements are listed in previous section entitled "Student Teaching." **Offered on a CR/NC basis only.**
Restriction: admitted to Elementary Education.

***421. The Social Studies Program in the Elementary School. (Estudios Sociales en las Escuela Primaria.) (1-3 to a maximum of 3) [3] Δ**
Overview and development of the social studies curriculum within the contexts of the elementary school program and multicultural community settings.

***433. Oral and Written Language Program in the Elementary School. (Lenguaje Oral y Escrito en la Escuela Primaria.) (2-3 to a maximum of 3) Δ**
The development extension/elaboration and analysis of the language arts in both home language and English language. Creative methods and materials.

*438. Teaching Reading and Writing in the Content Field. (3)

Course explores issues of literacy development (i.e. reading, writing, listening and speaking) across core content areas of school curriculum. Required in secondary teacher education for all content specialization areas.
Restriction: permission of the department.

***453. The Science Program in the Elementary School. (1-3 to a maximum of 3) [3] Δ**

*461. The Mathematics Program in the Elementary School. (1-3 to a maximum of 3) [3] Δ

462. Student Teaching. (3-6-9-12 to a maximum of 15) Δ
Observation and teaching in secondary schools for one or more semesters. Weekly seminar meetings required with University supervisors.
Prerequisite: 362.

464. Student Teaching Seminar. (3)

A seminar linked to student teaching to address issues of teaching as a profession.
Corequisite: 462.

492. [CMTE 492.] Workshop. (Taller Pedagógico.) (1-4 to a maximum of 9) Δ
(Also offered as MSET 492.)

493./593. Topics. (1-3, no limit) Δ
Undergraduate and or graduate credit for students in Teacher Education working with faculty in specific topics identified by the course title.

493./593. [CMTE 493.] Topics in Education. (1-6, no limit) Δ
Various topics related to education from an interdisciplinary perspective.

495. [CMTE 495.] Field Experience. (3-6 to a maximum of 12) Δ
(Also offered as MSET 495.) Planned and supervised professional laboratory or field experiences in agency or institutional setting.

497. [CMTE 497.] Reading and Research in Honors. (3-6 to a maximum of 6) Δ
Restriction: permission of the major advisor.

500. Research Applications to Education. (3)
An exploration of the forms of research in teaching and learning. Students have opportunities to identify types of research and determine the significance of the conclusions of research.

501. High School Curriculum. (3)

Inquiry into high school curriculum with a focus on organization, models, goals setting, planning and evaluation.

502. [CMTE 500.] Advanced Instructional Strategies. (3)

Exploration of accomplished teaching through study, practice and inquiry. Subject matter pedagogy and the diversity of pathways for learning, assessment and special needs in instruction are addressed.

511. [CMTE 511.] Curriculum in the Elementary School. (3-12 to a maximum of 12) Δ

A study in the design, structure and implementation of curriculum in elementary classrooms. Other topics include historical perspectives of curriculum, influential factors on defining curriculum and theoretical connections.

512. [CMTE 512.] Arranging Learning Environments. (3)

Course assists experienced elementary teachers to build and design a conceptual framework about the teaching and learning process as it relates to the arranged classroom environment in which students and teachers operate.

513. [CMTE 513.] The Process of Teaching and Learning. (3)

Engages experienced teachers in the study and analysis of their own teaching and learning events through reflection and inquiry. Case studies, journals and narratives of teachers are used as tools for developing understandings.

516. [CMTE 516.] Integrating Curriculum in the Classroom. (3)

Inquiry and practice in integrating curriculum across disciplines of knowledge, children's diverse understandings, habits of mind and community needs and projects. Explores organization, models, goals setting, planning and evaluation.

531. The Reading Program in the Elementary School. (El Programa de Lectura en la Escuela Primaria.) (1-3 to a maximum of 3) Δ

Prerequisite: 331L.

542. [CMTE 542.] Principles of Curriculum Development. (3)

Focuses on issues of curriculum (K–12) from formal aspects of goals setting and planning to implicit issues of politics, culture and ideology.

560. [CMTE 560.] Instructional Leadership and Development. (3)

Focuses on supervision in terms of professional growth, staff development, and creating organizations in which learning, rather than power and control, is the center of attention. Supervision as evaluation is a relatively minor part of the course.

562. [CMTE 562.] Practicum in the Supervision of Instruction. (3 to a maximum of 12) Δ

The study about and practice of supervision of instruction in K–12 classroom settings. Designed to assist and improve capacities of student teaching supervisors, mentor teachers, clinical faculty and advanced graduate students in teacher education.

590. [CMTE 590] Seminar. (3)

For students in the Department of Teacher Education, this course synthesizes course work which has made up a master's degree program. Enhance and develop competence in professional communication, written and oral.

591./391. [CMTE 591./391.] Problems. (1-3 to a maximum of 6) Δ

A problems course, EDUC 591, is an acceptable substitute for EDUC 502 for all students in a teaching field endorsement program.

592. [CMTE 592.] Workshop. (1-4 to a maximum of 5) Δ**593./493. Topics. (1-3, no limit) Δ**

Undergraduate and or graduate credit for students in Teacher Education working with faculty in specific topics identified by the course title.

593./493. Topics in Education. (1-3, no limit) Δ**595. [CMTE 595.] Advanced Field Experiences. (3-6 to a maximum of 12) Δ**

(Also offered as MSET 595.) Planned and supervised advanced professional laboratory or field experiences in agency or institutional settings.

596. [CMTE 596.] Internship. (3-6 to a maximum of 12) Δ

(Also offered as MSET 596.)

597. [CMTE 597.] Directed Readings in Secondary and Adult Teacher Education. (3-6 to a maximum of 6) Δ**598. [CMTE 598.] Directed Reading in Elementary Education. (3-6 to a maximum of 6) Δ****599. [CMTE 599.] Master's Thesis. (1-6, no limit) Δ**

(Also offered as MSET 599.) Offered on a CR/NC basis only.

690. [CMTE 690.] Dissertation Seminar. (3)**696. [CMTE 696.] Internship. (3-6 to a maximum of 12) Δ**

(Also offered as MSET 696.)

698. [CMTE 698.] Directed Readings in Elementary/ Secondary Teacher Education. (3-6 to a maximum of 12) Δ**699. [CMTE 699.] Dissertation. (3-12, no limit) Δ**

(Also offered as MSET 699.) Offered on a CR/NC basis only.

Mathematics, Science and Educational Technology (MSET)

365. Microcomputers in Schools. (3)

Students explore constructivist learning theory as it applies to educational technology as a tool in the learning environment and examine the impact of technology in relation to the changing role of the teacher.

391./591. Problems. (1-3)

(Also offered as EDUC 391.)

***429. Teaching of Secondary Mathematics. (3)**

Corequisite: EDUC 362. Restriction: permission of instructor.

431. Teaching of Secondary Sciences. (3)

The methods, processes, content, assessment and management of inquiry-based learning for the secondary science classroom. (Grades 7–12).

492. Workshop. (Taller Pedagógico.) (1-4 to a maximum of 9) Δ

(Also offered as EDUC 492.)

493./593. Topics. (1-3, no limit) Δ

Undergraduate and or graduate credit for students in Teacher Education working with faculty in specific topics identified by the course title.

495. Field Experience. (3-6 to a maximum of 12) Δ

(Also offered as EDUC 495.) Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Restriction: permission of instructor.

515. Teaching Environmental Education. (3)

An exploration of specific teaching and learning methodologies for facilitating environmental literacy within a variety of education settings.

525. Multicultural Environmental Education. (3)

This course studies various cultural perspectives as they apply to the natural and human environment and to explore their specific influences on environmental education pedagogy.

530. Seminar in Science Teaching. (3)

This course addresses current and historical issues in science teaching and learning. Course topics may vary and are grounded in relevant research, current practice, learning theories, supervision, standards in teaching and cognition.

553. Seminar in Teaching Elementary Science. (3-12 to a maximum of 12) Δ

Course is designed to explore current and historical issues in elementary science teaching and learning. Course topics may vary and are grounded in relevant research, current practice, learning theories, supervision, standards in teaching and cognition.

561. Seminar in Teaching Mathematics. (3-12 to a maximum of 12) Δ

Students will read and discuss current research on teaching and learning mathematics in the K–12 mathematics curriculum. They will engage in activities that reflect the curricular content and instruction described in national and state standards.

565. Diagnostic and Corrective Techniques in Mathematics Teaching. (3)

This course has two primary objectives: assessment and remediation. Assessment is accomplished through quantitative and qualitative measures while remediation is reached through corrective measures suggested by the results of assessment.

591./391. Problems. (1-3 to a maximum of 12) Δ

593./493. Topics. (1-3, no limit) Δ

Undergraduate and or graduate credit for students in Teacher Education working with faculty in specific topics identified by the course title.

595. Advanced Field Experiences. (3-6 to a maximum of 12) Δ

(Also offered as EDUC 595.) Planned and supervised advanced professional laboratory or field experiences in agency or institutional settings.

596. Internship. (3-6 to a maximum of 12) Δ

(Also offered as EDUC 596.)

599. Master's Thesis. (1-6, no limit) Δ

(Also offered as EDUC 599.) Offered on a CR/NC basis only.

643. Curriculum Theory Seminar. (3)

(Also offered as LLSS 643.) Doctoral level seminar examining curriculum theory.

Restriction: permission of instructor.

696. Internship. (3-6 to a maximum of 12) Δ

(Also offered as EDUC 696.)

699. Dissertation. (3-12, no limit) Δ

(Also offered as EDUC 699.) Offered on a CR/NC basis only.



SCHOOL OF ENGINEERING

Arup Maji, Interim Dean
School of Engineering
Farris Engineering Center, Room 107
MSC01 1140
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-5521

Introduction

Engineers and computer scientists are creators, problem solvers and builders. They direct their imagination, ingenuity, resourcefulness and intelligence to the economical use of our natural resources. Few professions offer individuals greater challenge, stimulation and satisfaction of creative accomplishment. In these days, when breathtaking technological advances are commonplace and the impacts of technology are widely recognized, engineers and computer scientists require ever greater breadth and depth of mathematical and scientific knowledge, combined with a sympathetic appreciation of social, economic, ecological and human values. Engineers and computer scientists are not only the couplers of science and mathematics into human needs; they also are managers of people, resources and machines in effecting the satisfaction of these needs.

The School of Engineering (SOE) seeks to educate persons as engineers and computer scientists who are readily employable, contribute significantly in their jobs, have a strong public responsibility, and continue to learn. SOE also provides graduate-level programs for those who need to strengthen or extend their knowledge and abilities.

The curricula of the School of Engineering are designed to give students suitable education, attitudes and motivation for their entry into successful careers as practicing engineers, computer scientists, administrators, researchers or educators. The undergraduate programs are solidly founded on mathematics and the natural sciences, with additional emphasis placed upon human values and relations. Many graduates continue their formal education at the post-graduate level and work toward master's or doctoral degrees. Students must realize, however, that education does not stop with college graduation. True professional engineers and computer scientists never stop learning; they continually broaden their intellectual horizons.

Students in the School of Engineering have opportunities for scholarly study, laboratory exercise and research participation. They may interact with nationally recognized engineers and computer scientists. The University of New Mexico strongly believes that teachers must be competent professionals in their own right; faculty members are encouraged to participate actively in professional practice and research. This experience keeps the faculty involved with new developments, increases their understanding of subjects taught and gives students the benefit of their findings and personal experiences. Faculty and students work side by side in research and instructional laboratories.

Research organizations housed in and/or closely affiliated with the School of Engineering include: Center for High Technology Materials, Center for Micro-Engineered Materials, High Performance Computing Education and Research Center, Institute for Space and Nuclear Power Studies, Alliance for Transportation Research, Waste Management Education and Research Consortium, Advanced Materials Laboratory, Center for Biomedical Engineering, Intelligent Systems Engineering Center, and Manufacturing Training and Technology Center.

Accreditation

The baccalaureate programs in chemical, civil, computer, construction, electrical, mechanical and nuclear engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), 111 Market Place, Suite 1050, Baltimore, MD, 21202-4012, (410) 347-7700. The baccalaureate program in computer science is accredited by the Computing Accreditation Board of ABET, 111 Market Place, Suite 1050, Baltimore, MD, 21202-4012, (410) 347-7700. The baccalaureate program in construction management is accredited by the American Council for Construction Education. The School of Engineering is a member of the American Society for Engineering Education.

Undergraduate Programs

Undergraduate Degrees Offered

Bachelor of Science Degrees. The School of Engineering offers the degree of Bachelor of Science in Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Electrical Engineering, Mechanical Engineering, Nuclear Engineering, Construction Engineering and Construction Management. These curricula are designed as four-year programs for students who enter the program with all of the prerequisite skills and who carry the full course loads each semester. Students should anticipate more than eight regular semesters to complete the requirements for their degrees if they need preparatory courses to strengthen their skills or if they do not carry the prescribed course load every semester. Students who are employed while enrolled in course work are typically advised not to carry a full course load each semester.

3 + 2 B.S./M.B.A. Program. The School of Engineering recognizes that many engineers become managers of engineering programs and projects and thus require training in business methods beyond their engineering training. In cooperation with the Anderson School of Management (ASM) at the University of New Mexico, the School of Engineering offers a "3 + 2" program of studies leading to the BS and MBA degrees in five years. This program involves selecting core and technical electives that are compatible with both degree programs and applying to the MBA program at the end of the junior year of engineering studies. Consult your departmental advisor in engineering and the advisors for the MBA program in ASM for details of this program.

Degree in Combination with Other Colleges. If a student wishes to secure a degree in another college together with a School of Engineering degree, he or she is urged to seek advice early in the college program from the academic advisors of the colleges concerned. With care in selection of the program of studies, it is possible for students to secure a second degree in one additional year.

Military Studies. Students enrolled in Air Force, Naval or Army ROTC may need an extra semester to complete the requirements for both a degree and a commission. Students should consult an advisor or the department chair in planning their programs.

Admission Requirements

Academic Preparation

High school students intending to study engineering or computer science are strongly advised to take four full years of high school English, mathematics and science. High school chemistry and physics are very important for preparation for engineering degrees. High school mathematics should include at minimum: two years of algebra, one year of geometry and one year of pre-calculus. High school courses in calculus and computer programming are highly recommended. Students are encouraged to take Enriched, Honors or AP classes in mathematics and the sciences.

Preparatory courses are provided for students who need to strengthen their skills in math and/or English. The skill levels for all entering freshmen are determined by the results from the ACT or SAT. Additional information regarding math placement is provided in the *Schedule of Classes*.

Admission to the School of Engineering

Students who meet certain criteria may be admitted to the School of Engineering in one of three ways: as freshmen in pre-major status; as internal or external transfers or as readmits in a pre-major status; or as internal or external transfers or readmits in department major status.

Freshman students admitted to the University of New Mexico who declare engineering or computer science as a major and meet the criteria listed below are eligible for enrollment in the School of Engineering in a pre-major status. Their academic records will be maintained by the Engineering Student Programs Office. To be admitted in pre-major status, a student must have:

1. ACT math score of 25 or higher;
2. ACT English and Science scores of 19 or higher; and
3. ACT Reading score of 18 or higher.

Freshmen who do not initially meet the above criteria or any student wishing to transfer from University College, from other degree-granting colleges, from non-degree status or from other accredited institutions to the School of Engineering in the pre-major status must meet the following requirements. Their academic records will be maintained by the Engineering Student Programs Office.

1. MATH 150 and MATH 123 or equivalent with a grade of C or better;
2. Minimum 2.20 cumulative grade point average for all courses presented;
3. Minimum 2.50 grade point average in classes required in the curricula, including prerequisite classes;
4. Completion of no more than 24 credits that count toward a major in the School of Engineering, exclusive of credits in communications skills, humanities, social and behavioral sciences, fine arts and foreign languages; and
5. Accumulation of no more than 9 attempted credit hours with grades of D+, D, D-, F, WF or NC other than those subject to removal by academic renewal or use of the repeat policy.
6. Any courses required for a School of Engineering curriculum cannot have been attempted more than three times. An attempt includes receiving any letter grade (A through F), WP, WF, W, WNC, CR, NC, I or AUDIT. For the purposes of this requirement, course work taken at other institutions is treated the same as course work taken at the University of New Mexico.

To be eligible for admission to one of the five departments in the School of Engineering in a department major status, students must, as a minimum, meet the following requirements. Some departments have stricter admission requirements. Academic records will be maintained by the respective departments.

1. Completion of 26 hours of acceptable credit for a degree in the School of Engineering. Of these 26 hours of credit, at least 18 must be from the courses required in the first year curricula, excluding English, humanities, social and behavioral sciences, fine arts and foreign languages.
2. In addition to requiring a 2.20 grade point average for all courses presented, it is required that the 18 credits also yield at least a 2.50 grade point average and a grade of C- or better in each course.
3. Any courses required for a School of Engineering curriculum cannot have been attempted more than three times. An attempt includes receiving any letter grade (A through F), WP, WF, W, WNC, CR, NC, I or AUDIT. For the purposes of this requirement, course work taken at other institutions is treated the same as course work taken at the University of New Mexico.
4. Any specific program requirements, as noted in the departmental sections of this catalog.

For additional information about pre-major status or other aspects of admission, contact the Engineering Student Services Office, Electrical and Computer Engineering Building, Room 133, (505) 277-4354.

Graduation Requirements

Specific graduation requirements are as follows:

1. Candidates for bachelor's degrees must complete all of the work outlined in their respective curricula. The student is solely responsible for completing all requirements for graduation.
2. Students must file applications for degrees with their department chair during the second semester of their junior year but in no case later than when they have completed 100 semester hours acceptable toward the degree.
3. Each candidate for a degree must have at least a 2.00 GPA on work taken at the University of New Mexico which is counted toward the degree and at least a 2.00 GPA on all work taken at the University of New Mexico. In order to count toward graduation, each course required in a School of Engineering curriculum must be completed with a grade of C- or better. Courses used to fulfill the University of New Mexico core curriculum require a grade of C or better. Departments may have more restrictive academic requirements which also must be met.
4. All course work required for graduation in a School of Engineering degree program must be successfully completed within three attempts. This includes courses offered by other departments at the University of New Mexico, such as mathematics and physics. An attempt includes receiving any letter grade (A through F), WP, WF, W, WNC, CR, NC, I or AUDIT. For the purposes of this requirement, course work taken at other institutions is treated the same as course work taken at the University of New Mexico.
5. Students who have accumulated 30 or more hours of D+, D, D-, F, WF or NC other than those subject to removal by academic renewal or use of the University of New Mexico repeat policy will not be allowed to graduate from a School of Engineering degree program.
6. For minimum residence requirements, see the section of this catalog on University-wide Graduation Requirements.
7. Physical education activity courses are not acceptable toward bachelor degree requirements in the School of Engineering.
8. Introductory Studies courses are not acceptable toward bachelor degree requirements in the School of Engineering.
9. Total number of hours required for graduation varies, depending on the specific program.
10. Requirements for all bachelor's degrees in the School of Engineering include the requirements of the University of New Mexico Core Curriculum. In some cases, specific Core courses are already incorporated in the

degree programs. In other cases, some choice is left to the student. Specific Core requirements and allowable courses are given in the general University of New Mexico graduation requirements.

Additional Information

Advisement

Academic advising is mandatory each semester for all students in the School of Engineering. Students may not register for classes until after being advised. Students in their first year of pre-major status are advised in the Engineering Student Services (ESS) Office. More advanced pre-major students and students admitted to departmental programs are advised by designated advisors in the departments. Each student admitted to the School in a department major status is responsible for meeting with the assigned academic advisor in his or her major field every semester prior to registration. Students intending to major in engineering or computer science who have not yet been admitted to the School of Engineering are encouraged to meet with an academic advisor in the ESS Office each semester in addition to an advisor in his or her current college (e.g., an advisor in the University College Advisement Center).

Student Diversity

The School of Engineering recognizes that ethnic minorities and women have been under-represented in the engineering and computer science professions and that this is a particularly important issue in New Mexico. Therefore, the School provides a variety of services through the Engineering Student Services Office. Study groups, tutoring, workshops, summer programs and scholarships are offered through these offices. Four student groups are also sponsored: Hispanic Engineering and Science Organization (HESO), American Indian Science and Engineering Society (AISES), National Society of Black Engineers (NSBE) and Society of Women Engineers (SWE). The primary goal of these programs and services is to increase the retention and graduation rates of minority students and women in engineering and computer science.

Licensure

All students pursuing engineering degrees are encouraged to take the Fundamentals of Engineering Examination during their senior year as a first step toward becoming Registered Professional Engineers. Students in some degree programs are required to take this examination prior to graduation.

Probation, Suspension and Dismissal

Students who are not making progress towards degree requirements due to poor grades are subject to the UNM policies on probation and suspension described in the Student Services Information section of the catalog. In addition, the School of Engineering has policies on probation and dismissal from the School that are described below.

School of Engineering Probation

A student enrolled in the School of Engineering (SOE) will be placed on **School of Engineering Probation** under any of the following conditions:

1. For pre-major students, when the cumulative grade point average based on work taken at the University of New Mexico and accepted toward a particular School of Engineering degree falls below 2.50 or below 2.00 in the most recent semester.
2. For students already admitted to an SOE degree program, when the cumulative grade point average based on work taken at UNM and accepted toward a particular SOE degree falls below 2.00 or below 1.50 in the most recent semester.

3. When there is unsatisfactory progress towards a School of Engineering degree.
4. Upon admission to the University of New Mexico and SOE as a transfer student with a poor academic record at other schools.
5. When a student is placed on UNM academic probation.

Dismissal from School of Engineering

A student on School of Engineering Probation during any semester or summer session may, at the end of that term, be dismissed from the SOE if the condition for the probation has not been removed. A student who has been dismissed from SOE is not permitted to register for any course offered by the School of Engineering.

A student on SOE Probation may be dismissed for any of the following reasons:

1. Not making satisfactory progress towards an SOE degree.
2. Not meeting the conditions for being removed from probation at the end of the specified semester.
3. For students who have been admitted to an SOE degree program, accumulating 30 or more attempted credits of D+, D, D-, F, WF, or NC other than those subject to removal by academic renewal or use of the repeat policy.
4. For pre-major students, accumulating 12 or more attempted credits of D+, D, D-, F, WF, or NC other than those subject to removal by academic renewal or use of the repeat policy.
5. Suspension from UNM.
6. For pre-major students, accumulating 50 or more attempted credits that count toward a major in the School of Engineering without being admitted to a SOE department.
7. Failing to successfully complete a course required for the curriculum in three attempts. (See Graduation Requirements.)

In rare circumstances, a student who has been dismissed from SOE may be readmitted. Students wishing to return to the SOE must meet with a departmental or pre-major advisor in SOE to complete an admission plan. This plan will articulate the steps required in order for the student to regain admission to an SOE program. This plan will include a set of specific courses (typically between two and four courses) that are applicable to the degree. These courses must be completed within a certain time frame (typically one or two semesters) with specific required grades in each course (typically B or better). Students who do not successfully complete the admission plan will not be readmitted to SOE and will not be allowed to take classes offered by the School of Engineering.

Testing (CLEP, AP and ACT)

The School of Engineering grants credits for courses in its degree programs for performance on nationally administered examinations only when specific course equivalence has been established by the University department associated with the subject matter of the course. (See *CLEP Subject Examination* and *CEEB Advanced Placement Program*.) Students may not have been previously enrolled or have earned a W/WP/WF grade in the course at the University of New Mexico.

A student who scores high enough on the English portion of the Enhanced ACT exam or on the verbal portion of the SAT exam, as determined by the English Department and published in the *Schedule of Classes*, is not required to take English 101 or 102. The student may graduate with fewer credit hours than normal, so long as the total degree hours do not fall below 128, or may make up the difference by taking another course.

Transfer Procedures

Students transferring from another institution to the University of New Mexico, from another college within the University to the School of Engineering, or from one program to another within the School of Engineering must comply with the academic requirements in effect at the time of the transfer. For additional University policies, see "Catalog Requirements" in the section entitled *Graduation Requirements*.

A transfer student from another university who does not meet the requirements for admission to the School of Engineering may be eligible to enroll in other University of New Mexico units until the admission requirements have been met. If such a transfer student is ineligible to enroll in other University of New Mexico units, the student should seek advisement in the School of Engineering Student Programs Office.

Scholastic Regulations

Students should become familiar with the general academic and scholastic rules that apply to all students enrolled in the University. Special attention is called to the rules on probation and suspension of the School of Engineering.

Courses Numbered 300 or Above. School of Engineering courses numbered 300 and above are intended for students majoring in one of the SOE degree programs. Non-majors may only take these courses with the written permission of the Associate Dean for Academic Affairs. Students who are in pre-major status, or who have been admitted to one of the SOE degree programs may register for courses numbered 300 or above that are required in the junior and senior years of their program in the School of Engineering only if: 1) they are not more than 8 hours short of completing all freshman and sophomore requirements, including any 300-level courses within these requirements; 2) they have completed all prerequisites for the course in question; and 3) they take all remaining freshman and sophomore course requirements at that time; OR 4) they obtain written approval from the department in which the student's program resides. If a student fails a required course listed in the freshman or sophomore years of his or her program while enrolled in another required 300 or 400-level course, the student will not be eligible to enroll in additional 300 or 400-level courses until all required courses listed in the freshman and sophomore years have been completed. Failure by a student to observe this rule can result in the student being placed on School of Engineering probation or dismissed from the School of Engineering.

The School of Engineering will not accept 300-level or above engineering courses which have been taken by extension or correspondence except by prior approval of the appropriate Department Chair and the Associate Dean for Academic Affairs.

Maximum Semester Hour Load. The maximum semester hour load for students in the School of Engineering is 18 hours, including physical education. Only in exceptional cases and with approval of the Associate Dean for Academic Affairs' office will a student be permitted to carry 21 or more hours.

Pass/Fail (CR/NC) Grading Option. Students in the School of Engineering may take only humanities, arts, languages and social and behavioral science electives and courses not counting toward their degrees on a pass/fail (CR/NC) basis. All other courses counting toward their degrees must be taken for a letter grade unless the course is offered only on a pass/fail basis. Any exceptions must be approved by the Associate Dean for Academic Affairs.

Prerequisites and Corequisites. Students are required to fulfill all course prerequisites and corequisites as listed in the catalog or required by the instructor of the course. Students who do not meet prerequisites and corequisites for a course will be disenrolled from that course.

Curricula Requirements in the School of Engineering

Information about the degree programs offered in the School of Engineering and descriptions of their respective courses and the departments in which they are housed are provided in the following order:

Chemical Engineering, Nuclear Engineering, Civil Engineering, Construction Engineering, Construction Management, Computer Science, Electrical Engineering, Computer Engineering and Mechanical Engineering.

Descriptions of the engineering courses for students not majoring in engineering (ENGN course designation), the general courses for engineering students (ENG designation), and courses taken by students participating in the Engineering Cooperative Education Program (ECOP designation) complete the School of Engineering portion of the catalog. They are found in the *Other Courses of Instruction* section.

Dean's List and Honor Roll

To be placed on the Dean's Honor Roll in the School of Engineering, students must achieve a minimum semester grade point average of 3.50 on a minimum of 15 credit hours. To be placed on the School Honor Roll in the School of Engineering, students must achieve a minimum semester grade point average of 3.20 on a minimum of 12 credit hours.

Graduate Programs

Students wishing to pursue graduate programs in engineering or computer science must meet both the requirements for admission to graduate study and the particular prerequisites established by the School of Engineering department through which the desired program is offered.

Applicants are normally expected to hold bachelor's degrees in the same field as their proposed graduate study. Departments will also consider applicants holding bachelor's degrees in mathematics, the physical and biological sciences or other fields of engineering. In such cases, applicants will be required to satisfy specified prerequisites, listings of which can be obtained from the Departmental Graduate Advisor. As conditional admissions are not granted, prospective students lacking the required background are advised to satisfy prerequisites on a non-degree basis before admission is sought. In some cases, students with a small prerequisite requirement may be admitted to graduate studies. Outstanding prerequisites are added to the degree requirement. All applicants must submit the results of the Graduate Record Exam General Test to the appropriate department prior to admission.

Interdisciplinary Concentration. In addition to the programs offered by the individual departments, concentrations involving disciplines from more than one department may be undertaken. These concentrations are tailored to accomplish specific goals. These interdisciplinary concentrations do not result in separately titled degrees. Rather, at the M.S. level, students will receive their degrees from their resident engineering department. At the Ph.D. level, all students receive the Ph.D. in Engineering or Computer Science with a concentration in a specific discipline. For further information contact the departments involved.

Financial Assistance. Most full-time graduate students in the School of Engineering are supported through research assistantships and/or teaching assistantships. Applications for and appointments to these assistantships are made by the individual departments. In addition, there are a limited number of fellowships available: contact the graduate advisor in the appropriate department for information on fellowships.

Master of Science

The University, under the auspices of the departments of the School of Engineering, offers a Master of Science degree program to any student holding a bachelor's degree from an accredited institution, if the student can qualify to pursue a major in one of the departments of the college. The graduate advisor of the department in which the student wishes to major, or a designated alternate, will be the student's advisor and will work out a program of studies for the student to follow in completing the requirements for the degree. A student may be required to take certain courses without degree credit to remove deficiencies or to broaden his or her training.

Plan I

1. A total of 30 semester hours including a minimum of 24 hours of course work.
2. A minimum of 9 hours of 500-level courses in the major and minor fields combined.
3. At least 18 semester hours completed at the University of New Mexico.
4. Six to 9 hours of Thesis (599) credit, with a maximum of 9 hours of thesis and problems or independent research, combined.

Plan II

1. A minimum of 32 semester hours of course work.
2. A minimum of 12 hours of 500-level courses in the major and minor fields combined.
3. A limit of 6 hours of problems courses in the major and minor fields combined.
4. At least 24 hours completed at the University of New Mexico.

A master's degree program in engineering is available for students at the Center for Graduate Studies at Los Alamos. Approved courses offered at this center carry graduate credit. Those interested should write for details to the graduate advisor of the department of their particular field of engineering. Advisement is required for graduate students each semester.

NOTE: Individual department requirements may differ. See the appropriate departmental requirements. Students must also meet all University-wide requirements.

One Year M.S. Program

The departments in the School of Engineering offer programs leading to the Master of Science degree that can be completed in one calendar year. For further details, refer to the sections of this catalog describing the graduate program in each department.

Master of Engineering

The Master of Engineering degree is offered by the School of Engineering for professional development in specific areas of developing technology and specific areas of immediate need to society. The degree is presently offered in Manufacturing Engineering (M.E.M.E.) and in Hazardous Waste Engineering (M.E.H.W.E.). Admission requirements to the programs are the same as for the Master of Science degree.

M.E. in Manufacturing Engineering

The Master of Engineering in Manufacturing Engineering has concentrations in computer integrated manufacturing (CIM), mechanical and equipment manufacturing (MEM) and semiconductor and electronics manufacturing (SEM). For the CIM and MEM concentrations, at least three electives must be selected from a set of CIM or MEM concentration courses respectively, defined by the Manufacturing Engineering Program. The semiconductor and electronics manufacturing concentration has a special core that covers semiconductor

process design, microelectronics design and processing, and factory design and operations, and a special set of concentration courses that cover microelectronics processing technology. A total of 33 hours is required for the Master of Engineering degree (curricula, by concentration, are listed below). Interested students should contact the Director of the Manufacturing Engineering program.

The curriculum for the Master of Engineering degree, for the Computer Integrated Manufacturing concentration (CIM) and the Mechanical and Equipment Manufacturing (MEM) concentration is:

ME/			
ECE 585	Modern Manufacturing Methods		3
MGMT 506	Organizational Behavior Diversity		3
MGMT 504	Microeconomics for Managers		3
ME 583	Statistical Methods for Improving Product Quality		3
CS 492	Introduction to Computers in Manufacturing		3
ME 586	Design for Manufacturability		3
Elective	Concentration Elective		3
Elective	Concentration Elective		3
Elective	Concentration Elective		3
Elective	(for Plan II)		3
CS/			
ECE/ME	Project (or 6 hrs. Thesis, Plan I)		3
Total Credit Hours			33

The curriculum for the Master of Engineering degree, for the Semiconductor and Electronics Manufacturing concentration (SEM) is:

ME/			
ECE 585	Modern Manufacturing Methods		3
MGMT 506	Organizational Behavior Diversity		3
MGMT 504	Microeconomics for Managers		3
CHNE 586	Statistical Design of Experiments for Semiconductor Manufacturing		3
ECE 487	Semiconductor Factory Design and Operations		3
ECE 473	Semiconductor Materials, Devices, and Circuits		3
ECE 574L	Microelectronics Processing I		3
ECE 579	Adv Microelectronics Process		3
ECE 529	Process Integration and Test		3
Elective	(for Plan II)		3
CHNE/CS/			
ECE/ME	Project (or 6 hrs. Thesis, Plan I)		3
Total Credit Hours			33

In addition to the above courses, regardless of concentration, a 3-month Internship at an industrial manufacturing site is required, at no credit. It is also expected that if the student elects to pursue a Project (Plan II), that it will be done in collaboration with an industry partner.

The School of Engineering and the Anderson Schools of Management offer a dual degree program leading to the degrees of Master of Engineering in Manufacturing Engineering (M.E.M.E.) and the Master of Business Administration (M.B.A.). For details, see the graduate section of the catalog.

M.E. in Hazardous Waste Engineering

The Master of Engineering in Hazardous Waste Engineering offers comprehensive education in hazardous and radioactive waste engineering, primarily for professionals who are already, or who expect to be, working in this area. It is a practice-based professional degree offered primarily through the Chemical and Nuclear Engineering and the Civil Engineering Departments. Students interested in research-based master's degrees related to hazardous waste engineering should apply and enroll in an M.S. program in an appropriate department.

Admission to the Master of Engineering in Hazardous Waste Engineering requires a B.S. degree in Chemical, Civil or Nuclear engineering or a degree in a related field with certain



additional course requirements. Completion of the degree requires 36 credit hours of courses, with at least 12 at the 500-level or above and at least 18 taken within the School of Engineering. Courses are required in three areas: core, breadth and specialization. The Core requirement is CE 539 *Radioactive Waste Management*. Breadth requirements are 8–12 hours of courses outside the specialization area, including at least one course in legal topics related to waste management. Specialization requirements are 18 to 22 hours in a specialized area, including a 3-hour independent study project or practicum, selected in consultation with the student's committee on studies. The student must also pass a Master's Examination in hazardous waste engineering after completion of 24 hours of course work.

Doctor of Philosophy

The degree of Doctor of Philosophy is offered under regulations set forth in earlier pages of this catalog. The general policies and procedures relating to graduate studies in the School of Engineering can be obtained from the departmental graduate advisors. A prospective candidate for this degree must have an acceptable bachelor's or master's degree, or equivalent, in some field of engineering, the physical sciences or mathematics. For more specific departmental requirements for the degree, prospective candidates should consult the specific statements for the different departments in their sections of this catalog and should also communicate with the graduate advisor of the department. The applicant must also present satisfactory evidence of adequate preliminary training and ability in the field of major interest.

The minimum amount of course work required for the Doctor of Philosophy degree is 24 hours beyond the master's degree or 48 hours beyond the bachelor's degree. This requirement is exclusive of dissertation or master's thesis. These are minimum requirements; ordinarily, more than the 48 hours will be necessary. The program of each student is an individual matter planned by the committee on studies.

Nanoscience & Microsystems (NSMS) M.S. & Ph.D. Degree Program

The School of Engineering participates in the interdisciplinary NSMS program; for more information, see the Graduate Interdisciplinary Studies section of this catalog.

Computational Science and Engineering Certificate

The Computational Science and Engineering (CSE) certificate program is an interdisciplinary graduate program open to students in the following participating departments: Biology, Chemical and Nuclear Engineering, Chemistry, Civil Engineering, Computer Science, Earth and Planetary Sciences, Electrical and Computer Engineering, Mathematics, Mechanical Engineering, Physics and Astronomy and Psychology. It is also open to students who already have a graduate degree in a mathematical, scientific or engineering discipline. Its purpose is to prepare students to effectively use high-performance computing within their disciplines.

A Master's or Ph.D. degree with a certificate in computational science and engineering is a degree in one of the participating departments. To complete the CSE program with degree students must:

- Complete all degree requirements of their home department.
- Complete the two course sequence CS/MATH 471 (*Introduction to Scientific Computing*) and CS 442/ECE 432 (*Introduction to Parallel Processing*).
- Master's Students: In addition to the two course sequence, complete 6 hours from the approved list of CSE electives or 3 hours from the approved list of CSE electives and a thesis.
- Ph.D. Students: In addition to the two course sequence, complete 9 hours from the approved list of CSE elec-

tives, at least one of which is listed outside the home department.

- At least one faculty member from the Associated Faculty list must be on a student's Master's or Ph.D. committee, and any thesis must contain a significant computational component.
- CSE students from the Computer Science Department will be required to complete at least two CSE electives in an application area, or, for Master's students electing the thesis option, the one CSE elective must be in an application area and the thesis must have a significant applied computing component.

To complete the post-degree CSE program students must:

- Complete the two course sequence CS/MATH 471 (*Introduction to Scientific Computing*) and CS 442/ECE 432 (*Introduction to Parallel Processing*).
- In addition to the two course sequence, complete 9 hours from the approved list of CSE electives.
- Complete an advanced computation project (minimum of 3 credit hours), under the direction of one of the associated faculty, and present it at an open forum.

Admission to the CSE program is based on academic record and letters of recommendation. GRE scores may also be considered for students in a degree program. Prerequisites for admittance into the CSE program in addition to a bachelor's degree are:

- For the certificate with degree, admission to a participating department. For post-degree CSE students, a graduate degree in a mathematical, scientific or engineering discipline and official enrollment at the University of New Mexico. (Non-degree status is acceptable. However, for the certificate to be posted on the transcript, a student must be admitted to a participating department.)
- One year of general college physics or chemistry.
- One year of differential/integral calculus, a course in multivariable calculus, a course in differential equations and a course in linear algebra.
- A course in computer programming (either FORTRAN, C or C++408) or equivalent experience. It is required that a second course on the level of CS 251L be completed or equivalent experience demonstrated as prerequisite to CS 442/ECE 432.

Students may petition the Program Committee to substitute a course (of an equivalent number of credit hours) for any of the courses of the approved curriculum.

Detailed information about the CSE program, including current lists of approved electives and associated faculty, may be obtained over the Internet at <http://www.hpcerc.unm.edu>, or by writing to: Computational Science and Engineering Program, The University of New Mexico, HPCERC, Galles Building, 1601 Central NE, Albuquerque, NM 87131.

Certificate in Systems Engineering for School of Engineering M.S. and Ph.D. Programs

The Certificate in Systems Engineering (CSE) is a graduate program open to students seeking the M.S. or Ph.D. degrees in the School of Engineering. The participating departments are: Electrical and Computer Engineering, Mechanical Engineering, and Nuclear Engineering. The certificate is a credential in addition to the M.S. or Ph.D. degree. To complete the CSE program, students must:

- Be admitted to one of the graduate programs within the School of Engineering.
- Complete all degree requirements of their home department.
- Complete the four core courses listed below. The four core courses are taken as electives within the existing degree programs, so no additional course work is necessarily required for the systems engineering certificate.
- Master's students: complete a thesis (Plan I) or project (Plan II) in the area of systems engineering. These proj-

ects may be supervised by a UNM faculty member, or may be a collaboration with an adjunct faculty member from local industry or government laboratories.

- Normal UNM rules regarding the chair of thesis committees apply.
- Ph.D. students: complete a dissertation in the area of systems engineering. The dissertation project may be a collaboration with an adjunct faculty member from local industry or government laboratories.
- Normal UNM rules regarding the chair of dissertation committees apply.

Students who intend to obtain the Certificate in Systems Engineering as part of their M.S. or Ph.D. program should indicate this on their application to the graduate program.

A post-degree Certificate in Systems Engineering is also available for students who already have an M.S. or Ph.D. in an engineering discipline from an accredited engineering or computer science program. To complete the post-degree CSE program, students must:

- Complete the four core courses listed below.
- Complete a project supervised by an SOE faculty member, or by an adjunct faculty member from local industry or government laboratories.

Core Courses

ENG 501 System Engineering Design
 ENG 502 System Architecture
 ENG 503 Systems Engineering Management
 **CS 460 Software Engineering

The core courses can also be taken via distance education programs offered through the Air Force Institute of Technology (AFIT) in Dayton, OH.

Graduate Degrees Offered

Master of Science Degrees

A program of graduate studies is offered by the School of Engineering leading to the Master of Science in Chemical Engineering, Civil Engineering, Computer Science, Computer Engineering, Construction Management, Electrical Engineering, Optical Science and Engineering, Mechanical Engineering and Nuclear Engineering.

Master of Engineering Degrees

The School of Engineering offers programs leading to Master of Engineering degrees in Manufacturing Engineering and in Hazardous Waste Engineering. The School of Engineering and the Anderson Schools of Management offer a dual degree program leading to the degrees of Master of Engineering in Manufacturing Engineering (M.E.M.E.) and the Master of Business Administration (M.B.A.) For details, see the graduate section of the catalog.

Doctor of Philosophy Degrees

The School of Engineering offers programs leading to Doctor of Philosophy degrees in Engineering (with concentrations in chemical, nuclear, civil, electrical, computer and mechanical engineering), in Computer Science, and in Optical Science and Engineering (with concentration in optical engineering).

M.S. and Ph.D. in Nanoscience and Microsystems (NSMS)

The M.S. and Ph.D. degree programs in NSMS prepares individuals for careers in the emerging fields of nanotechnology and microsystems. The program includes three Concentrations: Nano-Bio Interfaces, Complex Functional Materials, and Information Nanotechnology. It is a collaborative effort among several departments in the College of Arts and Sciences and the School of Engineering, with numer-

ous cross-listed and team-taught courses. In the School of Engineering the departments of Chemical and Nuclear Engineering, Computer Science, Electrical and Computer Engineering, and Mechanical Engineering participate with some of their faculty in the NSMS teaching and research team. Therefore, students who choose the NSMS degree program can continue to be advised by and to conduct research with faculty in those departments. For more details, see the full description in the Graduate Interdisciplinary Studies section of the catalog.

CHEMICAL AND NUCLEAR ENGINEERING

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 Joseph L. Cecchi, Ph.D., Harvard University
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 Cassiano de Oliveira, Ph.D., University of London
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 Steven W. Graves, Ph.D., Pennsylvania State University
 Sang. M. Han, Ph.D., University of California-Santa Barbara
 Taro Ueki, Ph.D., University of Michigan

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 Dimiter Petsev, Ph.D., University of Sofia

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 David Kauffman, Ph.D., University of Colorado*
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 Eric Carnes, Ph.D., University of New Mexico

The University of New Mexico

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 David Whitten, Ph.D., Johns Hopkins University

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 Glenn A. Taylor, Ph.D., University of North Carolina
 Chung-Yi Tsai, Ph.D., Worcester Polytechnic Institute
 Frank van Swol, Ph.D., University of Amsterdam
 James S. Warsa, Ph.D., University of New Mexico

* Registered Professional Engineer in New Mexico.

Overview

The Department of Chemical and Nuclear Engineering (CHNE) offers two undergraduate degree programs, one in chemical engineering and one in nuclear engineering. General department policy on admissions and grading are listed below, followed by detailed descriptions of the two degree programs.

Mission Statement

The B.S. programs in the Department of Chemical and Nuclear Engineering will provide an outstanding education that prepares students to be productive and responsible members of society, with the skills and knowledge to be successful in their professional careers or post-graduate studies. This will be accomplished by engaging students in a variety of academic, research and service activities, and fostering a learning environment that is supportive for a body of students that is diverse in terms of age, gender, ethnicity, and prior educational background.

Admission to Baccalaureate Programs

To earn a baccalaureate degree in chemical or nuclear engineering, a student must apply to and be admitted to the respective baccalaureate program in the Department of Chemical and Nuclear Engineering. For students who have entered the University of New Mexico as freshmen, application to the department's programs is typically made in the sophomore year. In most cases, such students will have been admitted to the School of Engineering as pre-majors (see "Admission to the School of Engineering" in the School of Engineering section of this catalog). Transfer students may apply to the department's baccalaureate programs as soon as they have met the program admission requirements discussed below. The department strongly encourages all

students who are interested in entering either the baccalaureate program in chemical or in nuclear engineering to apply to the department as soon as they are eligible, to ensure that they receive the proper advisement.

The criteria for admission to the Baccalaureate Programs in Chemical Engineering and Nuclear Engineering are specified in detail in the respective advisement brochures, which may be obtained from the department. There are 18 semester hours of Freshman year technical subjects required by the School of Engineering for admission, and a minimum grade point average of 2.50 in those courses is required for admission to undergraduate study in either Chemical or Nuclear Engineering. A total of 26 semester hours applicable to a degree is required for admission with a grade point average of at least 2.20. All applicants must have completed English 101 or its equivalent before admission. All courses required in a Baccalaureate degree program in the CHNE department must have grades of C- or better for satisfying both admission and graduation requirements.

Policy on D or D+ Grades

Students admitted or readmitted to the Chemical or Nuclear Engineering degree programs may not apply a course toward the B.S. degree in Chemical or Nuclear Engineering if the highest grade earned in the course is a D+ or less, regardless of where that grade was earned.

Chemical Engineering**Undergraduate Advisor**

Abhaya K. Datye

Introduction

The principles and approaches that make up chemical engineering are rooted in the world of atoms, molecules and molecular transformations, and chemical engineers have been leaders in extending our ability to manipulate materials on the atomic scale. Chemical engineers are on the forefront of rapidly developing areas that include biotechnology and biomedicine, semiconductor manufacturing and data storage devices, and advanced materials with precisely-controlled nanostructures. Chemical engineering is a rapidly evolving discipline that offers the excitement of developing cutting-edge products and the satisfaction of making important contributions to technology that improves our lives. Chemical engineering has a rich history of contributions to the nation's technology base for production of chemicals and materials for consumer products and basic commodities. Chemical engineers have long played key roles in a diverse set of industries that include petroleum, food, pharmaceuticals, artificial fibers, petrochemicals, plastics and ceramics, to name a few. In these areas, chemical engineers design and develop the processes for large-scale manufacturing that result in affordable products that are essential to our way of life. Chemical engineers also work in the areas of environmental protection and remediation, process safety and hazardous waste management.

The diverse applications of chemical engineering, as well as the ability of chemical engineers to be on the leading edge of new fields, derive from the breadth of the chemical engineer's education. The chemical engineering curriculum at the University of New Mexico offers broad training in the fundamentals of mathematics, physics, chemistry and the engineering sciences. These are integrated with the chemical engineering "core" which includes: thermodynamics, heat, momentum and mass transport, chemical reaction engineering, design, and process control.

Students choose electives which are grouped into concentrations to provide expertise in specific areas. A concentration consists of three advanced chemistry courses and three technical electives. Concentrations include chemical process engineering, bioengineering, materials processing, semiconductor manufacturing, and environmental engineering.

Undergraduate chemical engineering students benefit greatly from the extensive research activities of our faculty in strategic areas of chemical engineering. The research activities are well integrated and supportive of our teaching mission and have enabled us to continually improve the quality of our laboratory courses. A significant number of undergraduates participate in one-on-one research projects with individual faculty, often focused on the student's area of concentration. The nearby national laboratories provide additional opportunities for student research. Learning is enhanced with such hands-on experience, and students are more competitive when they leave the University of New Mexico. Our research activities have allowed us to develop new courses and to alter the content of existing courses to incorporate state-of-the-art knowledge and practice.

The chemical engineering graduate will find many avenues of opportunity in chemical processing, food and consumer products, fibers and textiles, biotechnology, advanced materials, semiconductor manufacturing, environmental protection and remediation and other vital industries. Extensive opportunities also exist for students desiring to work towards advanced degrees in the field. And finally, a chemical engineering undergraduate degree represents an excellent foundation for an advanced professional degree in medicine, business or law.

Graduates of the undergraduate program in Chemical Engineering will be successfully progressing in their careers or post-graduate endeavors in diverse chemical engineering areas, including chemical process engineering, biomedical engineering, materials processing, semiconductor manufacturing, and environmental engineering, by:

- 1) demonstrating technical competence,
- 2) solving technical problems efficiently, and
- 3) communicating effectively in both written and oral forms.

The most up-to-date version of the objectives is available at the web site (<http://www-chne.unm.edu/>).

Curriculum in Chemical Engineering

The Bachelor of Science Program in Chemical Engineering is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 - telephone (410) 347.7700.

Hours required for graduation: 132⁹

First Year—First Semester		Hrs. Cr.
CHNE 101	Introduction to Chemical Engineering and Nuclear Engineering	1
MATH 162	Calculus I	4
CHEM 121	General Chemistry	3
CHEM 123L	General Chemistry Lab	1
ENGL 101	Composition I: Exposition	3
	Core Humanities Elective ³	3
		15
Second Semester		
MATH 163	Calculus II	4
CHEM 122	General Chemistry II	3
	124L General Chemistry II Lab	1
CS 151L	Computer Programming Fundamentals for Non-Majors/Lab	3
ENGL 102	Composition II: Analysis and Argument	3
PHYC 160	General Physics	3
		17
Second Year—First Semester		
CHNE 251	Chemical Process Calculations I	3
MATH 264	Calculus III	4
CHEM 301	Organic Chemistry	3
CHEM 303L	Organic Chemistry/Laboratory	1
PHYC 161	General Physics	3
ECON 105	Introductory Macroeconomics ⁴	3
		17

Second Semester		
CHNE 253	Chemical Process Calculations II	3
CHNE 302	Chem Engr Thermodynamics	4
MATH 316	Applied Ordinary Differential Equations	3
	Basic Science for Concentration ⁵	3
	Adv Chem for Concentration ⁶	3
		16

Third Year—First Semester		
CHNE 311	Introduction to Transport Phenomena	4
CHNE 317	Chemical and Nuclear Engineering Analysis	3
CHNE 318L	Chemical Engr Lab I	1
CHNE 361	Biomolecular Engr	3
ENGL 219	Technical and Professional Writing ⁴	3
	Adv Chem for Concentration ⁶	3
		17

Second Semester		
CHNE 312	Unit Operations	3
CHNE 321	Mass Transfer	3
CHNE 319L	Chemical Engineering Lab II	1
CHNE 371	Intro Materials Engr	3
	Basic Engineering Elective ⁷	3
	Adv Chem for Concentration ⁶	3
		16

Fourth Year—First Semester		
CHNE 418L	Chemical Engineering Lab III	1
CHNE 451	Senior Seminar	1
CHNE 461	Chemical Reactor Engineering	3
CHNE 493L	Chemical Engineering Design	3
	Technical Elective ⁸	3
	Core Humanities Elective ³	3
	Core Social/Behavior Science Elective ³	3
		17

Second Semester		
CHNE 419L	Chemical Engineering Lab IV	2
CHNE 454	Process Dynamics and Control	3
CHNE 494L	Advanced Chemical Engr Design	3
	Technical Elective ⁸	3
	Core Fine Arts Elective ³	3
	Core Second Language Elective ³	3
		17

Footnotes:

- ¹ Only courses with grades of C- or better may be applied toward the bachelor of science degree in chemical engineering.
- ² Students must file an application for the B.S. degree prior to the completion of 95 semester hours of applicable courses.
- ³ Students should consult with advisors to obtain a list of acceptable core humanities, social/behavioral science, fine arts and second language electives. These courses may be taken whenever convenient. Grade must be C- or better.
- ⁴ ECON 105 and ENGL 219 may be taken in either the sophomore or junior year.
- ⁵ PHYC 262 or BIOL 201, depending on the student's area of concentration.
- ⁶ A minimum of 9 credit hours of advanced chemistry, selected from among CHEM 302, 311, 312, 421, 431, or BIOC 423, depending upon the student's area of concentration. For illustrative purposes, the Spring semester Sophomore Year curriculum is shown assuming CHEM 302 as the advanced chemistry concentration. Other advanced chemistry courses may be substituted. One semester of Physical Chemistry is required for all concentrations. Up to four hours of other natural science courses may be substituted for advanced chemistry. Such advanced natural science courses must build on basic science prerequisites and may include physics, life sciences, and material science. The courses chosen must represent a logical sequence of courses for the concentration and must be approved by the academic advisor.

- 7 Recommended course CHNE 213. Alternatives are CE 202, CE/ME 304 or ECE 203. Students in the semiconductor processing concentration may wish to take ECE 203.
- 8 Technical electives are chosen from approved upper-division courses in engineering, mathematics and science. The department requires that these courses be part of an approved concentration. The chairperson may allow up to 6 hours of technical electives for students taking required ROTC courses in aerospace or naval science.
- 9 Students are encouraged to take the Fundamentals of Engineering (FE) Examination during their senior year. This is the first formal step toward professional registration.

Persons having special needs and requiring auxiliary aid or service should contact the Department of Chemical and Nuclear Engineering (ADA and Rehabilitation Act of 1973).

Chemical Engineering Concentrations

Future chemical engineers will conceive and solve problems on a range of scales (nano, micro and macro). They will bring new tools and insights from research and practice in other disciplines: molecular biology, chemistry, solid-state physics, materials science, and electrical engineering. They will also make increasing use of computers, artificial intelligence and expert systems in problem solving, in product and process design, and in manufacturing. Chemical engineering can be viewed as the engineering discipline with the strongest tie to the molecular sciences and therefore is an integral part of multidisciplinary research efforts. To allow students an opportunity to gain in-depth knowledge in specialized areas and to prepare them for diverse career opportunities, we provide five concentrations:

1. Chemical Process Engineering
2. Bioengineering
3. Materials Processing
4. Semiconductor Manufacturing
5. Environmental Engineering

Students choose a basic engineering elective, a basic science elective, 3 advanced chemistry courses and two technical electives. In addition to these courses, the projects in the last design course (494L) and the last laboratory course (419L) provide opportunities to gain experience in the chosen concentration.

Basic Engineering Elective

The recommended course is CHNE 213. Alternatives are CE 202 or ECE 203. Students in the semiconductor processing concentration may wish to take ECE 203.

Basic Science Elective

Students in Bioengineering or Environmental Engineering concentrations will take Biology 201, all others take Physics 262 during the second semester of the sophomore year. Biology 201 is also an option for students in the Materials Processing Concentration interested in organic, polymeric or biomedical materials.

Advanced Chemistry and Sciences Electives

A minimum of 9 credit hours of advanced chemistry, selected from among CHEM 302, 304L, 311, 312, 421, 431, or BIOC 423, depending upon the student's area of concentration. One semester of Physical Chemistry is required for all concentrations. Up to four hours of other natural science courses may be substituted for advanced chemistry. Such advanced natural science courses must build on basic science prerequisites and may include physics, life sciences, and material science. The courses chosen must represent a logical sequence of courses for the concentration and must be approved by the academic advisor.

Technical Electives

Students have the opportunity to take 6 credit hours of technical electives. Three hours must be engineering courses within the department or the school. The other three hours may be taken outside of the school but must be a logical part of the concentration.

Chemical Process Engineering Concentration

The Chemical Process Engineering concentration is designed to provide maximum flexibility for students to pursue career opportunities in a wide range of industries as a process engineer. Historically, many chemical process engineers have found employment in the petroleum or chemical industries, and many still do. However, chemical engineers with a strong process engineering foundation are in increasing demand in many other technology areas, including pharmaceuticals, semiconductors and electronic materials, and environmental or "green" engineering. This concentration builds on the traditional process engineering emphasis, allowing the technical electives to be chosen by the student in consultation with his adviser to fit the interests or professional goals of the student.

Basic Science Elective

PHYC 262 General Physics 3

Advanced Chemistry and Science Electives

CHEM 302 Organic II 3

CHEM 311 Physical Chemistry I 3

CHEM 312 Physical Chemistry II 3

Technical Electives

Technical Elective 3

Technical Elective (Engr) 3

Bioengineering Concentration

Since biological and medical systems involve complex chemical and physical processes, chemical engineering is a natural professional background for bioengineering applications. Bioengineering is an interdisciplinary field that combines the tools and methods of engineering to address challenges in the health sciences and in basic research. Bioengineers strive to understand biological systems, from molecules to whole organisms, from a quantitative and analytical perspective. Because of this in-depth study, bioengineers are uniquely qualified to work at the interface between living and non-living systems, enhancing our ability to measure, image, repair, or replace physiological substances or processes. Training in bioengineering prepares students for graduate school or industry, and is an excellent preparation for professional programs (medicine, dentistry, nursing, pharmacy). Career opportunities for bioengineers at the B.S. level include the biosensor, pharmaceutical and medical device industries as well as positions in hospitals, federal labs, and environmental agencies.

Basic Science Elective

BIOL 201 Cell Biology 4

Advanced Chemistry and Science Electives

CHEM 302 Organic II 3

CHEM 312 Physical Chemistry 3

Advanced Biology* 3

Technical Electives

Technical Elective 3

Technical Elective (Engr) 3

*Typical choices for the advanced biology courses would be BIOL 202, 237, 238, 239L, BIOC 423 or CHEM 421.

Materials Processing Concentration

The Materials Processing concentration is designed to add additional emphasis in inorganic materials, polymeric, or biological materials, depending on the students interest. Students who are interested in working in the realm of high technology materials, biomedical materials, or nanotechnology should choose this concentration. These rapidly develop-

ing fields are expected to provide many job opportunities in the next decade. New materials are currently being developed whose properties depend strongly on their microstructure, nanostructure and processing history. Materials included in this category are advanced ceramics, polymers, composites, photonics, superconductors, semiconductors, and recording media. This concentration provides flexibility for students interested in inorganic or organic materials technology.

Basic Science Elective

PHYC 262	General Physics or	
BIOL 201	Cell Biology	3

Advanced Chemistry and Science Electives

CHEM 311	Physical Chemistry I	3
CHEM 312	Physical Chemistry II	3
CHEM 431	Adv Inorganic Chem or	
CHNE 475	Polymer Science and Eng	3

Technical Electives

Technical Elective		3
Technical Elective (Engr)		3

Semiconductor Manufacturing Concentration

There is an increasing demand for chemical engineers in high technology oriented semiconductor manufacturing companies like Intel, Motorola, IBM, etc. This concentration is designed to prepare the student in the fundamental unit operations used in semiconductor manufacturing (oxidation, diffusion, lithography, plasma etch, CVD, ion implant and metalization) and statistical methods used extensively in the industry to optimize the performance of these unit operations. The continuing revolution occurring in computer technology virtually insures there will be a strong future demand for engineers with the background needed for semiconductor manufacturing. The goal of this concentration is to introduce students to the specific chemical engineering tools used in micro-chip fabrication.

Basic Science Elective

PHYC 262	General Physics	3
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Advanced Chemistry and Science Electives

CHEM 311	Physical Chemistry I	3
CHEM 312	Physical Chemistry II	3
CHEM 431	Adv Inorganic Chem	3

Technical Electives

ECE 371	Materials and Devices	4
Technical Elective		3

Environmental Engineering Concentration

The chemical engineer with a concentration in waste management will be prepared to enter a field of growing importance. This field deals with treatment of waste to reduce its volume, to recover recyclable resources and to prepare appropriately for long-term disposal. Interesting applications exist in atmospheric discharge control and clean-up, bio-treatable water decontamination, soil remediation, and nuclear byproduct handling. Increasingly, chemical engineers will be required to develop new processes to minimize byproduct and waste generation, and achieve higher energy efficiencies.

Basic Science Elective

BIOL 201	Cell Biology	4
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Advanced Chemistry and Science Electives

CHEM 302	Organic II	3
CHEM 312	Physical Chemistry	3
BIOC 423	Introductory Biochemistry or advanced biology*	3

Technical Electives

Technical Elective		3
Technical Elective (Engr)		3

*Typical choices for advanced biology would be BIOL 202, 237, 238, 204L, 239L, 423, or CHEM 421

Chemical Engineering Laboratory

The chemical engineering laboratory is equipped with pilot plant equipment for the study of heat and mass and momentum transfer including the unit operations: liquid-liquid extraction, multitube heat exchangers, evaporation, distillation and absorption. Experiments also exist for the engineering sciences: thermodynamics, chemical kinetics, fluid mechanics and process control. Automated engineering workstations for data acquisition and control are an integral part of the laboratory. For juniors and seniors, opportunities exist for research projects in the following areas: catalysis, semiconductor manufacturing, fuel cells, biosensors, aerosol synthesis of materials, chemical vapor deposition and plasma etching. Students undertaking individual research projects gain exposure to state of the art analytical equipment such as ellipsometry, scanning and transmission electron microscopy, Auger spectroscopy, x-ray photoelectron spectroscopy, IR and UV spectroscopy, and x-ray scattering.

Computer Facilities

Computers provide the basic computational tool for today's modern engineer. The department maintains a computer pod equipped with state-of-the-art computers. Additional computers are available in the many University of New Mexico computer pods maintained by the University of New Mexico's Computer and Information Resources and Technology division. Freshman engineering students are introduced to the many computer facilities and to programming. Numerical analysis is an important part of each year's instruction in chemical engineering, and by the senior year students make extensive use of sophisticated process simulation codes, and learn to write digital process control programs. Students interested in working in the semiconductor industry or advanced materials can gain extensive experience with software tools for statistical design of experiments. In addition to these technical software packages, students also gain experience with mathematical packages such as spreadsheets and symbolic manipulation software.

Honors Program

Eligible freshmen and upperclassmen in the Department of Chemical and Nuclear Engineering are urged to enroll in the Honors Program. Chemical and nuclear engineering students may graduate with General Honors (honors in general studies), with Departmental Honors or both. Information is available from departmental advisors and the University Honors Center.

Cooperative Education

Chemical engineering students may participate in the cooperative education program or in summer industrial internship programs. Excellent opportunities exist throughout the southwest for undergraduate chemical engineering students. For further information, refer to Section III: Cooperative Education Program in this catalog, or contact the Director of Career Services.

Nuclear Engineering

Undergraduate Advisor

Robert D. Busch

Mission Statement

The B.S. programs in the Department of Chemical and Nuclear Engineering will provide an outstanding education that prepares students to be productive and responsible members of society, with the skills and knowledge to be successful in their professional careers or post-graduate studies. This will be accomplished by engaging students in a variety of academic, research and service activities, and fostering a learning environment that is supportive for a body of students that is diverse in terms of age, gender, ethnicity, and prior educational background.

Introduction

Nuclear engineering is an exciting, rapidly-evolving field that requires engineers with an understanding of physical processes of nuclear energy and an ability to apply concepts in new and creative ways. Nuclear engineers are primarily concerned with the control, monitoring and use of energy released in nuclear processes. Some nuclear engineers work on the design and safety aspects of environmentally sound, passively safe, proliferation resistant nuclear fission reactors. Still others are looking to future energy solutions through development and implementation of nuclear fusion systems. Others are helping in the exploration and utilization of outer space by developing long term, reliable nuclear energy sources. With the renewed concern in environmental science, nuclear engineers are working on safe disposal concepts for radioactive waste and on methods for reduction of radiation releases from industrial facilities. They also work in developing a wide variety of applications for radioisotopes such as the treatment and diagnosis of diseases; food preservation, manufacturing development, processing and quality control; and biological and mechanical process tracers. For each of these fields there are numerous opportunities for nuclear engineers in basic research, applications, operations and training. Moreover, nuclear engineers with advanced computational skills are in strong demand in the national security, medical physics and radiation processing fields.

The mission of nuclear engineering education is to give the student an excellent understanding of nuclear processes and fundamentals and provide the physical and engineering principles that lead to applications of the basic processes. The goal of our program is to provide rigorous Nuclear Engineering education and training at the Bachelor of Science level. Our undergraduate program is built on an academically strong, research-oriented faculty and a sound graduate program in Nuclear Engineering. This strong foundation is enhanced by the nearby presence of three national laboratories dealing in Nuclear Engineering research (Los Alamos National Laboratory, Sandia National Laboratories and Air Force Research Laboratory).

Graduates of the undergraduate program in Nuclear Engineering will be successfully progressing in their careers by:

- 1) demonstrating technical competence in their nuclear engineering-related professional or post-baccalaureate educational endeavors,
- 2) solving problems efficiently in diverse areas of nuclear engineering and other related professions, and
- 3) communicating effectively in both written and oral media.

The most up-to-date version of the educational objectives is available at the web site (<http://www-chne.unm.edu>).

Our program emphasizes the broad knowledge and intellectual values of a liberal arts education and the fundamentals of engineering science at the lower levels and engineering design and computational tools at the upper levels. The course of study in nuclear engineering gives the student broad training in the fundamentals of mathematics, physics, chemistry and engineering, followed by professional specialty course work involving radiation interaction with matter, radiation transport, radiation detection and protection, nuclear reactor theory and safety, thermalhydraulics and nuclear systems design. Students also select technical electives that allow them to explore in-depth areas of interest in nuclear engineering. The graduate nuclear engineer will find a wide variety of career opportunities or will be well prepared to pursue advanced graduate studies.

Our goal is to produce highly motivated Nuclear Engineers who have strong verbal and written communication skills and excellent engineering training and knowledge. Graduates will have an ability to design, conduct and analyze experiments and experimental data. They will have an understanding of professional and ethical responsibility and of the background to understand societal impact and risks/benefits of engineer-

ing solutions. Our program provides an academic experience focusing on technically current material, with opportunities for interested undergraduates students to participate in nuclear engineering research projects.

We seek to graduate students capable of making decisions, analyzing alternatives and creating integrated designs that are solutions to engineering problems with economic and political constraints. To help achieve this, we have integrated design into our courses, from the sophomore through senior year. Our philosophy for design is to expose the student to a variety of design topics representative of the types of assignments they may expect in an industrial setting. We feel they should be given exposure to modern computational and design tools and that they should have experience working in groups as well as individually.

Nuclear Engineering students begin their program design experience during their sophomore year with an introduction to open-ended problems and design concepts. This experience continues throughout the program with open-ended work a part of each semester. As students move through the program, the breadth and depth of the design experience increases from a few examples in the introductory courses to a wide variety of projects associated with hardware, systems, and experiments. In their junior year, students are exposed to experimental design and participate in a series of design problems applied to nuclear and radiological systems. Economic issues of design are identified early in the sequence and are integrated throughout our upper level courses. During the senior year, students are exposed to more detailed facets of the design process and design integration. This work culminates with a capstone nuclear design course taken during the second semester of the senior year. This course involves a complete system design, integrating technical, economic, safety and environmental issues at senior year depth. Here, teamwork and careful analysis of trade-offs are essential components for a successful design.

Curriculum in Nuclear Engineering

The Bachelor of Science Program in Nuclear Engineering is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 - telephone (410) 347-7700.

Hours required for graduation: 133 ⁶

First Year—First Semester	Cr. Hrs. Lect/Lab
CHNE 101 Introduction to Chemical Engineering and Nuclear Engineering	1
CHEM 121 General Chemistry	3
CHEM 123L General Chemistry Lab	1
ENGL 101 Composition I: Exposition	3
MATH 162 Calculus I	4
Core Humanities Elective ¹	3
	15
Second Semester	
PHYC 160 General Physics	3
CHEM 122 General Chemistry II	3
CHEM 124L General Chemistry II Lab	1
MATH 163 Calculus II	4
ENGL 102 Composition II: Analysis and Argument	3
CS 151L Computer Programming Fundamentals for Non-Majors	3
	17
Second Year—First Semester	
CHNE 230 Principles of Radiation Protection	3
PHYC 161 General Physics	3
MATH 264 Calculus III	4
ENGL 219 Technical Writing	3
ECON 105 Introductory Macroeconomics	3
	16

Second Semester

CHNE 213	Lab Electronics for CHNEs	3
CHNE 231	Principles of Nuclear Engineering	3
CHNE 314	Thermo & Nucl Sys	3
CHNE 372	Nucl Engr Material Science	2
PHYC 262	General Physics	3
MATH 316	Applied Ordinary Differential Equations	3
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Third Year—First Semester

CHNE 311	Introduction to Transport Phenomena	4
CHNE 317	Chemical and Nuclear Engineering Analysis	3
CHNE 323L	Radiation Detection and Measurement	3
CE 202	Engineering Statics	3
<hr/>		3
Core Social/Behavioral Elective ¹		16

Second Semester

CHNE 310	Neutron Diffusion	3
CHNE 312	Unit Operations	3
CHNE 313L	Introduction to Laboratory Techniques for Nuclear Engineering	3
CHNE 330	Nuclear Engineering Science Technical Elective ²	2
<hr/>		3
Core Second Language Elective ¹		17

Fourth Year^{3, 4}—First Semester

CHNE 410	Nuclear Reactor Theory I	3
CHNE 462	Monte Carlo Tech	3
CHNE 464	Thermal-Hydraulics of Nuclear Systems	3
CHNE 497L	Introduction to Nuclear Engineering Design	3
<hr/>		3
Core Humanities Elective ¹		3
<hr/>		3
Tech Elective ²		18

Second Semester

CHNE 413L	Nuclear Engineering Laboratory	3
CHNE 452	Senior Seminar	1
CHNE 470	Nucl Matls & Fuel Cycle	3
CHNE 498L	Nuclear Engineering Design	4
<hr/>		3
Nuclear Engineering Tech Elective ⁵		3
<hr/>		3
Core Fine Arts Elective ¹		17

Footnotes:

- ¹ Students should consult an advisor to obtain a list of acceptable courses to fulfill the Core Curriculum. These courses may be taken whenever convenient.
- ² Technical electives are chosen from approved upper-division courses in engineering, mathematics and science. The department requires that these courses be part of an approved concentration. The chairperson may allow up to 6 hours of technical electives for students taking required ROTC courses in aerospace or naval science.
- ³ Students must file an application for the B.S. degree prior to the completion of 95 semester hours of applicable courses.
- ⁴ Students are encouraged to take the Fundamentals of Engineering (FE) Examination during their senior year. This is the first formal step toward professional registration.
- ⁵ The NE Technical Elective is chosen from a list of approved upper-division nuclear engineering courses with the approval of the student's advisor.
- ⁶ To count towards graduation credit hours, each course must be completed with a grade of C- or better. Courses used to fulfill the University of New Mexico Core Curriculum require a grade of C or better.

Nuclear Engineering Laboratories

The nuclear engineering laboratories are equipped with an AGN-201M nuclear training reactor; a hot-cell facility with remote manipulators; a graphite pile; several solid state detectors for alpha, beta and gamma radiation; computer based data acquisition, analysis and control systems; and supporting radiation measurements systems. In addition to the well-equipped laboratories on campus, the advanced reactors and radiation equipment of Sandia National Laboratories, Lovelace Respiratory Research Institute, Los Alamos National Laboratory and the Air Force Research Laboratory are utilized for instruction and research.

Computer Facilities

Computers provide the basic computational tool for today's modern engineer. The department maintains a computer pod equipped with PC computers. Additional computers are available in the many University of New Mexico computer pods maintained by the University of New Mexico's Information Technology Services. Freshman engineering students are introduced to the many computer facilities and programming. Numerical analysis is an important part of each year's instruction in engineering, and by the senior year students make extensive use of sophisticated neutron transport and thermalhydraulics production codes. In addition to these technical software packages, students also gain experience with mathematical packages such as spreadsheets and symbolic manipulation software.

Honors Program

Eligible freshmen and upperclassmen in the Department of Chemical and Nuclear Engineering are urged to enroll in the Honors Program. Chemical and nuclear engineering students may graduate with General Honors (honors in general studies), with Departmental Honors or both. Information is available from departmental advisors and the University Honors Center.

Cooperative Education

Nuclear engineering students may participate in the cooperative education program. Excellent opportunities exist throughout the country for undergraduate students. For further information, refer to Section III: Cooperative Education Program in this catalog, or contact the Director of Career Services.

Graduate Program

Graduate Advisors

Sang Han, Chemical Engineering
Gary Cooper, Nuclear Engineering

Application Deadlines

Fall semester: July 15
Spring semester: November 10
Summer session: April 29

NOTE: Deadlines for international applicants are given elsewhere in this catalog.

Degrees Offered

M.S. in Chemical Engineering

M.S. in Nuclear Engineering

Concentrations: Medical Physics, Radiation Protection Engineering

Ph.D. in Engineering

Concentrations: Chemical Engineering and Nuclear Engineering.

The Department of Chemical and Nuclear Engineering offers programs in chemical engineering and nuclear engineering leading to the Master of Science and the Doctor of Philosophy degrees. A grade point average of 3.0 in the last two years of undergraduate study, and/or in previous engineering graduate study, is normally required for admission. In addition, the GRE is required of all Chemical and Nuclear Engineering applicants.

The master of science degree is offered under both Plan I and Plan II. Under Plan I (thesis), 30 hours are required with 24 hours of course work and 6 hours of thesis. Of the 24 hours of course work, 9 hours are required at the 500 level with a maximum of 3 credit hours in problems courses. Plan II requires 33 hours of course work including a maximum of 6 hours of credit for problems courses and a minimum of 12 hours in 500 level courses.

A program that allows the Plan II to be completed in one calendar year is also offered. This program should be requested at the time of application and should begin in the summer or fall semester. The program will typically include a course load of 14 hours in the fall semester (two core courses, two electives and graduate seminar), 13 hours in the spring semester (two core courses, two electives and graduate seminar) and 6 hours in the summer semester (elective courses and/or individual problems).

All candidates for the M.S. degree must satisfactorily pass a final examination which emphasizes the fundamental principles and applications in either chemical or nuclear engineering. This examination is normally the thesis defense for Plan I students, and is normally based on a short term project for Plan II students, including those in the one year program. The examination is conducted by a committee of at least three faculty members. This committee is formed in consultation with the student's research advisor or project advisor and is approved by the Department Chairperson.

Specific requirements pertaining to the chemical engineering and nuclear engineering programs are described below.

Nanoscience & Microsystems (NSMS) M.S. & Ph.D. Degree Program

This department participates in the interdisciplinary NSMS program; for more information, see the Graduate Interdisciplinary Studies section of this catalog.

Master of Engineering in Manufacturing Engineering

The department is also a participating home department in the Mechanical Engineering program in Manufacturing Engineering. Details on that program are provided in the Mechanical Engineering Department section of the catalog.

Chemical Engineering

Students with an undergraduate degree in chemical engineering may directly enter the graduate chemical engineering program. Students from other engineering/science fields are also encouraged to apply. However, certain undergraduate background courses, as determined by the graduate advisor on an individual basis, must be completed as prerequisites to graduate study.

Students in the chemical engineering M.S. and Ph.D. programs are required to take CHNE 521–*Advanced Transport Phenomena I*, CHNE 525–*Chemical and Nuclear Engineering Analysis*, CHNE 561–*Kinetics of Chemical Processes*, CHNE 542–*Advanced Chemical Engineering Thermodynamics* and CHNE 501-502–*Graduate Seminar*. Equivalent courses taken at another institution may be used to satisfy this requirement, but they must be approved by the graduate committee. A maximum of 3 credit hours of Graduate Seminar can be applied toward the minimum degree requirement for the M.S.

and a maximum of 6 can be applied to the Ph.D. Additional course work is chosen in consultation with the research advisor or Graduate Advisor.

General requirements for the Ph.D. degree are set by the School of Engineering and the Office of Graduate Studies, and are stated on other pages of this catalog. Required core courses are mentioned above. Students who wish to be admitted to a doctoral program in chemical engineering must pass a program qualifying examination. The qualifying examination consists primarily of an oral examination based on a short research proposal developed by the student. Written exams in core subject areas may also be required depending on performance in the core courses. The qualifying exam should be completed as soon as possible after entering the program and completing the core courses. Advancement to candidacy for the Ph.D. degree in Chemical Engineering requires the student to demonstrate potential for independent study and research. A comprehensive examination based on the student's written research proposal for their dissertation research is used to determine if the student should be advanced to candidacy status.

The Department has a variety of established research programs in chemical, biological and materials engineering. These include nano- and biomaterials synthesis, ceramics, bioanalytical micro- and nanosystems, tissue engineering, catalysis, fuel cells, optoelectronic materials, and interfacial and transport phenomena. In many cases, research is done in conjunction with industry and national laboratories. Research is being conducted in a variety of areas, including etching and thin films deposition for microelectronics, fuel cell technology, sol-gel synthesis, CVD thin films, ceramic composites, surface science, catalysis, coal utilization, solar energy, radioactive waste management, ceramics, inorganic membranes, advanced thermal insulation, separation processes and biomedical research.

The principal characterization facilities in the chemical engineering research laboratories provide equipment for: particle size analysis based on sedimentation as well as light scattering, surface area and density measurement of powders, surface analysis via x-ray photoelectron spectroscopy, scanning and transmission electron microscopy, confocal microscopy with hyperspectral imaging, fluorescence and UV-Vis spectroscopy, in-situ IR spectroscopy, thermogravimetric analysis and differential thermal analysis with mass spectrometry, fluid rheology and surface tension measurements and a small angle x-ray scattering facility based on a rotating anode generator and pinhole and Bonse-Hart optics. Additional facilities are available in the Center for Biomedical engineering (CBME), Center for Emerging Energy Technologies (CEET), Center for Microengineered Materials (CMEM) and the Center for High Technology Materials (CHTM). These include aerosol and catalytic reactors, fuel cell test stations, tissue culture and microbiology laboratories, MOCVD and MBE crystal growth facilities, sol-gel synthesis and optoelectronic materials fabrication and testing.

Ph.D. in Engineering – Chemical Engineering Concentration

Course Requirements:

In addition to the general University doctoral degree requirements listed in the Graduate Program section of the UNM Catalog, students pursuing a Ph.D. in Engineering with a concentration in Chemical Engineering must meet the following criteria:

1. A maximum of 6 hours of problems courses (CHNE 551/552) are allowed beyond the master's degree.
2. All students are required to enroll in CHNE 501 every semester up to a maximum of eight semesters beyond the B.S., or 4 semesters beyond the Masters degree. Up to 3 credits of CHNE 501 earned after an M.S. degree, or 6 credits total beyond a Bachelors degree, may be applied toward the 48 credit coursework requirement for the Ph.D. Students at remote locations

who are unable to attend departmental seminars must make special arrangements with the seminar instructor to satisfy the seminar requirements.

- Students must complete CHNE 502, Research Methods Seminar, preferably in their first semester in the program. This course is a prerequisite to taking the oral portion of the Ph.D. Qualifying Exam.
- Students admitted to the chemical engineering doctoral program are required to complete the chemical engineering core courses listed below. Otherwise no specific courses are required for doctoral students. Courses are selected by the student in consultation with the research advisor and Committee on Studies.

Core Courses

The following core courses are required of all chemical engineering Ph.D. students.

- CHNE 521 Advanced Transport Phenomena
- CHNE 525 Methods of Analysis in CHNE
- CHNE 542 Advanced Chemical Engineering Thermodynamics
- CHNE 561 Kinetics of Chemical Processes

Equivalent graduate-level courses taken at another institution may be used to satisfy this requirement, but this must be decided on a case-by-case basis by the Graduate Advisor or Graduate Committee in the CHNE department.

Qualifying Examination

The Qualifying Examination must be passed before applying for Candidacy or proceeding to the Comprehensive Exam.

Comprehensive Exam/Admission to Candidacy

Students are admitted to candidacy for the doctoral degree by the University following approval of their application for candidacy by the program faculty and Dean of Graduate Studies and successfully passing a Doctoral Comprehensive Examination.

Defense of Dissertation

All candidates must pass a Final examination (Defense of Dissertation). The Dissertation Committee conducts the defense of the dissertation.

Nuclear Engineering

The Department of Chemical and Nuclear Engineering offers a M.S. Nuclear Engineering degree and a Ph.D. in Engineering with a concentration in Nuclear Engineering. The master's degree is a "traditional" nuclear engineering program. Graduates in engineering or science from any recognized college or university may apply for admission to graduate study in nuclear engineering. Students planning to do graduate work in nuclear engineering should concentrate on physics, mathematics and nuclear engineering in their undergraduate course work in addition to acquiring competence in one of the branches of engineering or science. Undergraduate course work in the following is recommended: atomic and nuclear physics, advanced applied mathematics, computer programming, thermodynamics and heat transfer, fluid mechanics, principles of circuits, materials science, nuclear measurements, reactor physics and instrumentation. Students in this program are required to take CHNE 466—*Nuclear Environmental Safety Analysis*, CHNE 525—*Methods of Analysis in Chemical and Nuclear Engineering* and CHNE 501—*Chemical and Nuclear Engineering Seminar*. A maximum of 3 credit hours of Graduate Seminar can be applied toward the 30 hours degree requirement. Those students who do not have a background in nuclear reactor theory will also be required to take CHNE 410—*Nuclear Reactor Theory*. Additional course work is chosen with the approval of the Graduate Advisor according to student interest in fusion, fission, waste management or accelerator engineering areas. Students with undergraduate degree fields other than nuclear engineering may be required to take certain undergraduate background courses determined by the graduate advisor.

The nuclear engineering research graduate programs at the University of New Mexico include nuclear criticality safety,

radiation transport, reactor theory, single and two-phase flow in microgravity, space nuclear power, thermal-hydraulics, fusion energy, accelerator physics and engineering, occupational and environmental radiation protection, plasma physics, nuclear activation diagnostics, high energy density physics, reactor and shielding design, nuclear fuel irradiation behavior, theoretical and numerical methods in neutral and stochastic transport theory, charged particle transport, model-reference adaptive control of nuclear power plants, heat pipes for space application, computational methods for heat transfer and fluid flows, single phase laminar and combined flows, two-phase flows and probabilistic risk assessment.

In addition to the traditional master's program, the department also offers a masters-level concentration in Radiation Protection Engineering (RPE). This concentration is intended to train people to work in the area of occupational and environmental health physics and leads to a terminal, professional master's degree. The admissions requirements for this concentration differ from those of the traditional program. The prerequisites are: a Bachelor's degree in engineering from an ABET-accredited program OR a Bachelor's degree including a minimum of one year of general college chemistry with laboratory, one year of general college physics with laboratory, one year of differential and integral calculus, a semester of differential equations, and 32 total semester hours of mathematics (calculus level or above) and science.

Students concentrating in the RPE program are required to take six core courses in health physics. These are CHNE 466—*Nuclear Environmental Safety Analysis*, CHNE 524—*Interaction of Radiation with Matter*, CHNE 528—*External Radiation Dosimetry*, MPH/CHNE 522—*Radiation Biology for Engineers and Scientists*, CHNE 529—*Internal Radiation Dosimetry* and CHNE 523L—*Environmental Radiation Measurements Laboratory*.

Another 12 credit hours of electives are required to complete the RPE course work. These electives are chosen from areas of interest such as waste management, nuclear power or calculational methods. In addition to the 30 credit hours of courses, students must take 6 credit hours of CHNE 591 Practicum. The practicum involves a semester long project in the area of health physics usually under the supervision of a certified health physicist. (The RPE concentration is a Plan II program and does not have a thesis option.) After completing the course work and practicum, the student is awarded a master's degree in Nuclear Engineering with a radiation protection engineering (health physics) option. Graduates of the RPE concentration do not qualify for automatic admission to the Ph.D. program. They must fulfill all prerequisite requirements for the Ph.D. program before they will be admitted.

In addition to the traditional master's program and the concentration in Radiation Protection Engineering, the department also offers a Commission on Accreditation of Medical Physics Education Program (CAMPEP) accredited masters-level concentration in Medical Physics. This concentration is intended to train people to work in the areas of medical imaging, nuclear medicine, and radiation therapy. The prerequisites, in addition to a technical bachelor's degree, are: One year of general college physics with laboratory (purely descriptive courses are insufficient; calculus based courses are desired). One year of general college chemistry with laboratory. One year of differential and integral calculus, a semester of differential equations, 32 total semester hours of mathematics (calculus level or above) and science, and a survey course in general biology, human biology or mammalian physiology.

There are 40 graduate credit hours required for the Masters in Nuclear Engineering in the Medical Physics concentration. there are no electives in this curriculum. (The Medical Physics concentration is a Plan II program and does not have a thesis option).

The required courses are: HSCI 480: Human Cross Sectional Anatomy, CHNE 516/MPHY 516 Medical Imaging I X-ray Physics, MPH/ 517L Medical Imaging I Laboratory X-ray Physics, CHNE 519/MPHY 518 Medical Imaging II MR,

Ultrasound and Nuclear Medicine Physics, CHNE 519L/MPHY 519L Medical Imaging II Laboratory MR, Ultrasound and Nuclear Imaging Physics, CHNE 527/MPHY 527 Radiation Biology for Engineers and Scientists, CHNE 523L Environmental Measurements Lab, CHNE 523L Environmental Measurements Lab, CHNE 524 Interaction of Radiation with Matter, CHNE 528 External Radiation Dosimetry, CHNE 540/MPHY 540 Radiation Oncology Physics, CHNE 541L/MPHY 541L Radiation Oncology Physics Laboratory, and CS 590 Special Topic in Graduate Mathematical Techniques for Medical Physics.

In addition to the 34 credit hours of courses, students must take 6 credit hours of CHNE 591 Practicum.

The department's nuclear engineering Ph.D. program has the research topics as described above.

The nuclear engineering laboratories are equipped with an AGN-201M nuclear training reactor; a hot cell facility with remote manipulators; a graphite pile; several solid state detectors for alpha, beta and gamma radiation; computer based data acquisition, analysis and control systems; and supporting radiation measurements systems. In addition to the well-equipped laboratories on campus, the advanced reactors and radiation equipment of Sandia National Laboratories, Los Alamos National Laboratory, Lovelace Respiratory Research Institute, and the Air Force Research Laboratory are utilized for instruction and research. The laboratories provide not only experimental facilities but access to high performance super computers for carrying on advanced computational physics.

The department maintains a computer pod for student use, equipped with PCs with a wide selection of software.

Additional information on programs and facilities may be obtained by contacting either the graduate advisor or the department chairperson.

Ph.D. in Engineering - Nuclear Engineering Concentration

Course Requirements:

In addition to the general University doctoral degree requirements listed in the Graduate Program section of the UNM Catalog, students pursuing a Ph.D. in Engineering with a concentration in Nuclear Engineering must meet the following criteria:

1. The coursework applied to the degree must include a minimum of 18 hours of 500-level or higher courses.
2. A maximum of 6 hours of problems courses (CHNE 551/552) are allowed beyond the Master's degree.
3. All students are required to enroll in CHNE 501 every semester up to a maximum of eight semesters beyond the B.S., or 4 semesters beyond the Master's degree.
4. All students should normally take CHNE 502 in their first semester as a graduate student in this department. Up to 3 credits of CHNE 501/502 (not previously applied to the M.S.), or 6 credits total beyond the Bachelor's degree, may be applied toward the 48 credit coursework requirement for the Ph.D.
5. Students are required to complete the nuclear engineering core courses listed below. Otherwise no specific courses are required for doctoral students. Courses are selected by the student in consultation with the research advisor and Committee on Studies.

Nuclear Engineering Core Courses:

The following core courses are required of all nuclear engineering Ph.D. students.

- CHNE *466 Nuclear Environmental Safety Analysis
- CHNE 525 Methods of Analysis in Chemical and Nuclear Engineering

Equivalent graduate-level courses taken at another institution may be used to satisfy this requirement, but this must be decided on a case-by-case basis by the Graduate Advisor or Graduate Committee in the CHNE department.

Qualifying Examination

A student admitted into the Ph.D. program must pass the qualifying exam.

Comprehensive Examination

Before a student may complete this requirement, he/she must have passed the Qualifying examination. The Comprehensive examination must be administered and passed in the same semester the Candidacy form is approved by the program faculty and the Dean of Graduate Studies.

Defense of Dissertation

All candidates must pass a Final examination (Defense of Dissertation). The Dissertation Committee conducts the defense of the dissertation.

Chemical and Nuclear Engineering (CHNE)

101. Introduction to Chemical Engineering and Nuclear Engineering. (1)

An introduction to the professions of chemical engineering and nuclear engineering; current research in these fields; career choices; guidance and advice on curricular matters and effective study techniques for chemical and nuclear engineering students.

213. Laboratory Electronics for Chemical and Nuclear Engineers. (3)

Basic DC and AC circuits including capacitors and inductors and their applications in radiation measurement equipment and chemical process parameter measurements. Oscilloscopes, Op Amps, and Sensors and their use in the CHNE laboratories. (Spring)

230. Principles of Radiation Protection. (3)

Nuclear reactions, decay, interactions of physical radiation with matter, methods of radiation detection and biological effects of radiation, external and internal dosimetry. Open-ended exercises and design project.

Prerequisite: CHEM 121 and 123L, MATH 162. (Fall)

231. Principles of Nuclear Engineering. (3)

Introduction to nuclear engineering and nuclear processes; neutron interactions with matter, cross sections, fission, neutron diffusion, criticality, kinetics, chain reactions, reactor principles, fusion and the nuclear fuel cycle. Includes open-ended exercises.

Prerequisite: CHEM 121 and 123L, MATH 162. Corequisite: 314. (Spring)

251. Chemical Process Calculations I. (3)

Extensive problem work in material and energy balances for steady state processes. Students will utilize physical properties, chemistry and computer skills to obtain solutions. Detailed examination of case studies demonstrating the fundamentals of process analysis.

Prerequisite: CHEM 122 and 124L. (Fall)

253. Chemical Process Calculations II. (3)

Continuation of 251. Unsteady-state material and energy balances; computer solutions to chemical engineering problems using spreadsheets and commercial process plant simulation programs; staged operations for chemical separations.

Prerequisite: 251. (Spring)

302. Chemical Engineering Thermodynamics. (4)

Principles of chemical thermodynamics and their applications to energy conversion, phase and reaction equilibrium and the calculation of thermodynamic properties.

Prerequisite: 251. (Spring)

310. Neutron Diffusion Theory. (3)

Radioactive decay chains, fission product poison burnup, point reactor kinetics with and without delayed neutrons. Neutron diffusion equation, criticality condition and critical size calculations.

Prerequisite: 231 and MATH 316. (Spring)

311. Introduction to Transport Phenomena. (4)

The mechanisms and the related mathematical analysis of momentum and heat transport in both the molecular and turbulent regimes. Similarities and differences between transport types and the prediction of transport properties.

Prerequisite: (231 or 253). Corequisite: 317. {Fall}

312. Unit Operations. (3)

A study of the unit operations involved with momentum and heat transfer. Focus will be on the basics of equipment design and how to synthesize a process from the basic units. Includes extensive use of computer techniques and design exercises.

Prerequisite: 311. {Spring}

313L. Introduction to Laboratory Techniques for Nuclear Engineering. (3)

Techniques for error analysis, experiments in fluid flow, heat transfer, neutron detectors and neutron activation plus neutron diffusion theory and Fermi age. Design and development of experiments, emphasis on written presentations.

Prerequisite: ENGL 219. Corequisite: 312. {Spring}

314. Thermodynamics and Nuclear Systems. (3)

First and second law of thermodynamics and application to electrical generation, particularly nuclear energy conversion systems. Types of nuclear power plants, primary, secondary systems, feedwater, regeneration, and superheating.

Corequisite: 231. {Spring}

317. Chemical and Nuclear Engineering Analysis. (3)

Application of analytical and numerical techniques to the solution of frequently encountered engineering problems. Included are data analysis and interpretation; problem formulation; solution of ODEs and PDEs encountered in transport phenomena and kinetics; and elementary control theory.

Prerequisite: MATH 316. Corequisite: 311. {Fall}

318L. Chemical Engineering Laboratory I. (1)

Laboratory experiments in chemical thermodynamics. The lab will include a module on computer aided data acquisition. Students will apply concepts of error analysis and use computer software for interpretation of experimental data.

Prerequisite: 253 and 302. {Fall}

319L. Chemical Engineering Laboratory II. (1)

Laboratory experiments in fluids and heat transfer. Students will apply concepts of error analysis and use computational fluid dynamics software for interpretation of experimental data.

Prerequisite: 311. {Spring}

321. Mass Transfer. (3)

Continuation of 311. The mechanisms and the related mathematical analysis of mass transport in both molecular and turbulent regimes. Similarities and differences among mass, momentum and heat transport. Predication of mass transport properties. Design of separation systems based on mass transfer.

Prerequisite: 253 and 311. {Spring}

****323L. Radiation Detection and Measurement. (3)**

Radiation interaction with matter and detection techniques for nuclear radiations. Experiments will be performed using gas, scintillation and semiconductor counters and include the design of experiments and identification of unknown radionuclides.

Prerequisite: 230. {Fall}

***330. Nuclear Engineering Science. (2)**

Nuclear reactions, cross sections and reaction rates, quantum effects, atomic structure, nuclear properties, nuclear stability and decay modes.

Prerequisite: 230 and 231 and MATH 316 and PHYC 262. {Spring}

361. Biomolecular Engineering. (3)

This course introduces concepts and principles of biomolecular engineering as they reflect the chemical engineering discipline. It builds on issues in biological systems to introduce contemporary technology avenues in biochemical, biomaterials, metabolic and tissue engineering.

371. Introduction to Materials Engineering. (3)

This course develops an understanding of materials from a molecular viewpoint. The structure, properties, and processing of metals, ceramics, polymers, and nanostructured materials are treated in an integrated fashion. Applications include nanotechnology, and biology. {Spring}

372. Nuclear Materials Engineering. (2)

Understanding of material behavior from a molecular viewpoint. The effects of structure, properties, and processing of materials used in nuclear systems on their behavior in radiation environments. {Spring}

403./503. Heterogeneous Catalysis Seminar. (2 to a maximum of 20) Δ

Discussion of current research in heterogeneous catalysis and materials characterization. Students learn to read the literature critically and to present reviews of ongoing research.

404./504. Nanomaterials Seminar. (2 to a maximum of 20) Δ

Investigate, evaluate, and discuss current frontier topics in sol-gel synthesis of nanostructured materials through a series of presentations.

405./505. High Performance Engines. (3)

(Also offered as ME 405.) Students will capitalize on 1) applications of engineering fundamentals to engine operation and design; 2) implementation of computing and information technology for modeling, simulation, visualization, and design; and 3) cases studies of "famous" racing engines.

Prerequisite: 302 or ME 301.

406./506. Bioengineering Seminar. (2 to a maximum of 20) Δ

Emerging bioengineering concepts and applications with emphasis on materials and device technologies.

407./507. Surface and Material Engineering. (2 to a maximum of 20) Δ

Modern concepts of surface science and materials engineering are discussed within the context of surface functionalization, surface analysis, heteroepitaxy, nanocrystal synthesis, and fluidic separation. 2 hours seminar. {Fall, Spring}

408./508. Nuclear Engineering Seminar. (2 to a maximum of 20) Δ

Discussion of topics such as space nuclear power and propulsion, reactor design thermal-hydraulics, nuclear fuel cycles and materials, energy conversion, computation and simulation, space radiation effects and shielding, criticality safety, and instrumentation and control. (Fall, Spring, offered on demand).

***410. Nuclear Reactor Theory I. (3)**

Neutron transport equation, differential scattering cross section, diffusion approximation, one group diffusion theory including green's function and eigenfunction expansion, Breit-Wigner formula, slowing down theory, reactor kinetics, multigroup methods, topics selected from numerical methods for reactor analysis.

Prerequisite: 314 and MATH 316. {Fall}

***413L. Nuclear Engineering Laboratory. (3)**

Laboratory investigations of the theory and practice of nuclear chain-reacting systems including open-ended experiments and experimental design, covering reactor kinetics, importance functions and criticality.

Prerequisite: 313L and 410. One lecture, 6 hours lab. {Spring}

418L. Chemical Engineering Laboratory III. (1)

Laboratory experiments in mass transfer and unit operations. Students will plan experiments to study the operation of process equipment such as heat exchanger, distillation columns, etc. Fundamental experiments on mass transfer are also included.

Prerequisite: 312 and 321. {Fall}

419L. Chemical Engineering Laboratory IV. (2)

Laboratory experiments in kinetics and process control. Students will also do an in-depth project in their chosen chemical engineering concentration.
Prerequisite: 461. Pre- or corequisite: 454. {Spring}

432. Introduction to Medical Physics. (3)

(Also offered as MPHY 432.) Basic atomic physics, radiation interactions, image formation, scatter and resolution, x-ray equipment and digital properties, digital imaging, computed tomography, magnetic resonance imaging, ultrasound imaging, radiation oncology principles, brachytherapy, nuclear medicine physics, radiation protection, regulations, and radiation biology.
Restriction: Permission of instructor.

436/536. Biomedical Technology. (3)

Fundamental concepts of the transport processes in the human body. Applications of the basic transport principles to the biomedical systems, e.g., artificial organs and the measurement of the rheological properties of blood. Use of biomaterials.

437/537. Biochemical Engineering Principles. (3)

An introduction to the engineering principles involved in the production of biological molecules. Integration of molecular biological principles with engineering fundamentals. Includes: bioprocess design, operation, analysis and optimization. {Spring upon demand}

438/538. Biosensors Fundamentals and Applications. (3)

Lopez, Whitten, Atanassov
(Also offered as NSMS 538.) Introduction to biosensors as analytical devices and biosensor technology as an emerging field of industrial development. Survey of biochemical fundamentals and immobilization of the biological components, methods for biosensors fabrication, microfluidic devices and sensor arrays. {Spring upon demand.}

439/539. Radioactive Waste Management (3)

(Also offered as CE 539.) Introduction to the nuclear fuel cycle emphasizing sources, characteristics and management of radioactive wastes. Types of radiation, radioactive decay calculations, shielding requirements. Radwaste management technologies and disposal options. {Fall}

449/549. Seminar in Hazardous Waste Management. (1, no limit) Δ

Invited lectures on a variety of topics in hazardous waste, environmental engineering and science and related topics. Students prepare short written assignments. May be counted twice toward a degree.

451–452. Senior Seminar. (1, 1)

Senior year. Reports on selected topics and surveys; presentation and discussion of papers from current technical journals, and topics of interest to chemical and nuclear engineers. {Fall, Spring}

454. Process Dynamics and Control. (3)

Application of special mathematical techniques to the analysis of chemical processes and the elements of process control. Computer experience suggested.
Prerequisite: 317. {Spring}

****461. Chemical Reactor Engineering. (3)**

Elementary principles of chemical reactor design and operation utilizing the kinetics of homogeneous and heterogeneous-catalytic reactions.
Prerequisite: 311 and 317. {Fall}

462. Monte Carlo Techniques for Nuclear Systems. (3)

Monte Carlo methods for nuclear criticality and reactor analysis and radiation shielding calculation using production Monte Carlo codes, understand basics of probability and statistics and of particle transport in the context of Monte Carlo methods. {Fall}
Corequisite: 410.

464/564. Thermal-Hydraulics of Nuclear Systems. (3)

Nuclear system heat transfer and fluid flow; convection in single and two phase flow; liquid metal heat transfer, pressure loss calculations; fuel element design and heat transfer; thermal-hydraulics design of nuclear systems.
Prerequisite: 311 and 313L and 317. {Fall}

***466. Nuclear Environmental Safety Analysis. (3)**

Radiation environment, transport, shielding, dose calculations, safety, monitoring, guidelines and regulations; radioactive waste handling and disposal.
Prerequisite: MATH 316. {Fall}

468/568. Introduction to Space Nuclear Power. (3)

Introduction to design and mass optimization of Space Power Systems, passive and active energy conversion systems and design of RTG's, radiation shield, heat pipe theory, design and applications, advanced radiators, TE-EM pumps and orbital lifetime calculations and safety.
Prerequisite: 231 and 311. {Spring}

470. Nuclear Fuel Cycle and Materials. (3)

Materials for use in nuclear reactors, metallurgy and irradiation behavior, fundamentals of the nuclear fuel cycle including the uranium, thorium, and advanced fuel cycles. {Spring}

***475. Polymer Science and Engineering. (3) Curro**

(Also offered as NSMS 575.) Introduces wide range of contemporary polymer science topics, emphasizing physical chemistry, polymer physics and engineering properties of polymer systems. Exposure to unique behavior of polymers in engineering applications and preparation for further studies in polymers.

***476. Nuclear Chemical Engineering. (3)**

Fuel cycles in nuclear reactors; production of reactor fuels; processing of spent fuels by precipitation, solvent extraction, etc.; and separation of isotopes. {Offered upon demand}

477/577. Electrochemical Engineering. (3)

Introduction of the principles of electrochemistry and their applications in materials characterization, corrosion, electroplating and etching. The course builds on electrochemical kinetics and discusses the design of sensors, batteries and fuel cells.
Prerequisite: 302. {Spring upon demand}

***485. Fusion Technology. (3)**

The technology of fusion reactor systems including basic magnetic and inertial confinement physics; system designs; material considerations; shielding; blanket designs; fuel cycle; plant operations; magnets; and ICF drivers.
Prerequisite: MATH 316. {Spring}

486/586. Statistical Design of Experiments for Semiconductor Manufacturing. (3)

Essential statistical tools for the collection, analysis, and interpretation of data, as applied to the design and control of processes for semiconductor manufacturing. Basic statistical concepts; simple comparative experiments; analysis of variance; randomization, replication and blocking; full-factorial, fractional factorial, response-surface, nested and split-lot designs, utilization of RS/1 software.

491–492. Undergraduate Problems. (1-3 to a maximum of 6) Δ

Advanced studies in various areas of chemical and nuclear engineering. {Summer, Fall, Spring}

493L. Chemical Engineering Design. (3)

Principles and practices of chemical engineering design, including process flow sheets, equipment design and specification, process modeling and simulation, economic analysis, and hazard analysis. In-depth design of at least one commercial-scale chemical process.
Prerequisite: 253 and 302 and 312 and 321. {Fall}

494L. Advanced Chemical Engineering Design. (3)

Continued practice in creative chemical engineering design, including safety, health and environmental issues. Detailed

project on a major open-ended process design or research problem.
Prerequisite: 493L. {Spring}

495-496. Chemical and Nuclear Engineering Honors Problems I and II. (1-6, 1-6 to a maximum of 6) Δ
Senior thesis for students seeking departmental honors. {Summer, Fall, Spring}

***497L. Introduction to Nuclear Engineering Design. (3)**
Problem solving techniques, nuclear systems, design, interactions of parameters and the importance of trade-offs and optimization in design. Neutronics, computer models and impact of cross sections and materials on fissile systems.
Prerequisite: 317 or 330 or 410. Two lectures, 2 hours lab. {Fall}

498L. Nuclear Engineering Design. (4)
Students will work in teams on a capstone design project requiring the application of nuclear engineering principles and the integration of material from other disciplines, with emphasis on creativity, decision-making and interactive design.
Prerequisite: 464 and 497L. Three lectures, 3 hours lab. {Spring}

499. Selected Topics. (1-3, no limit) Δ
A course which permits various faculty members to present detailed examinations of developing sciences and technologies in a classroom setting. {Offered upon demand}

501. Chemical and Nuclear Engineering Seminar. (1, no limit) Δ
Colloquia, special lectures and individual study in areas of current research. A maximum of 3 credits can be applied toward degree. {Fall, Spring}

502. Chemical and Nuclear Engineering Research Methods Seminar. (1)
Students will work on developing research proposals for their masters or doctoral degree. The course will involve oral presentations of proposals and journal article critiques. {Fall}

503/403. Heterogeneous Catalysis Seminar. (2 to a maximum of 20) Δ
Discussion of current research in heterogeneous catalysis and materials characterization. Students learn to read the literature critically and to present reviews of ongoing research.

504/404. Nanomaterials Seminar. (2 to a maximum of 20) Δ
Investigate, evaluate, and discuss current frontier topics in sol-gel synthesis of nanostructured materials through a series of presentations.

505/405. High Performance Engines. (3)
(Also offered as ME 505.) Students will capitalize on 1) applications of engineering fundamentals to engine operation and design; 2) implementation of computing and information technology for modeling, simulation, visualization, and design; and 3) cases studies of "famous" racing engines.
Prerequisite: Engineering Thermodynamics equivalent to CHNE 301/ME 301.

506/406. Bioengineering Seminar. (2 to a maximum of 20) Δ
Emerging bioengineering concepts and applications with emphasis on materials and device technologies.

507/407. Surface and Material Engineering. (2 to a maximum of 20) Δ
Modern concepts of surface science and materials engineering are discussed within the context of surface functionalization, surface analysis, heteroepitaxy, nanocrystal synthesis, and fluidic separation. 2 hours seminar. {Fall, Spring}

508/408. Nuclear Engineering Seminar. (2 to a maximum of 20) Δ
Discussion of topics such as space nuclear power and propulsion, reactor design thermal-hydraulics, nuclear fuel cycles and materials, energy conversion, computation and

simulation, space radiation effects and shielding, criticality safety, and instrumentation and control. {Fall, Spring, offered on demand}.

511. Nuclear Reactor Theory II. (3)
The theory of nuclear chain-reacting systems with emphasis on computer methods used in current applications. Multigroup diffusion theory, transport theory and Monte Carlo methods and applications to nuclear system design.
Prerequisite: 410 and 525. {Spring}

512. Characterization Methods for Nanostructures. (3)
(Also offered as NSMS 512.) Nanostructure characterization methods. Examine principles underlying techniques and limitations, and how to interpret data from each method: electron beam, scanning probe, x-ray, neutron scattering, optical and near field optical. Lab demonstrations and projects provide experience.

513L. Nuclear Engineering Laboratory II. (1 to a maximum of 4) Δ
Laboratory investigations of the theory and practice of nuclear chain-reacting systems. Experiments on the UNM AGN-201M reactor and the ACRR at SNL. Course credit based on the extent of related course work in student's undergraduate program One lecture, 6 hours lab. {Spring upon demand}

515. Special Topics. (1-3, no limit) Δ
{Offered upon demand}

516. Medical Imaging I-X-ray Physics. (3)
(Also offered as MPHY 516) Course provides review of x-ray interactions, x-ray production, film-screen and film processing, mammography, fluoroscopy, image quality, digital radiography, physics of computed tomography, PACS and digital systems, and diagnostic radiation shielding.
Corequisite: 517L. Restriction: permission of instructor. {Fall}

517L. Medical Imaging Lab I-X-ray Physics. (1)
(Also offered as MPHY 517L) Perform QC on a diagnostic x-ray system, a fluoroscopy system, CR system, DR system, CT scanner, mammography system. Evaluate radiation shielding in a diagnostic x-ray room. Perform a digital monitor evaluation and evaluate a film processor.
Corequisite: 516. Restriction: permission of instructor.

518. Synthesis of Nanostructures. (3)
(Also offered as ECE, NSMS 518.) Underlying physical and chemical principles (optics, organic and inorganic chemistry, colloid chemistry, surface and materials science) for nanostructure formation using 'top-down' lithography (patterned optical exposure of photosensitive materials) and 'bottom-up' self-assembly. Labs will synthesize samples.
Prerequisite: 510. {Spring}

519. Medical Imaging II - MR, Ultrasound and Nuclear Medicine Physics. (3)
(Also offered as MPHY 518.) MR basic physics, MR imaging equipment, and ultrasound imaging physics. Nuclear medicine imaging physics including: radioactive decay, isotope production, detector systems, Na I gamma camera imaging systems, PET/SPECT cameras systems, regulations and patient dose calculations.
Corequisite: 519L. Restriction: permission of instructor.

519L. Medical Imaging Laboratory II - MR, Ultrasound and Nuclear Imaging Physics. (1)
(Also offered as MPHY 519L) Perform MRI ACR QC tests and Ultrasound ACR QA tests. Perform QC tests on dose calibrator, gamma camera, PET camera, SPECT camera. Perform a leak test on a sealed radioactive material source. Visit a PET cyclotron.
Corequisite: 518. Restriction: permission of instructor.

520. Radiation Interactions and Transport. (3)

Theoretical and numerical methods for neutral and charged particle interactions and transport in matter. Linear transport theory, spherical harmonics expansions, P_N methods, Gauss quadrature, discrete ordinates S_N methods, discretization techniques, Fokker-Planck theory. Development of calculational methods including computer codes. Applications to nuclear systems.

Prerequisite: 317 and 410 and 525. {Spring, upon demand}

521. Advanced Transport Phenomena I. (3)

Equations of change applied to momentum, energy and mass transfer. Analogies between these phenomena and their limitations. Transport dependent on two independent variables, unsteady state problems {Spring}

522L. Fundamentals of Nanofluidics. (3) Petsev, Lopez, Han

(Also offered as NSMS 522L.) This course exposes students to comprehensive yet essential elements in understanding nanofluidics for the purpose of effective separation of biomolecules: dynamics of complex fluids, colloidal chemistry, biochemistry, biomimetic surface functionalization, electrosomosis/electrophoresis, electrofluidics, optics, and spectroscopy.

523L. Environmental Measurements Laboratory. (1 to a maximum of 4) Δ

In-depth consideration of radiation detection systems and nuclear measurement techniques. Experiments using semiconductor devices, MCA/MSCs, sampling techniques, dosimeters, tracer techniques and radiochemistry. Emphasis on selection of sampling techniques and instrumentation for measuring low-levels of radiation in air, soil and water. Course credit determined for each student based on the extent of related laboratory work in his or her undergraduate program. Two lectures, 3 hours lab. {Fall}

524. Interaction of Radiation with Matter. (3)

Nuclear models and energy levels, cross sections, decay processes, range/energy relationships for alphas, betas, gammas, neutrons and fission products. Ionization, scattering and radiative energy exchange processes. Effect of radiation on typical materials used in the nuclear industry. Both theory and application will be presented.

Prerequisite: MATH 316. {Fall}

525. Methods of Analysis in Chemical and Nuclear Engineering. (3)

Mathematical methods used in chemical and nuclear engineering; partial differential equations of series solutions transport processes, integral transforms. Applications in heat transfer, fluid mechanics and neutron diffusion. Separation of variables eigen function expansion {Fall}

526. Advanced Analysis in Chemical and Nuclear Engineering. (3)

Extension of 525 to more advanced methods including Green's functions, Sturm-Liouville theory, special functions, complex variables, integral transforms.

Prerequisite: 525. {Spring upon demand}

527. Radiation Biology for Engineers and Scientists. (3)

(Also offered as MPHY 527) Covering fundamentals of the biological effects of ionizing radiation on living systems, especially man; basic biological mechanisms which bring about somatic and genetic effects; and the effect of ionizing radiation on cell cultures.

Restriction: permission of instructor.

528. External Radiation Dosimetry. (3)

Ionizing radiation, Kerma, Fluence, Dose, and Exposure, Attenuation and Buildup, Charged Particle Equilibrium, Bragg-Gray Cavity Theory and other Cavities, Fundamentals of Dosimetry, Ionizations Chambers, Integrating Dosimetry, and Pulse Mode Detectors, and Neutron Interactions and Dosimetry. Both theory and applications will be presented. Pre- or corequisite: 524. {Spring}

529. Internal Radiation Dosimetry. (3)

Internal contamination, radiation quantities, ICRP dose methodologies, lung models, bioassay, whole body counting, uranium and plutonium toxicology and metabolism, alpha dosimetry and ventilation control/air sampling.

Prerequisite: 524. {Fall}

530. Surface and Interfacial Phenomena. (3) Van Swol

(Also offered as NSMS 530.) Introduces various intermolecular interactions in solutions and in colloidal systems; colloidal systems; surfaces; interparticle interactions; polymer-coated surfaces; polymers in solution, viscosity in thin liquid films; surfactant self-assembly; and surfactants in surfaces.

531. Nanoscale Quantum Structure Growth and Device Applications. (3)

(Also offered as NSMS 531.) Introduction to vapor-phase transport and surface phenomena that govern crystal growth, nanostructure patterning, and device performance.

{Fall upon demand.}

533. Vapor and Aerosol Phase Materials Processing. (3)

(Also offered as NSMS 533.) Materials synthesis and processing by physical vapor deposition, chemical vapor deposition, and aerosol routes are explored. Underlying physicochemical fundamentals are discussed, and examples from the recent literature are used to exemplify the methods. {Offered upon demand}

534. Plasma Physics I. (3)

(Also offered as ASTR, PHYC, ECE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, non-linear effects, applications. {Fall}

536/436. Biomedical Technology. (3)

Fundamental concepts of the transport processes in the human body. Applications of the basic transport principles to the biomedical systems, e.g., artificial organs and the measurement of the rheological properties of blood. Use of biomaterials.

537/437. Biochemical Engineering Principles. (3)

An introduction to the engineering principles involved in the production of biological molecules. Integration of molecular biological principles with engineering fundamentals. Includes: bioprocess design, operation, analysis and optimization. {Spring upon demand}

538/438. Biosensors Fundamentals and Applications. (3)

(Also offered as NSMS 538.) Introduction to biosensors as analytical devices and biosensor technology as an emerging field of industrial development. Survey of biochemical fundamentals and immobilization of the biological components, methods for biosensors fabrication, microfluidic devices and sensor arrays. {Spring upon demand.}

539/439. Radioactive Waste Management (3)

(Also offered as CE 539.) Introduction to the nuclear fuel cycle emphasizing sources, characteristics and management of radioactive wastes. Types of radiation, radioactive decay calculations, shielding requirements. Radwaste management technologies and disposal options. {Fall}

540. Radiation Oncology Physics. (3)

(Also offered as MPHY 540) The course will cover the operation of linear accelerators, measurement of absorbed dose and quality of x-ray beams, dose distribution and scatter analysis, and clinical dose calculations for electron and photon beams. Techniques such as IMRT, total body irradiation, and SRS will be discussed. Brachytherapy treatment planning including HDR, LDR and intravascular treatments will be covered.

Corequisite: 541L. Restriction: permission of instructor.

541L. Radiation Oncology Physics Laboratory (3)

(Also offered as MPHY 541L) Complete a number of clinical treatment plans, participate in the annual calibration of a linear accelerator, acquire basic photon and electron dose

data for a computerized treatment planning system, perform several brachytherapy treatment plans including HDR and LDR plans, and perform an IMRT QA validation.
 Corequisite: 540. Restriction: permission of instructor.

542. Advanced Chemical Engineering Thermodynamics. (3)

Advanced thermodynamics with reference to its application in chemical engineering. {Fall}

546. Charged Particle Beams and High Power Microwaves. [Charged Particle Beams.] (3 to a maximum of 9) Δ

(Also offered as ECE 558.) Overview of physics of particle beams and applications at high-current and high-energy. Topics include review of collective physics, beam emittance, space-charge forces, transport at high power levels, and application to high power microwave generation.
 Prerequisite: ECE 557 or CHNE 545.

549/449. Seminar in Hazardous Waste Management. (1, no limit) Δ

Invited lectures on a variety of topics in hazardous waste, environmental engineering and science and related topics. Students prepare short written assignments. May be counted twice toward a degree.

550. Social and Ethical Issues in Nanotechnology. 1-3 [3]

(Also offered as ECE, NSMS 550.) In this course, students will examine issues arising from this emerging technology, including those of privacy, health and safety, the environment, public perception and human enhancement.

551–552. Problems. (1-3, 1-3 each semester) Δ

Advanced study, design or research either on an individual or small group basis with an instructor. Recent topics have included convective diffusion, reactor safety, inertial confinement fusion and nuclear waste management.

553L. Experimental Techniques in Plasma Science. (3)

(Also offered as ECE 553L.) Theory and practice of plasma generation and diagnostics, coordinated lectures and experiments, emphasis on simple methods of plasma production and selection of appropriate diagnostic techniques, applications to plasma processing and fusion.
 Prerequisite: ECE 534.

555. Gaseous Electronics. (3)

(Also offered as ECE 555.) The theory of gas discharges and its application to pulsed power technology. Boltzmann equation, distribution functions, breakdown mechanisms, transport coefficients, self-sustained discharges, collisions, gasses at E/N, electron density generation and decay processes. {Fall}

560. Nuclear Reactor Kinetics and Control. (3)

Theory of the kinetic behavior of a nuclear reactor system with emphasis on control and dynamic behavior.
 Prerequisite: 410 and 525. {offered upon demand}

561. Kinetics of Chemical Processes. (3)

Rate equations for simple and complex chemical processes, both homogeneous and heterogeneous. Experimental methods and interpretation of kinetic data for use in chemical reactor design and analysis. Applications to complex industrial problems. {Spring}

563. Advanced Radiation Shielding. (3)

Introduction to Monte Carlo techniques, sampling, and statistics of radiation process, charged particle interactions, three dimensional radiation transport, design of shielding, shield materials, shield heating, and shield optimization. Comparisons will be made between the experimental performance and computer predicted performance of student designs.
 Prerequisite: 525. {Fall, Spring upon demand}

564/464. Thermal-Hydraulics of Nuclear Systems. (3)

Nuclear system heat transfer and fluid flow; convection in single and two phase flow; liquid metal heat transfer, pressure loss calculations; fuel element design and heat transfer; thermal-hydraulics design of nuclear systems. {Fall}

568/468. Introduction to Space Nuclear Power. (3)

Introduction to design and mass optimization of Space Power Systems, passive and active energy conversion systems, and design of RTG's, radiation shield, heat pipe theory, design and applications, advanced radiators, TE-EM pumps and orbital lifetime calculations and safety.
 Prerequisite: 231 and MATH 316. {Spring}

575. Selected Topics in Material Science. (1-3, no limit) Δ

May be counted an unlimited number of times toward degree, with departmental approval, since content varies. Credit is determined based on the content of the course. {Offered upon demand}

576. Selected Topics in Aerosol Science. (3 to a maximum of 6 hours) Δ

Analysis of the motion of both charged and neutral aerosol particles; molecular and convective diffusion, particle size and classification, coagulation, precipitation and particle capture, current aerosol research and instrumentation. {Offered upon demand}

577/477. Electrochemical Engineering. (3)

Introduction of the principles of electrochemistry and their applications in materials characterization, corrosion, electro-plating and etching. The course builds on electrochemical kinetics and discusses the design of sensors, batteries and fuel cells.
 Prerequisite: 302, 461. {Spring upon demand}

580. Advanced Plasma Physics. (3)

(Also offered as PHYC, ECE 580.) Plasma kinetics equations, Vlasov theories of plasma waves and microinstabilities, Landau damping, nonlinear evolution of instabilities, turbulence, applications, transport in fluid plasmas: Fokker-Planck, Krook collision model.
 Prerequisite: 534 or PHYC 534. {alternate years}

582. Inertial Confinement Fusion. (3)

Theory and technology of inertial confinement fusion, including target physics: laser and particle beam physics and technology; reactor engineering.
 Pre- or corequisite: 534. {Offered upon demand}

586/486. Statistical Design of Experiments for Semiconductor Manufacturing. (3)

Statistical tools for collection, analysis, and interpretation of data. Design and control of processes for semiconductor manufacturing. Analysis of variance; randomization, replication, blocking; full-factorial, response-surface, nested, split-plot, Taguchi designs; utilization of RS/1 software.

591. Practicum. (6)

Also offered as MPHYS 591. Professional practice experience in radiation protection and environmental measurements in non-traditional settings under the guidance of health physicists and radiation protection engineers. Internship arrangement with a local facility employing health physicists or related personnel such as a national laboratory, analytical facility, or hospital.
 {Summer, Fall, Spring}

599. Master's Thesis. (1-6, no limit) Δ

See Graduate Programs section for total credit requirements.
Offered on a CR/NC basis only.

610. Advanced Nuclear Reactor Theory. (3)

Advanced numerical methods in neutral and charged particle transport, including discontinuous finite element methods, structured and unstructured grids, adjoint techniques and Monte Carlo methods.
 Prerequisite: 511. {Fall 2005 and alternate years}

699. Dissertation. (3-12, no limit) Δ

See Graduate Programs section for total credit requirements.
Offered on a CR/NC basis only.

CIVIL ENGINEERING

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Tang-Tat Percy Ng, Ph.D., Rensselaer Polytechnic Institute*
Timothy J. Ross, Ph.D., Stanford University*
Jerald L. Rounds, University of Dundee**
John C. Stormont, Ph.D., University of Arizona*
Bruce M. Thomson, Ph.D., Rice University*

Associate Professors

Julia E. Coonrod, Ph.D., University of Texas*
Kerry J. Howe, Ph.D., University of Illinois at Urbana-Champaign**
James R. Matthews, Ph.D., University of Missouri Rolla**
Mahmoud Reda Taha, Ph.D., The University of Calgary**

Assistant Professors

Susan M. Bogus, Ph.D., University of Colorado**
Giovanni C. Miqliaccio, Ph. D., University of Texas**
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Professors Emeriti

John B. Carney, Jr., Ph.D., University of Arizona
Marion M. Cottrell, M.S., The University of New Mexico
Richard J. Heggen, Ph.D., Oregon State University
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Roy L. Johnson, Jr., Ph.D., University of Wisconsin
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** Registered Professional Engineer in a state or territory other than New Mexico

Introduction

The Department of Civil Engineering at the University of New Mexico provides a high quality learning environment for its undergraduate and graduate students, and promotes lifelong learning for practicing professionals. The Department's focus is on quality instruction in engineering and construction management, innovative research, and community engagement.

Requirements for bachelor's degrees in Civil Engineering, Construction Engineering and Construction Management include the requirements of the University of New Mexico Core Curriculum. In some cases, the choice of courses is left to the student. See specific core requirements and allowable courses.

Civil Engineering

Civil engineering is an extremely broad professional field. Areas of interest include such diverse subjects as the design of buildings, roads and bridges; theory of traffic flow, microbiology, earth physics; the stresses and strains induced in structures; the safety of transportation systems; the problems of air and water pollution; and the effects of earthquakes on structures. Civil engineering problems involve the physical, mathematical, life, earth, social and engineering sciences and may involve many other technical areas. However, civil

engineering does have a unique and unified role. In particular, civil engineering is concerned with the engineering (planning, design, construction and operation) of systems of constructed facilities related to humankind's basic needs and desires. Typical civil engineering facilities include transportation systems, water conservation and distribution systems, pollution control and waste disposal projects and various structural systems such as buildings, bridges and dams. These facilities are often large or extensive and must be engineered as operational systems involving the complex interaction of many components with each other as well as with the physical and societal environment. The scope, complexity and interdisciplinary nature of civil engineering continue to increase rapidly with technological innovations. The spiraling demands of population growth on the air-land-water environment pose numerous future challenges for the profession.

The department prepares students to meet these challenges through innovative application of science and engineering principles, creative research to discover new knowledge and imaginative design to satisfy society's needs. The department's required courses in construction, environmental, geotechnical, materials, structural, transportation and water resources engineering ensure breadth in the undergraduate program. Students seeking in-depth proficiency will usually pursue graduate studies in specific fields of civil engineering.

Construction Engineering and Management

Students who are interested in careers in the construction industry can follow one of the construction oriented programs. The program in construction engineering is a traditional engineering curriculum with courses pertaining to the technical aspects of construction and leading to a Bachelor of Science degree in Construction Engineering. The program in construction management includes approximately equal emphasis in engineering science, business and management and construction operations and leads to a Bachelor of Science degree in Construction Management.

Program Objectives

The following are the Educational Objectives of the Civil Engineering program:

1. Prepare our graduates for successful professional practice or advanced study in civil engineering.
2. Provide our graduates with a broad education as a foundation for professional licensure and life-long learning.
3. Produce graduates with an appreciation for social, economic and ethical issues related to civil engineering.

The following are the Educational Objectives of the Construction Engineering program:

1. Prepare our graduates for successful professional practice or advanced study in construction engineering.
2. Provide our graduates with a broad education as a foundation for professional licensure and life-long learning.
3. Produce graduates with an appreciation for social, economic and ethical issues related to construction engineering.

Engineering Program Outcomes

The outcomes for Civil and Construction Engineering program are that our students will demonstrate:

- a. an ability to apply knowledge of mathematics, science, and engineering.
- b. an ability to design and conduct experiments, as well as to analyze and interpret data.
- c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

- d. an ability to function on multidisciplinary teams
- e. an ability to identify, formulate, and solve engineering problems
- f. an understanding of professional and ethical responsibility
- g. an ability to communicate effectively
- h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- i. a recognition of the need for, and an ability to engage in life-long learning
- j. a knowledge of contemporary issues
- k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Curriculum in Civil Engineering

The Bachelor of Science Program in Civil Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Hours required for graduation: 130 Credits

First Year—First Semester

ENGL 101	Composition I: Exposition ¹	3
MATH 162	Calculus I ¹	4
CHEM 121	General Chemistry ¹	3
CHEM 123L	General Chemistry Lab ¹	1
CE 160L	Civil Engineering Design ¹	3
	Core Humanities Elective	3
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Second Semester

ENGL 102	Composition II: Analysis and Argument ¹	3
MATH 163	Calculus II	4
CHEM 122	General Chemistry ¹	3
CHEM 124	General Chemistry Lab ¹	1
CS 151L	Computer Programming Fundamentals for Non-Majors/Lab	3
PHYC 160	General Physics ¹	3
		<hr/>
		17

Second Year—First Semester

MATH 264	Calculus III	4
PHYC 161	General Physics	3
CE 202	Engineering Statics	3
CE 283	Transportation System Measure	3
	Core Fine Arts elective ¹	3
		<hr/>
		16

Second Semester

MATH 316	Applied Ordinary Differential Equations	3
CE 352	Computer Applications in Civil Engineering	3
ME 306	Dynamics	3
ECON 105	Introductory Macroeconomics ¹	3
ENGL 219	Technical and Professional Writing ¹	3
		<hr/>
		15

Third Year—First Semester

CE 302	Mechanics of Materials	3
CE 305	Infrastructure Materials Science	4
CE 331	Fluid Mechanics/Lab	4
CE 354	Probability and Statistics for Civil Engineers	3
CE 382	Transportation Engineering	3
		<hr/>
		17

Second Semester

CE 308	Structural Analysis	3
CE 310	Structural Design I	4
CE 335	Introduction to Water And Wastewater Treatment	3
CE 350	Engineering Economy	3
CE 360	Soil Mechanics/Lab	4
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		17

Fourth Year²—First Semester

CE 442	Hydraulic Engineering and Hydrology	3
CE 372	Construction Contracting	3
	Technical Elective D ³	3
	Engr Sci elective ECE 203 or ME 301	3
	Core Humanities elective ¹	3
		<hr/>
		15

Second Semester

CE 409	Engineering Ethics	1
CE 499L	Design of Civil Engineering Systems	3
	Technical Elective D ³	3
	Technical Elective ⁴	3
	Core Social/Behavioral Science elective ¹	3
	Core Second Language elective ¹	3
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		16

Notes:

- 1 Specific Core Curriculum requirements.
- 2 Students must take the Fundamentals of Engineering Exam prior to graduation.
- 3 Technical elective D: CE 411, 424, 436, 440, 462 and 482.
- 4 See advisor for a list of approved technical electives.

Curriculum in Construction Engineering

Construction Engineering is a four-year program leading to a Bachelor of Science degree in Construction Engineering. Construction Engineering is a relatively new field, developed in response to the evolving needs of the construction industry. Large projects, both civil and industrial, have become so complex that the management of capital, materials and processes requires specialized engineering and management knowledge. This program builds on a strong foundation of traditional engineering science, analysis and design, augmented by courses in construction processes and management. It meets the needs of those students who are interested in heavy and industrial construction.

The Bachelor of Science Program in Construction Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Hours required for Graduation: 130 or 131

First Year—First Semester

		Credits
ENGL 101	Composition I: Exposition ¹	3
MATH 162	Calculus I ¹	4
CHEM 121	General Chemistry ¹	3
CHEM 123L	General Chemistry Lab ¹	1
CE 160L	Civil Engineering Design	3
	Core Humanities Elective	3
		<hr/>
		17

Second Semester

ENGL 102	Composition II: Analysis and Argument ¹	3
MATH 163	Calculus II	4
CS 151L	Computer Programming Fundamentals for Non-Majors/Lab	3
PHYC 160	General Physics ¹	3
EPS 101	Introduction to Geology ¹	3
—or—		
CHEM 122	General Chemistry ¹	3
CHEM 124L	General Chemistry Lab ¹	1
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Second Year—First Semester

MATH 264	Calculus III	4
PHYC 161	General Physics	3
CE 202	Engineering Statics	3
ECON 105	Introductory Macroeconomics ¹	3
	Core Humanities Elective	3
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		16

Second Semester

MATH 316	Applied Ordinary Differential Equations	3
MGMT 202	Principles of Financial Accounting	3
ME 306	Dynamics	3
ENGL 219	Technical and Professional Writing ¹	3
	Core Fine Arts Elective	3
		<hr/>
		15

Third Year—First Semester

CE 302	Mechanics of Materials	3
CE 305	Infrastructure Materials Science	4
CE 283	Transportation System Measurements	3
CE 350	Engineering Economy	3
CE 376	Cost Estimating	3
		<hr/>
		16

Second Semester

CE 308	Structural Analysis	3
CE 310	Structural Design I	4
CE 360L	Soil Mechanics/Lab	4
CE 370	Construction Methods and Equipment	3
CE 377	Construction Scheduling	3
		<hr/>
		17

Fourth Year² –First Semester

CE 331L	Fluid Mechanics/Lab	4
CE 354	Probability and Statistics in CE	3
CE 455	Engineering Project Management	3
CE 477	Project Controls	3
CE 495	Construction Internship	1
		<hr/>
		3
		17

Second Semester

CE 409	Engineering Ethics	1	
CE 473	Construction Law ¹	3	
CE 475	Construction Safety ¹	3	
CE 499L	Design of CE Systems	3	
		<hr/>	
		10	
		Engineering Science elective:	
		ECE 203 OR ME 301	3
		Core Social/Behavioral Sciences Elective ¹	3
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Notes:

- ¹ Specific Core Curriculum requirements.
- ² Students must take the Fundamentals of Engineering Exam prior to graduation.

Construction Management Outcomes

Graduates of the department's construction management program must appreciate the technical components and understand the managerial aspects of civil engineering construction projects.

1. We will educate students to apply methods to successfully and safely manage construction projects. Graduates will achieve competence in construction topics, including:
 - a. Reading and understanding construction documents,
 - b. Using construction documents to develop construction estimates and schedules,
 - c. Using schedules, estimates and construction documents to safely control projects.
2. Students will demonstrate an ability to lead through motivating others and applying appropriate technical skills to solve construction management problems. Graduates will:
 - a. Develop a breadth of technical skills to communicate across boundaries,
 - b. Learn to work effectively in teams,
 - c. Develop action plans to work within project constraints.
3. Students will develop skills in critical thinking and innovation recognizing the need for continuously learning new skills and competencies. Graduates will:
 - a. Utilize online and library resources,
 - b. Critically assess current technical documents,
 - c. Develop an ability to apply technology to solve construction problems.
4. Students will learn to employ effective communication skills to deal respectfully and ethically with others. Graduates will be:
 - a. Effective at oral communications,
 - b. Effective in written communications,
 - c. Effective at internet-based communications: online/electronic/email.

Minor Study Requirements

Students may earn a minor in construction management by completing the following courses with a grade of C- or better: CE 350 or MGMT 326, CE 372 and MGMT 300 or MGMT 362, plus three courses from CE 376, CE 377, CE 473, CE 474, CE 475, or CE 477.

Curriculum in Construction Management

Construction Management is a four-year program that combines basic physical science, management, business and field construction knowledge. The development management and entrepreneurial instincts is a major objective of this program. A broad background in the theory and reality of construction practice is provided by construction courses, starting with drafting skills and contracting documents, followed by surveying, productivity measurement and improvement, construction equipment management, estimating and scheduling.

Graduates from this program will typically seek employment in areas of the construction industry requiring quantitative skills and entrepreneurship. They will work for general contractors, specialty contractors, design-build firms and owners of constructed facilities. This program attracts students who are primarily interested in building construction.

The Bachelor of Science Program in Construction Management is accredited by the American Council for Construction Education. With the proper selection of management electives, students competing this program can earn a minor from the Anderson Schools of Management.

Hours required for graduation: 130

First Year–First Semester	Credits	
ECON 106	Introductory Microeconomics	3
ENGL 101	Composition I: Exposition ¹	3
MATH 121	College Algebra ¹	3
EPS 101	How the Earth Works—An Introduction to Geology	3
CE 130	Construction Detailing ²	3
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Second Semester

CS 150L	Computing for Business Students	3
ENGL 102	Composition II: Analysis and Argument ¹	3
MATH 123	Trigonometry	3
CE 160L	Civil Engineering Design	3
CE 171	Construction Materials and Techniques ²	3
		<hr/>
		3
		18

Second Year–First Semester

MATH 180	Elements of Calculus I	3
PHYC 151	General Physics ¹	3
CE 279	Mechanical Electrical Systems Construction	3
CHEM 121	General Chemistry	3
CHEM123L	General Chemistry Lab	1
		<hr/>
		3
		16

Second Semester

CE 283L	Transportation System Measurements	3
CE 371	Structures for Construction	3
CJ 130	Public Speaking	3
ENGL 219	Technical and Professional Writing ¹	3
MGMT 202	Principles of Financial Accounting	3
STAT 145	Introduction to Statistics	3
		<hr/>
		3
		18

Third Year–First Semester

CE 376	Cost Estimating	3
CE 305	Infrastructure Materials Science	4
CE 350	Engineering Economy	3
CE 478	Design of Temporary Support Structures	3
MGMT 303	Managerial Accounting	3
		<hr/>
		3
		16

Second Semester

CE 370	Construction Methods and Equipment	3	
CE 377	Construction Scheduling	3	
		<hr/>	
		3	
		MGMT Elective ³	3
		Core Humanities Elective ¹	3
		Core Second Lang Elective ¹	3
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		15	

Fourth Year—First Semester

CE 455	Engr Project Management	3
CE 473	Construction Law	3
CE 477	Project Controls	3
CE 495	Construction Internship	1
	MGMT Elective ³	3
	Core Soc/Behav Sci Elective ¹	3
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Second Semester

CE 409	Engineering Ethics	1
CE 474	Principles of Written Construction Documents	3
CE 475	Construction Safety	3
CE 497L	Design Construction Integration	3
	Const Elective ³	3
	MGMT Elective ³	3
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Notes:

- ¹ Core Curriculum electives from approved lists.
- ² Course must be taken at Central New Mexico Community College.
- ³ See Department for approved Const and MGMT electives. Approval of advisor required.

Policies on Academic Progress

The following policies apply to all students who have been admitted to the civil engineering department:

- 1. Students must complete all mathematics, science and engineering courses required for the degree in civil and construction engineering and construction management with a grade of C- or better.
- 2. No student may enroll in a course in the civil engineering department without first earning a grade of C- or above in all prerequisites for the course.
- 3. Students must complete a minimum of 24 credit hours of work applicable to the degree after admission to the civil engineering department.

Students seeking exceptions to these policies are required to obtain written permission from the department chairperson.

Cooperative Education Program

The Department of Civil Engineering offers a cooperative education program that alternates classroom study with a planned program of related work experience. Additional information may be obtained from the University of New Mexico's Career Services Office.

Civil Engineering Laboratories

The civil engineering laboratories are designed to be an integral part of the educational process as well as an introduction to modern industrial laboratory practice in materials quality control, design and research. Well-equipped instructional laboratories are provided for engineering measurements, civil engineering materials, geotechnical engineering, fluid mechanics and environmental engineering. Modern experimental equipment and techniques are utilized in all laboratories.

Computational Facilities

Throughout the curriculum the student is exposed to a variety of computational equipment. The department has personal computers available for student use that are connected to the University's central computing system.

Departmental Honors

Eligible students in the Department of Civil Engineering are urged to enroll in the Honors Program. Civil Engineering students may graduate with General Honors (honors in general studies) or with Departmental Honors or with both. Information is available from college or University advisors and the University Honors Center.

Graduate Program

Graduate Advisor

John C. Stormont

Application Deadline

Fall semester: July 15
 Spring semester: November 10
 Summer session: April 29

NOTE: Early application is recommended. These dates also apply for financial aid.

Degrees Offered

The Department of Civil Engineering offers programs in civil engineering leading to the Master of Science and the Doctor of Philosophy degrees. The Graduate Record Exam (GRE) is required of all applicants for graduate study in civil engineering.

Persons with a bachelor's degree in a field other than civil engineering may be admitted to the graduate program, but they may be required to take undergraduate civil engineering courses to eliminate deficiencies in their background. Each case is considered individually. A listing of specific requirements is contained in the civil engineering manual for graduate studies.

M.S. in Civil Engineering

Masters students may take courses in construction, hydraulics, environmental engineering, geotechnical engineering, structural engineering/ structural mechanics, transportation or water resources.

Plan I

- 1. Thirty credit hour total, excluding 691 (Seminar).
- 2. Six hours of 599 (Master's Thesis).
- 3. A maximum 6 hours of thesis, Problems and Independent Study courses.
- 4. A minimum 9 hours of 500-level courses.
- 5. A maximum 12 hours taken in non-degree status.
- 6. Two hours 691 (Seminar).
- 7. General University of New Mexico limits, including transfer credit, course work from a single professor and time of completion.
- 8. No credit is allowed for experiential learning.

Plan II ¹

- 1. Thirty-three credit hour total, excluding 691 (Seminar).
- 2. Zero or 3 hours of 588 (Master's Project).
- 3. A maximum 6 hours of Problems.
- 4. A minimum 12 hours of 500-level courses.
- 5. A maximum 12 hours taken in non-degree status.
- 6. Two hours of 691 (Seminar).
- 7. General University of New Mexico limits, including transfer credit, course work from a single professor and time of completion.
- 8. Zero hours of 588 constitutes a course-work only degree.
- 9. No credit is allowed for experiential learning.

¹ Plan II also provides for a course work only degree.

Ph.D. in Engineering

General requirements for the Doctor of Philosophy degree are given in the Graduate Program section of this catalog. In addition, students must take a distribution of graduate courses that support their dissertation research.

Candidates for the Doctor of Philosophy degree with a concentration in civil engineering must demonstrate a competence in basic areas of the field by satisfactorily completing the departmental qualifying examination. Doctoral students must take the qualifying exam during their first or second semester as a Ph.D. student. After a student has substantially completed his/her course work, the prospective candidate will take a comprehensive exam to demonstrate an ability to



conduct Ph.D.-level research. A student is admitted to candidacy for the Ph.D. degree after satisfactory completion of the comprehensive examination and with the approval of the doctoral committee and the Dean of Graduate Studies.

Additional information on the Department of Civil Engineering's programs and facilities may be obtained by contacting the graduate advisor or by reviewing the civil engineering manual for graduate studies, which is available on the department Web site (<http://www.unm.edu/~civil>).

Ph.D. in Engineering

Concentration in Civil Engineering

Course Requirements:

In addition to the general University doctoral degree requirements listed in the Graduate Program section of the UNM Catalog, students pursuing a Ph.D. in Engineering with a concentration in Civil Engineering must meet the following criteria:

1. Ph.D. students must choose an emphasis and complete the core course requirements established in one area of emphasis listed below.
2. Students must take 4 hours of Seminar: CE 691.

Emphases and Core Courses:

Construction Engineering and Management: CE 554 or STAT **345, CE 577, MGMT 502 or 503
 Environmental Engineering: CE 531, CE 532, CE 537L or 534, CE 536
 Geotechnical Engineering: CE 502, CE 560, CE 561L, CE 562, CE 567
 Hydraulic and Water Resources Engineering: CE 541, CE 542, CE 545, CE 547
 Structural Engineering and Mechanics: CE 501, CE 502, CE 520, CE 562
 Transportation: CE 580, CE 581, CE 582, CE 583, CE 584

Equivalent graduate-level courses taken at another institution may be used to satisfy this requirement, but this must be decided on a case-by-case basis by the Graduate Advisor or Graduate Committee in the Civil Engineering department.

Qualifying Examination

Students must pass the Qualifying Examination before a Committee-on-Studies is formed. Candidates take the Qualifying Examination during their first or second semester as a Ph.D. student.

Comprehensive Examination

When the candidate has substantially completed the coursework indicated on the approved Application for Candidacy Form, the candidate will take the Comprehensive Exam.

Dissertation Defense

The Ph.D. Dissertation must be defended before the student's Dissertation Committee

Master of Construction Management (M.C.M.)

The M.C.M. program is designed to accommodate students with interest or experience in all aspects and sectors of the construction industry. Prospective students need not have an undergraduate degree in engineering; rather, they are more likely to have a degree from a related field such as management or architecture. Many classes are offered either on-line or in the late afternoon/early evening to accommodate practicing professionals.

Options are available for both a 32 credit hour Thesis based (Plan I) and a 35 credit hour Project based (Plan II) program of study. Successful completion of either the Graduate Record Exam (GRE) or Graduate Management Admission Test (GMAT) is required for entrance into the program as well as completion of, or demonstration of competency in, CE 350: Engineering Economy and CE 372: Construction Contracting.

Civil Engineering (CE)

130. Construction Detailing. (3)

Basics of construction detailing and comprehension of working drawing sets.

160L. Civil Engineering Design. (3)

Introduction to engineering graphics (Autocad), computer-aided design; introduction to civil engineering and construction.

171. Construction Materials and Techniques. (3)

Plan reading, elementary construction techniques, materials and construction documents; primary emphasis is on the Uniform Building Code plan checking.
 Prerequisite: 130.

202. Engineering Statics. (3)

Statics of particles and rigid bodies, in two and three dimensions using vector algebra as an analytical tool; centroids; distributed loads; trusses, frames, internal forces, friction.
 Prerequisite: PHYC 160 and MATH 163.

279. Mechanical Electrical Systems Construction. (3)

Materials and equipment used in the electrical and mechanical systems of commercial building, and associated codes and costs, are surveyed and explored.

283. Transportation System Measurements. (3)

Principles of physical measurements and error theory applied to transportation systems, including layout and design. Design elements and standards, sight distance considerations and earthwork calculations applied to horizontal and vertical alignment design.
 Prerequisite: MATH 162 or 180.

291. Lower Division Special Topics in Civil Engineering. (1-3 to a maximum of 6) Δ

Lower division studies in various areas of civil engineering. Restriction: freshman or sophomore standing.

302. Mechanics of Materials. (3)

Stresses and strains in members subjected to tension, compression, torsion, shear and flexure. Combined and principal stresses; Mohr's circle construction; buckling. Introduction to statically indeterminate members.
 Prerequisite: 202. Pre- or corequisite: MATH 316.

304. Engineering Mechanics. (4)

Accelerated course combining fundamentals of statics and dynamics of rigid bodies. Principles of kinematics and kinetics for particles and rigid bodies using vector notation. Not intended for CE or ME students.
 Prerequisite: PHYC 160. Pre- or Corequisite: MATH 264.

305. Infrastructure Materials Science. (4)

Lecture and laboratory studies of the physical, structural, mechanical and chemical properties of infrastructure materials. Micro and nano-scale structure of matter. Experimental determination of material properties.
 Prerequisite: ENGL 219. Pre- or corequisite: 302 or 371.

308. Structural Analysis. (3)

Analysis of determinate and indeterminate structural systems. Determination of forces and displacements. Classical analysis methods, influence lines and introduction to matrix stiffness formulation.
 Prerequisite: 302 and 305.

310. Structural Design I. (4)

Introduction to structural design, design philosophies and approaches, structural materials and loading. Behavior of structural members, connections and approaches to the design of steel and reinforced concrete elements and systems constructed using current codes. Introduction to timber structures.
 Pre- or corequisite: 308. Three lectures.

331. Fluid Mechanics. (4)

Fluid properties; fluids at rest; fluid flow principles, including continuity, energy and momentum; incompressible fluid flow; laboratory study of basic principles of fluid mechanics. Pre- or corequisite: 202 and ME 306 and three lectures.

****335. Introduction to Water And Wastewater Treatment. (3)**

Basic design concepts of water and wastewater treatment. Flow rates, characterization of water, materials balances, coagulation, flocculation, filtration, sedimentation, biological treatment and disinfection. Prerequisite: CE 331L and CHEM 122 and 124L.

350. Engineering Economy. (3)

(Also offered as ME 350.) A study of methods and techniques used in determining comparative financial desirability of engineering alternatives. Includes time value of money (interest), depreciation methods and modern techniques for analysis of management decisions. Prerequisite: MATH 162 or MATH 180.

Restriction: junior or senior standing.

352. Computer Applications in Civil Engineering. (3)

Study of computer-aided design and other computer applications for surveying, site design, earthwork, roadway design, hydrology and other civil engineering topics. Prerequisite: 160L and 283L.

354/554. Probability and Statistics for Civil Engineers. (3)

Introduction to probabilistic and statistical techniques, including descriptive measures, distributions, hypotheses testing, regression and analysis of variance, and their application to specific examples in the planning, design, construction, operation and maintenance of civil engineering facilities. Prerequisite: MATH 316.

360. Soil Mechanics. (4)

Fundamental properties of soils, classification systems, site investigation, permeability, consolidation, compaction and shear. Laboratory tests conducted to determine the properties of soils-related geotechnical engineering problems. Prerequisite: 302. Three lectures.

370. Construction Methods and Equipment. (3)

Comprehensive study of the ownership and operating costs, production rates and operating characteristics of the major construction equipment types. Prerequisite: 350. Restriction: junior or senior standing.

371. Structures for Construction. (3)

Principles of mechanics, equilibrium conditions, properties of structural materials, structural properties of areas, load-shear-bending moment diagrams, flexural stresses, shearing stresses, deflection, and analysis of simple trusses, beams, columns, and funicular structures. Prerequisite: 171 and MATH 180 and PHYC 151.

****372. Construction Contracting. (3)**

Management principles as applied to the conduct and control of a construction contracting business; estimating methods, bidding, construction contracts, bonds, insurance, project planning and scheduling, cost accounting, labor law, labor relations and safety. Restriction: junior or senior standing.

376. Cost Estimating. (3)

Using modern, professional estimating techniques and resources, students complete cost estimates on buildings based on the Construction Specifications Institute formatted budgets and quantity take-offs for materials, labor, and equipment. Prerequisite: 171.

377. Construction Scheduling. (3)

Planning and scheduling of construction activities including network diagramming and calculations with the Critical Path Method (CPM), resource allocation, schedule updating, and computer applications. Prerequisite: 171.

382. Transportation Engineering. (3)

Multimodal examination of the planning, design and operation of transportation facilities; social aspects and economic evaluation of transportation system improvements; transportation design project. Prerequisite: 283L. Restriction: junior or senior standing.

409. Engineering Ethics. (1)

Topics in engineering practice, licensing, ethics and ethical problem-solving. Cases illustrating ethical issues facing practicing engineers. One lecture and one recitation per week for eight weeks. Restriction: senior standing.

411/511. Reinforced Concrete Design. (3)

Structural mechanics of concrete beams, slabs, columns, walls and footings; checking and proportioning of members and connections in accordance with specifications for limit state concrete design. Prerequisite: 310. Restriction: senior standing.

415. Civil Engineering Design Competition. (1 to a maximum of 3) Δ

Students will plan, design, construct, and test projects for competitions such as the American Society of Civil Engineering/American Institute of Steel Construction steel bridge competition and the American Concrete Institute's concrete canoe competition. Offered on a CR/NC basis only. Restriction: junior or senior standing.

424/524. Structural Design in Metals. (3)

Design of steel systems in accordance with LRFD design specifications. Prerequisite: 310. Restriction: senior standing.

436/536. Biological Wastewater Treatment. (3)

Principles and design of wastewater treatment systems which are dependent on biological organisms. Processes covered include suspended culture and fixed culture systems, nutrient removal, hybrid systems, land application and on-site treatment systems. Emphasis will be placed on fundamental interaction between the organisms, wastes and receiving body of water. Prerequisite: 335. Restriction: senior standing.

437L/537L. Aqueous Environmental Chemistry and Analysis. (3)

Summary of important concepts applicable to ecology, water and wastewater treatment. Topics include acid-base equilibria, alkalinity, hardness, nutrient cycles and forms, metals and organic compounds in water. Emphasis will be on analytical procedures commonly used. Prerequisite: 335. Two lectures, 3 hours lab.

440/540. Design of Hydraulic Systems. (3)

Applications of the principles of fluid mechanics to the design and analysis of pipe systems. Topics include pipe network analysis, design and selection of hydraulic machinery and analysis of transient and compressible flow. Prerequisite: 331.

441/541. Hydrogeology. (3)

(Also offered as EPS 462). Hydrologic and geologic factors controlling groundwater flow, including flow to wells. The hydrologic cycle; interactions between surface and subsurface hydrologic systems; regional flow systems. Groundwater geochemistry and contaminant transport. Prerequisite: MATH 163 and CHEM 121 and PHYS 160. Restriction: senior standing.

***442. Hydraulic Engineering and Hydrology. (3)**

Design of water distribution systems and open channels; selection of pumps and turbines; hydraulics of wells; basic engineering hydrology including precipitation, infiltration, runoff, flood routing, statistical measures and water resources planning. Prerequisite: 331 and MATH 162.

***455. Engineering Project Management. (3)**

(Also offered as ME 455) Estimating, proposing, planning, scheduling, quality and cost control and reporting of an engineering project. Case studies of typical engineering projects. Small projects carried out by student teams.
Restriction: junior or senior standing.

462/562. Foundation Engineering I. (3)

Application of principles of soil mechanics to analysis and design of footings, piles, caissons, cofferdams and other substructures.
Prerequisite: 360L.

464/564. Rock Mechanics. (3)

Geologic considerations; physical properties and engineering classification of intact rock; in situ behavior of rock masses; effect of geologic discontinuities on physical properties; application of rock mechanics principles to specific foundation problems; reinforcement of rock masses; controlled blasting and blast-induced vibrations.
Prerequisite: 360.

466/566. Pavement Design. (3)

Pavement design principles, including a review of methods for soil testing and characterization, base selection, subgrade stabilization and surfacing material design. Procedures for new pavement design and existing pavement testing and evaluation will be covered.
Prerequisite: 360.

473/573. Construction Law. (3)

Basic law concepts pertaining to the construction industry in New Mexico, including the Construction Industries Licensing Act, construction contracts, change orders, delay damages, contractor liability, dispute resolution, lien laws and the Miller Acts.
Prerequisite: 376 and 377 and ENGL 219. Restriction: junior or senior standing.

474/574. Principles of Written Construction Documents. (3)

This course reviews written documents used throughout construction projects, describing how the documents relate to each other and to drawings. It provides detail on the theory, techniques and format for every aspect of construction documentation.
Prerequisite: 376 and 377 and ENGL 219.

475/575. Construction Safety. (3)

Basic safety and loss control concepts, practices, and skills to improve construction job site safety; OSHA regulations, accidents, documentation, safety policies and procedures, safe work environments, crisis management, and other safety related topics.
Prerequisite: 376 and 377 and ENGL 219. Restriction: junior or senior standing.

477/577. Project Controls. (3)

Time and cost budgeting is used for project control through management information and systems engineering. Topics to include cost integrated scheduling, earned value, probabilistic estimating and scheduling, crashing, trade-off analysis and forecasting.
Prerequisite: 376 and 377.
Restriction: junior or senior standing.

478/578. Design of Temporary Support Structures. (3)

Design and construction of temporary support structures used in the construction industry, including concrete formwork, scaffolding, caissons, cofferdams, and dewatering systems.
Prerequisite: 308 or 371.

480/580. Highway Traffic Design. (3)

Basic principles and geometric design of roadways, road-sides, interchanges and intersections.

481/581. Urban Transportation Planning. (3)

Planning aspects of highway transportation including transportation goals, transportation forecasting techniques and models, selection between alternate solutions, financing improvements.

482/582. Highway and Traffic Engineering. (3)

Principles of the geometric design and operation of streets and highways, including planning aspects, traffic design and control and highway safety. Application of these principles to actual situations.
Prerequisite: 382. Restriction: junior or senior standing.

483/583. Traffic Engineering Studies and Characteristics. (3)

Highway traffic speed, volume, capacity, accidents, origin-destination, and parking; the road users and vehicles in traffic; models and theories describing traffic flow.
Prerequisite: 382.

484/584. Transportation of Hazardous Materials. (3)

Technical and policy issues associated with hazardous materials transportation. Examines the transportation regulatory environment and specific issues relating to accident analysis, routing, risk assessment and community preparedness and emergency response.

***491-492. Special Topics in Civil Engineering. (1-3, 1-3 to a maximum of 6) Δ**

Advanced studies in various areas of civil engineering.

493. Special Topics in Civil Engineering - Honors. (1-3 to a maximum of 6) Δ

494. Honors Seminar. (3 to a maximum of 6) Δ

495. Construction Internship. (1)

Practical construction industry experience (both home office and field). Students spend designated period of time with owner or contractor. Evaluation by both instructor and industry sponsor, emphasizing student's understanding of observed project management operations.
Restriction: junior or senior standing.

497L. Design Construction Integration. (3)

Comprehensive, creative construction management of a typical construction project, including estimating, scheduling, document preparation, constructibility site analysis and quality, safety, equipment and material plans. Both written and oral presentations are required.
Pre- or corequisite: 477. Restriction: senior standing.

499. Design of Civil Engineering Systems. (3)

Comprehensive, creative design of a typical civil engineering project, including cost analysis. Detailed study based on written proposals by student teams, both written and oral reports required. To be taken in the student's last semester.
Prerequisite: 310 and 331 and 350 and 360. Restriction: senior standing.

501. Advanced Mechanics of Materials. (3)

(Also offered as ME 501.) State of stress and strain at a point, stress-strain relationships; topics in beam theory such as unsymmetrical bending, curved beams, and elastic foundations; torsion of noncircular cross-sections, energy principles.

502. Finite Element Methods in Solid Mechanics. (3)

Topics in finite element analysis with applications to problems in a two and three dimensional, solid continuum.

503. Composite Materials. (3)

Mechanical behavior of constituent materials, characteristics of the lamina and laminates, composite action and mechanics, fracture and failure theories, hygrothermal effects, testing and inspection techniques, design of composite structures.

506. Prestressed Concrete. (3)

Theoretical and practical aspects of behavior and design of prestressed concrete structures.

508. Analysis and Design of Plates and Shells. (3)

Behavior, analysis and design of discrete and continuous plates and shells. Membrane and bending behavior using elasticity and plastic yield line theories. Numerical methods of solution.

511./411. Reinforced Concrete Design. (3)
Structural mechanics of concrete beams, slabs, columns, walls and footings; checking and proportioning of members and connections in accordance with specifications for limit state concrete design.

518. Theory of Structural Stability. (3)
General concept of stability of elastic and inelastic systems: columns, beam-columns, frames, plates and torsional stability. Equilibrium, energy and dynamic methods, nonlinear systems, nonconservative problems, discretized mathematical models.

520. Introduction to Structural Dynamics. (3)
Basic theory of structural vibrations; structural response/design to dynamic loads; approximate frequency methods for design; response spectra for design; viscous and tuned mass damping; lumped mass systems using matrix methods; periodic and transient response using normal mode method; continuous mass systems.

521. Earthquake Engineering. (3)
Nature of dynamic loading from earthquakes and bomb blasts; nature of dynamic resistance of structural elements and complete structures; criteria for design of blast and earthquake resistant structures; applications.

524./424. Structural Design in Metals. (3)
Design of steel systems in accordance with LRFD design specifications.

530. Legal Issues and Environmental Technology. (3)
This course discusses the legal and regulatory aspects associated with principal technologies in current use in environmental engineering. The regulatory programs to be addressed include those established under NEPA, CAA, CWA, SDWA, RCRA and CERCLA.

531. Physical-Chemical Water and Wastewater Treatment. (3)
Theory and design of common physical-chemical treatment processes including sedimentation, coagulation, flocculation, water softening, oxidation, disinfection, sludge handling and disposal, filtration and centrifugation.

532. Advanced Physical-Chemical Water and Wastewater. (3)
Principles and design practices of unit operations applicable for special problems. Processes covered will include absorption, ion exchange, reverse osmosis, wet air oxidation, ammonia stripping among others. Emphasis will be on reuse of treated effluent and production of high quality water for special applications including drinking water and industrial water supply.

534. Environmental Engineering Chemistry. (3)
A comprehensive survey including acid-base and precipitation equilibria, complexation of metals, transformation occurring in the environment adsorption, ion exchange. The approach will be quantitative and aimed at developing the students ability to predict consequences of environmental manipulation, treatment processes and phenomena observed in the field.

536./436. Biological Wastewater Treatment. (3)
Principles and design of wastewater treatment systems which are dependent on biological organisms. Processes covered include suspended culture and fixed culture systems, nutrient removal, hybrid systems, land application and on-site treatment systems. Emphasis will be placed on fundamental interaction between the organisms, wastes and receiving body of water.

537L./437L. Aqueous Environmental Chemistry and Analysis. (3)
Summary of important concepts applicable to ecology, water and wastewater treatment. Topics include acid-base equilibria, alkalinity, hardness, nutrient cycles and forms, metals and organic compounds in water. Emphasis will be on analytical procedures commonly used. Two lectures, 3 hours lab.

539. Radioactive Waste Management. (3)
(Also offered as CHNE 439./539.) Introduction to the nuclear fuel cycle emphasizing sources, characteristics and management of radioactive wastes. Types of radiation, radioactive decay calculations, shielding requirements. Radwaste management technologies and disposal options.

540./440. Design of Hydraulic Systems. (3)
Applications of the principles of fluid mechanics to the design and analysis of pipe systems. Topics include pipe network analysis, design and selection of hydraulic machinery and analysis of transient and compressible flow.

541./441. Hydrogeology. (3)
(Also offered as EPS 562.) Hydrologic and geologic factors controlling groundwater flow, including flow to wells. The hydrologic cycle; interactions between surface and subsurface hydrologic systems; regional flow systems. Groundwater geochemistry and contaminant transport.

542. Intermediate Hydrology. (3)
Hydrometeorology, interception, depression storage, infiltration, hydrograph analysis, flood routing, urban hydrology, groundwater analysis and utilization.
Restriction: graduate standing.

543. Ground Water Mathematics and Modeling. (3)
Derivation of equations for fluid flow and contaminant transport in saturated and unsaturated media. Application of analytical solutions of these equations. Introduction to principles of finite difference, finite element and stochastic methods of numerical modeling.

544. Water Resources Engineering. (3)
Analysis of river basin development. Legal and economic factors in water use and reuse. American experience in political organization for river basin control. Fundamentals of mathematical models for optimizing river basin development.

545. Open Channel Hydraulics. (3)
Open channel hydraulics; specific energy and specific force; steady and unsteady flow; gradually varied flow; rapidly varied flow; computation of water surface profiles.

547. GIS in Water Resources Engineering. (3)
Principles and operation of geographic information systems using Arc GIS, work with surface and subsurface digital representations of the environment considering hydrologic and transportation processes. Course project is required.
Restriction: graduate standing.

548. Fuzzy Logic and Applications. (3)
(Also offered as ECE 548) Theory of fuzzy sets; foundations of fuzzy logic. Fuzzy logic is shown to contain evidence, possibility and probability logics; course emphasizes engineering applications; control, pattern recognition, damage assessment, decisions; hardware/software demonstrations.

549. Vadose Zone Hydrology. (3)
Principles and applications of water, energy and solute transport in the near-surface environment. Topics covered include moisture characteristic curves, unsaturated hydraulic conductivity, Richards equation and numerical solutions. Processes studied include infiltration, redistribution, evapotranspiration and recharge.
Restriction: graduate standing.

551. Problems. (1-3 to a maximum of 6) Δ
Advanced reading, analysis, design or research.

554./354. Probability and Statistics for Civil Engineers. (3)
Introduction to probabilistic and statistical techniques, including descriptive measures, distributions, hypotheses testing, regression and analysis of variance, and their application to specific examples in the planning, design, construction, operation and maintenance of civil engineering facilities.

560. Advanced Soil Mechanics. (3)

Stress space and stress paths; in situ tests; shear strength and behavior of sands and clays; selection of strength parameters for analysis and design.

561L. Advanced Soil Mechanics Laboratory. (3)

Advanced soil testing procedures, laboratory study of the mechanical and physical properties of soil, stress path testing and cyclic testing. One lecture, 6 hours lab.

562/462. Foundation Engineering I. (3)

Application of principles of soil mechanics to analysis and design of footings, piles, caissons, cofferdams and other substructures.

563. Earth Structures. (3)

Analysis and design of earth dams, embankments and excavations; seepage, slope stability. Buried structures, conduits and culverts. Computer applications.

564/464. Rock Mechanics. (3)

Geologic considerations; physical properties and engineering classification of intact rock; in situ behavior of rock masses; effect of geologic discontinuities on physical properties; application of rock mechanics principles to specific foundation problems; reinforcement of rock masses; controlled blasting and blast-induced vibrations.

565. Soil Behavior. (3)

Understanding of the factors that determine and control the engineering properties of soils. Soil deposits, formation and composition; properties of the clay minerals, soil structure and fabric; and deformational behavior of soils under stresses.

566/466. Pavement Design. (3)

Pavement design principles, including a review of methods for soil testing and characterization, base selection, subgrade stabilization and surfacing material design. Procedures for new pavement design and existing pavement testing and evaluation will be covered.

567. Foundation Engineering II. (3)

Analytical and practical aspects of foundation design problems: soil improvement, foundations in difficult soils, reinforced earth walls, sheet pile walls, slurry walls, excavation and anchors.

568. Soil Dynamics. (3)

Behavior of soils subjected to loads, elastic and inelastic wave propagation in soils, ground motion, machine foundations, wave effects on structures, seismic studies, pile driving and dynamic soil testing.

571. Sustainable Design and Construction. (3)

Principles of sustainable design and construction, including life-cycle cost analysis, evaluation of economic and environmental impacts, state-of-the-art technology, and LEED certification.

573/473. Construction Law. (3)

Basic law concepts pertaining to the construction industry in New Mexico, including the Construction Industries Licensing Act, construction contracts, change orders, delay damages, contractor liability, dispute resolution, lien laws and the Miller Acts.

574/474. Principles of Written Construction Documents. (3)

This course reviews written documents used throughout construction projects, describing how the documents relate to each other and to drawings. It provides detail on the theory, techniques and format for every aspect of construction documentation.

575/475. Construction Safety. (3)

Basic safety and loss control concepts practices and skills to improve construction job site safety. The course will cover OSHA regulations and enforcement, job site accidents and losses associated with various types of accidents, documentation, record-keeping, development of safety policies

and procedures, safe environments, employer and worker/employee responsibilities, drug and alcohol abuse, crisis management and other safety related topics.

576. Project Delivery Systems. (3)

Defining characteristics of various project delivery systems, processes to solicit and procure those services. Responsibilities, risks and rewards for owners, designers, and contractors under various PDS.

577/477. Project Controls. (3)

Time and cost budgeting is used for project control through management information and systems engineering. Topics to include cost integrated scheduling, earned value, probabilistic estimating and scheduling, crashing, trade-off analysis and

578/478. Design of Temporary Support Structures. (3)

Design and construction of temporary support structures used in the construction industry, including concrete formwork, scaffolding, caissons, cofferdams, and dewatering systems.

580/480. Highway Traffic Design. (3)

Basic principles and geometric design of roadways, road-sides, interchanges and intersections.

581/481. Urban Transportation Planning. (3)

Planning aspects of highway transportation including transportation goals, transportation forecasting techniques and models, selection between alternate solutions, financing improvements.

582/482. Highway and Traffic Engineering. (3)

Principles of the geometric design and operation of streets and highways, including planning aspects, traffic design and control and highway safety. Application of these principles to actual situations.

583/483. Traffic Engineering Studies and Characteristics. (3)

Highway traffic speed, volume, capacity, accidents, origin-destination and parking; the road users and vehicles in traffic; models and theories describing traffic flow.

584/484. Transportation of Hazardous Materials. (3)

Technical and policy issues associated with hazardous materials transportation. Examines the transportation regulatory environment and specific issues relating to accident analysis, routing, risk assessment and community preparedness and emergency response.

588. Master's Project. (1-6)

Development of project concept, investigation of needs, initial data collection and assembly of written and field materials necessary to conduct a professional project. Exploration of alternative means to conduct the project.

Prerequisite: completion of 12 credit hours of 500 level course work. Restriction: CE or Construction Management majors.

598. Selected Topics. (1-3 to a maximum of 6) Δ

A course offered by Civil Engineering faculty which presents a detailed examination of developing sciences and technologies in a classroom setting. {Offered upon demand}

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

650. Research. (1-6 to a maximum of 12) Δ

Restriction: CE majors only.

691. Graduate Seminar. (1 to a maximum of 4) Δ

Offered on a CR/NC basis only.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

COMPUTER SCIENCE

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Bernard M. E. Moret, Ph.D., University of Tennessee
Henry D. Shapiro, Ph.D., University of Illinois
Brian T. Smith, Ph.D., University of Toronto
Patricia A. Stans, Ph.D., New Mexico State University
Robert L. Veroff, Ph.D., Northwestern University

Introduction

The program of this department is intended to provide students with a well rounded general education and a broad set of skills and knowledge in the basic areas of computer programming and computer science. The program is accredited by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone (410) 347-7700. The core requirements in mathematics, computer science and electrical engineering cover the basic principles and methodologies of discrete mathematics, problem analysis and algorithmic development, assembly language, high level programming languages, language design and implementation, operating systems, data structures, analysis of algorithms, computer architecture and software engineering.

Program Objectives for the Computer Science Degree

The primary goal of the degree program in Computer Science is to provide students the foundations for future work and careers in computation-based problem solving. These foundations support both a successful career path in computing as well as provide appropriate qualifications for further degree work in computation related disciplines. Our degree emphasizes development of analytical skills, acquisition of knowledge and understanding of systems, languages and tools required for effective computation-based problem solving. Our core courses offer a broad base so that students who

end their studies with the bachelor's degree can continue to acquire new skills and advance in an always-evolving professional workplace. Our core courses also strive to cultivate the sophistication and insights needed for further study at the graduate level. We accomplish these goals by placing our computer science program in the context of the core curriculum requirements of the University of New Mexico, by requiring a minor degree outside of computer science and by insisting on a strong overall grade point average.

The following objectives are to be met by students obtaining a degree in Computer Science. Students, upon graduation will:

1. Have sufficient analytical skills and knowledge to make appropriate system and language choices for computer-based problem solving.
2. Possess algorithm development skills for effective problem solving and programming.
3. Understand the software development process.
4. Besides the core computing skills, have significant background in application areas such as databases, graphics and artificial intelligence.
5. Communicate effectively in both oral and written modes.
6. Understand and respect the professional standards of ethics expected of a computer scientist as well as appreciate the social impact of computing.
7. Appreciate the intellectual environment offered by the University of New Mexico and adopt the goal of life-long learning in an ever-evolving world.

Analytical skills are at the heart of becoming an effective computer scientist. These skills are stressed even from the beginning courses in programming and discrete mathematics. The ability to develop a computational solution for a problem coming from a complex world of goals and processes also requires understanding of and experience with algorithm design, a wide variety of architecture and network designs and a select number of current computing languages—ranging from the more direct hardware based to the very highest level. These analytic, design and programming skills are tested in senior-level applications courses, including work in databases, graphics, complex systems, computer vision and artificial intelligence. Supporting all of our education in computing is a philosophy that stresses analysis, communication, ethics and social responsibility.

Admission Requirements

Students wishing to enroll in the bachelor's program in computer science must apply for admission or transfer to the Computer Science Department, School of Engineering. The admission process is initiated through the Office of Admissions for students wishing to transfer to the University of New Mexico from other institutions. Grades earned in equivalent courses at other institutions will be used in determining eligibility for admission to the department. Students transferring to the Computer Science program from another college at the University of New Mexico should initiate the paperwork at the office of the Computer Science Department. Students transferring to the Computer Science program from another department within the School of Engineering should initiate the paperwork in their present department office. Students denied entrance to the department due to lack of sufficient credits or specific courses may enroll in computer science classes and reapply at a later time when they meet the entrance requirements. The criteria for admission to the department are:

1. Completion of the following courses with a grade of B- or better: Math 162, and one of CS 151L or 152L.
2. Fulfill requirements for admission to the School of Engineering.

Advanced Placement and Transfer Credit

The department subscribes to the general policy of the School of Engineering with regard to advanced placement credit earned by examination.

Students with university level course work from other institutions will have their academic records evaluated by an undergraduate advisor from the department on an individual basis. The student should be aware that the department has the final say about which transfer credits can be applied toward the graduation requirements listed below. Because computer science programs vary greatly, students transferring from other institutions should not assume that computer science courses they have taken elsewhere can be applied toward the 51 hour computer science course work graduation requirement. Courses not accepted toward the 51 hours may be applied toward the 130 semester hour graduation requirement as general electives at the discretion of an undergraduate advisor.

Graduation Requirements

To receive the degree of Bachelor of Science in Computer Science, a student must satisfy all general University of New Mexico regulations concerning baccalaureate programs and must complete all work defined by the following groups. Only courses with a grade of C- or better may be used to satisfy any of the requirements defined herein. The following courses cannot be used to satisfy any of the requirements listed below: Reserve Officers Training Corp (ROTC), recreational physical education (PE-NP). Introductory Studies courses (e.g., IS-E 100) and mathematics courses prior to calculus. If in doubt about the applicability of a course, contact an undergraduate advisor in the Computer Science Department.

1. Completion of 130 semester hours.
2. Completion of at least 42 hours in courses numbered 300 or above.
3. Completion of 51 hours in computer science consisting of the following courses, which total 42 hours, completed with a grade of C or better:

One of CS 151L or CS 152L (with grades of B- or better)
 CS 241L Data Organization
 CS 251L Intermediate Programming
 CS 261 Mathematical Foundations of Computer Science
 ECE 238L Computer Logic Design
 CS 293 Social and Ethical Issues in Computing
 CS 341L Introduction to Computer Architecture and Organization
 CS 351L Design of Large Programs
 CS 361L Data Structures and Algorithms I
 CS 362 Data Structures and Algorithms II
 CS 357L Declarative Programming
 CS 375 Numerical Computation
 CS 460 Software Engineering
 CS 481 Computer Operating Systems

The remaining 9 hours are technical electives of the student's choosing to be taken from among the Computer Science Department offerings. (Certain courses in the Department of Electrical and Computer Engineering are also acceptable as technical electives.) All courses used as technical electives are subject to the approval of an undergraduate advisor and must be completed with a grade of B or better.

CS 259L may be substituted for CS 152L and CS 251L but only 5 hours credit is awarded. The computer science hour requirement is reduced to 50, but the overall graduation requirement remains at 130.

The following additional rules apply.

- a. Department offerings below the 300 level cannot be used as technical electives. **The following courses also cannot be used as technical electives: CS 394, 401, 492, and 494.**
- b. At most 3 hours of CS 499 may be used toward satisfaction of this requirement.
- c. At least 15 credits at or above the 300 level used to satisfy this requirement must be taken from full-time University of New Mexico Computer Science Department faculty.

- d. At least 18 credits must be taken in the Computer Science Department at the University of New Mexico.
4. Completion of the mathematics sequence: MATH 162 (with grade of B- or better) and 163 (Calculus I and II)
 MATH 314 or 321 (Linear Algebra)
 STAT 345 (Elements of Mathematical Statistics and Probability Theory)
5. Nine hours of communications skills: ENGL 101, ENGL 102 and one of ENGL 219 (*Technical and Professional Writing*), ENGL 220 (*Expository Writing*) or C&J 130 (*Public Speaking*).

Part of this requirement may be satisfied by passing an authorized proficiency examination. English 101 and 102 will be waived if the student obtains: 1) an ACT score of 25 or higher (prior to October 1989); 2) an ACT score of 29 or higher (after October 1989); 3) an SAT score of 580 or higher (prior to April 1995); or 4) an SAT score of 650 or higher (after April 1995). See the *Schedule of Classes* for additional ways to gain exemption from ENGL 101 and 102. When a student is exempted from ENGL 101 and 102, the student's total credit requirement is reduced to 128, the minimum allowed by the University for a bachelor's degree. Students may have to take additional hours to bring their total to at least 128.

6. Satisfaction of University Core Curriculum requirements with a grade of C or better in humanities, social sciences, fine arts, and second language(s), and additional non-technical courses to total a minimum of 30 credit hours. See the description of the Core Curriculum in this catalog.
7. Four (3 or more credit) science courses taken by science and engineering majors, two of which must come from one of the following sequences, including the laboratories. The remaining hours can be more advanced courses in the discipline chosen for the sequence or they can be additional introductory laboratory science hours.
 ASTR 270–270L, 271–271L
 BIOL 201, 202, 203L, 204L
 CHEM 121, 123L, 122, 124L
 EPS 101–105L and 101L or Env Sc 101–102L and EPS 201L;
 PHYC 160, 160L–161, 161L
 Physics is recommended.
8. Course work sufficient to satisfy requirements of a minor. Minors approved by the College of Arts and Sciences are generally acceptable for Computer Science majors. *The University of New Mexico Catalog* should be consulted for the requirements for completing a minor in various fields of study. An interdisciplinary minor of not less than 24 hours can be developed to suit the goals of individual students; such a minor must be approved by the Undergraduate Curriculum Committee of the department.

The following courses taken from the Department of Electrical and Computer Engineering satisfy this requirement:

Minor in Computer Engineering: ECE 203, ECE 206L, ECE 213, ECE 321, ECE 322, ECE 338 and ECE 438.

Minor in Electrical Engineering: ECE 203, ECE 206L, ECE 213, ECE 314, ECE 321 and two of ECE 322, ECE 340, ECE 360, ECE 371, or ECE 445.

No course included in the mathematics requirement for CS majors (STAT 345, MATH 314, 321 or 375) may be applied toward the mathematics minor.

Mathematics minors may not use Department of Mathematics courses for Teachers and Education Students in constructing the minor. MATH 317 and MATH 327 cannot be used in constructing the minor.

Statistics minors must substitute 6 hours of advance statistics for STAT 145 (not accepted by the department) and STAT 345 (already required of all computer science majors).

Students minoring in business cannot minor in Management Information Systems (MIS). In particular, the following courses cannot be used in constructing the minor: MGMT 290 (STAT 245), 329, 330, 331, 336, 337 and 437, 439, 449, 450, 459, 460, 461, or any course related to CS or computer applications.

Courses taken to satisfy the requirements for a minor may also be used to satisfy the requirements of categories 1, 2, 5, 6 and 7.

All courses taken to satisfy the graduation requirements are subject to final approval by an undergraduate advisor. At most, 24 semester hours taken for CR/NC may be applied toward the baccalaureate degree. Courses taken for CR/NC may only be used to satisfy graduation requirement 1 (completion of 130 semester hours).

Students may not take elementary courses in a department after progressing past a certain point in the course offerings of that department. An example is: taking CS 150L after having taken CS 251L. Courses taken out of sequence in this manner may not even be used as general elective credits to satisfy the requirement of 130 hours. Students may not retake elementary computer science courses in order to raise their grade point average in computer science to 2.30.

No one course may be used to satisfy more than one requirement of categories 3, 4 and 8. Due to the cross listing of various courses within the University and the different requirements for the minor from department to department, this has a number of implications. For example, mathematics minors cannot count the required sequence in mathematics toward the minor in mathematics, and computer engineering minors cannot use ECE 438 as a technical elective in fulfilling requirement 3.

Minor in Computer Science

A minor in computer science is available for students in other departments. The requirements for a minor are completion of 15 hours of CS courses from those required for the major, a minimum of 6 of these 15 credit hours must be at 300 level or above.

A grade of C or better is required for all CS courses counted toward minor.

Honors Program

Eligible freshmen and upperclassmen in the Computer Science Department are urged to enroll in the Honors Program. Students may graduate with University Honors, Departmental Honors or both. Information is available from departmental advisors and the University Honors Center.

Advising

Students are required to see an undergraduate advisor within the department each semester prior to registering for classes. Students not subject to the University of New Mexico Core Curriculum requirements should check with an advisor about the admissibility of classes used to satisfy graduation requirement 6 (which still applies), as some courses offered by other departments do not meet the spirit of this breadth requirement.

Curriculum in Computer Science

The following schedule is intended to be a guide for students when planning their course load for any particular semester. It should be noted that the schedule must normally be adjusted to compensate for any deficiencies or advanced preparation on the part of the student prior to beginning the freshman year. Students must take the ACT or SAT to aid in proper placement in Math and English. Students should not begin any Computer Science courses until they have knowledge of mathematics equivalent to MATH 150 (*Pre-Calculus Mathematics*). General electives include courses in

humanities, social and behavioral sciences, the fine arts and foreign languages. For first degree students general electives includes courses used to satisfy University of New Mexico Core Curriculum requirements. It is recommended that a student not attempt more than 12 hours of technical material in one semester.

First Year—First Semester		Credits
ENGL 101	Composition I: Exposition	3
CS 152L	Computer Programming Fundamentals for Computer Science Majors	3
MATH 162	Calculus I	4
	Laboratory Science I	4
	Core Requirement	3
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		17

First Year—Second Semester		Credits
ENGL 102	Composition II: Analysis and Argument	3
CS 261	Mathematical Foundations of Computer Science	3
CS 251L	Intermediate Programming	4
MATH 163	Calculus II	4
	Core Requirement	3
	Laboratory Science II	4
		<hr/>
		17

Second Year—First Semester		Credits
CS 241L	Data Organization	1
CS 293	Social and Ethical Issues in Computing	1
ECE 238L	Computer Logic Design	4
MATH 314	Linear Algebra with Applications	3
	Laboratory Science III	3
	Minor/Core/Electives	3
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		17

Second Year—Second Semester		Credits
CS 351	Design of Large Programs	4
	English Communications Elective	3
	Laboratory Science IV	3
	Minor/Core/Electives	6
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		16

Third Year—First Semester		Credits
CS 375	Introduction to Numerical Computing	3
CS 361L	Data Structures and Algorithms I	3
STAT 345	Elements of Mathematical Statistics and Probability Theory	3
	Minor/Core/Electives	9
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		18

Third Year—Second Semester		Credits
CS 357L	Declarative Programming	3
CS 362	Data Structures and Algorithms II	3
CS 4xx	Elective	3
	Minor/Core/Electives	6
		<hr/>
		15

Fourth Year—First Semester		Credits
CS 341L	Introduction to Computer Architecture and Organization	3
CS 4xx	Elective	3
CS 4xx	Elective	3
	Minor/Core/Electives	6
		<hr/>
		15

Fourth Year—Second Semester		Credits
CS 460	Software Engineering	3
CS 481	Computer Operating Systems	3
	Minor/Core/Electives	9
		<hr/>
		15

Graduate Program

Admissions Coordinator
Shuang Luan

Department of Computer Science Application Deadlines Fall Semester Application Deadlines

Priority for admission and consideration for financial aid will be given to applications received by January 15. International applications will be accepted until March 1, and domestic applications will be accepted until July 15.

Spring Semester Application Deadlines

Priority for admission and consideration for financial aid will be given to applications received by August 1. International applications will be accepted until August 1, and domestic applications will be accepted until November 15.

Degrees Offered**M.S. in Computer Science****Ph.D. in Computer Science****Admission**

In addition to the University-wide requirements for admission to graduate study, the prospective M.S. or Ph.D. candidate must submit verbal, quantitative and analytical GRE scores (general test) as well as satisfy the following criteria for admission to graduate study:

1. Knowledge of computer science equivalent to CS 152L, 261, 251L, 341L, 351L, 357L, 361L, 362, 441, 460 and 481.
2. Knowledge of mathematics essential to computer science equivalent to MATH 162, 163, 314 and STAT 345.

Students lacking adequate undergraduate training may be admitted, at the discretion of the admissions committee, with the understanding that, course work required to remove the deficiencies in undergraduate background will not be credited toward the graduate degree.

Each student will be assigned a graduate advisor. The student should see his or her graduate advisor before registering for the first time. The student and the advisor together will work out a course of studies which meets the student's career objectives and which constitutes a coherent program satisfying the graduation requirements. No course shall be counted toward the required semester hours which has not been agreed on by the student and the advisor as a part of this coherent program. It is the responsibility of the student to meet the requirements and to keep the department office informed of compliance with them; in particular, the student should meet with his or her graduate advisor at least once a semester to review progress toward the degree.

Master's Program

The M.S. in Computer Science can be completed under Plan I or Plan II.

Graduation (M.S. Plan I)

In addition to all Office of Graduate Studies requirements for the master's degree, the department also requires the following:

1. Thirty-two semester hours of approved graduate courses.
2. At least 2 semester hours of CS 592 (*Colloquium*), taken at the University of New Mexico.
3. At least 26 of the 32 hours must be in courses offered by the Computer Science Department at the 500 level or above.
4. Completion of a minimum of two courses from each category below with a grade of B- or better:
 - a. Mathematical Methods – CS 500, CS 530, CS 550, CS 561
 - b. Empirical Methods – CS 512, CS 527, CS 529, CS 532, course in Complex Adaptive Systems (contact department for a list of acceptable courses).
 - c. Engineering/System Building Methods – CS 554, CS 580, CS 585, CS 587.
5. Passing the master's examination. For Plan I students, the master's examination is the defense of thesis. For Plan II students, the master's examination is an oral examination demonstrating mastery of core areas above.

A brochure describing the program and requirements can be obtained from the department.

Graduation (M.S. Plan II)

In addition to all Office of Graduate Studies requirements for the master's degree, the department also requires the following:

1. Thirty-two semester hours of approved graduate courses.
2. At least 2 semester hours of CS 592 (*Colloquium*), taken at the University of New Mexico.
3. In addition to *Colloquium*, at least 24 of the 32 hours must be in courses offered by the Computer Science Department at the 500 level or above.
4. Completion of a minimum of two courses from each category below with a grade of B- or better:
 - a. Mathematical Methods – CS 500, CS 530, CS 550, CS 561
 - b. Empirical Methods – CS 512, CS 527, CS 529, CS 532, course in Complex Adaptive Systems (contact department for a list of acceptable courses)..
 - c. Engineering/System Building Methods – CS 554, CS 580, CS 585, CS 587.
5. Passing the master's examination. For Plan I students, the master's examination is the defense of thesis. For Plan II students, the master's examination is an oral examination demonstrating mastery of core areas above.

Doctoral Program

The Ph.D. in Computer Science is offered through a cooperative program involving the Computer Science Departments at the University of New Mexico, New Mexico State University (Las Cruces, NM) and the New Mexico Institute of Mining and Technology (Socorro, NM). Doctoral students at the University of New Mexico may specialize in areas of current interest to the University of New Mexico faculty, or, by special arrangement, they may work in areas of interest to faculty at either of the other two universities.

Graduation (Ph.D.)

In addition to all Office of Graduate Studies requirements for the Ph.D. degree the department also requires the following:

1. Exactly 4 semester hours of CS 592 (*Colloquium*), taken from the University of New Mexico. If the student enters the program with a master's degree, the requirement is reduced to 2 hours of CS 592.
2. At least 24 of the semester hours, exclusive of dissertation, must be completed at one of the three New Mexico universities.
3. At least 30 semester hours, exclusive of dissertation, must be in courses numbered 500 or above. Of these hours, at most 12 may come from individual study courses (at The University of New Mexico, CS 551 and CS 650). If the student enters the program with a master's degree, the requirement is reduced to 18 hours in courses numbered 500 and above—at most 9 of these hours may come from individual study courses.
4. Passing marks on the written comprehensive examinations, on the oral candidacy examination and on a final oral examination in the student's area of specialization.
5. Every student who has passed the written comprehensive examinations must give one *Colloquium* per year (scheduled as part of the regular departmental colloquium series) surveying the student's work to date.
6. Teaching requirement for the doctorate: As a requirement for the Ph.D. in Computer Science, all students will complete a one-semester teaching assignment. Typically and preferably, this assignment will involve running a class section, including classroom lecturing; there will, however, be some flexibility in tailoring this assignment to each particular student. The student is encouraged to fulfill this requirement early in his or her studies, as the teaching experience is expected to help solidify the student's mastery of core Computer Science material.

Students will take three sets of examinations. The first is the comprehensive examination which tests the student's knowledge in the core areas of computer science (theory, systems and languages). Upon passing that exam, the

student is allowed to work toward the doctorate. The student's advisor and the graduate advisor or department chairperson then appoint a doctoral committee which will determine the student's remaining program of study and conduct the candidacy examination. The candidacy examination verifies that the student possesses the specialized knowledge required for his/her area of research and ensures that the proposed dissertation topic is adequate in scope, originality and significance. The student is admitted to candidacy for the doctorate upon completion of the comprehensive and candidacy examination, with the approval of the doctoral committee and the Dean of Graduate Studies. Finally, the committee evaluates the student's doctoral dissertation and conducts the final oral examination on the student's area of specialization.

A brochure describing the program and requirements can be obtained from the department.

NOTE: CS 401, *Theoretical Foundations of Computer Science*, is primarily for graduate students who are deficient in mathematical proof techniques. This course does not carry graduate credit.

Computer Science (CS)

A grade of C- or better is required in all prerequisite courses. Students with equivalent knowledge may have the prerequisite waived by consent of instructor on an individual basis.

131L. Introduction to Unix® and the World Wide Web. (2)

An introduction to Unix®-based computing resources. Topics include: elements of a computer system, elementary Unix® commands and file system structure, e-mail, a visual editor, browsing the World Wide Web and construction of simple Web pages using HTML.

132L. Introduction to Unix® and the World Wide Web. (1)

Continuation of CS 131L.
Prerequisite: 131L.

150L. Computing for Business Students. (3)

Students will use personal computers in campus laboratories to learn use of a word processor, a spreadsheet and a database management program. The course will also cover access to the World Wide Web and other topics of current importance to business students. Course cannot apply to major or minor in Computer Science.
Prerequisite: MATH 120 or MATH 121 or MATH 123 or MATH 150 or MATH 162 or MATH 163 or MATH 180 or MATH 181.

151L. Computer Programming Fundamentals for Non-Majors. (3)

An introduction to the art of computing. Not intended for Computer Science majors or minors. The objective of the course is an understanding of the relationship between computing and problem solving.

152L. Computer Programming Fundamentals. (3)

Introduction to the art of computing. The course objectives are understanding relationships between computation, problem solving, and programming using high-level languages.

184. Unix® Administration and Tools. (3)

An introduction to Unix® services, tools, organization and administration. System management: files, processes, user accounts, configuration, file system organization, networking and security. Programming tools: sh, sed, awk, perl and C. Network services: NFS, NIS, DNS, sendmail, ftp.

241L. Data Organization. (3)

Data representation, storage and manipulation. Covers the memory organization of data storage and its relation to computation and efficiency. Topics include: linked vs. contiguous implementations, memory management, the use of indices and pointers, and an introduction to issues raised by the memory hierarchy. Programming assignments in C provide practice with programming styles that yield efficient code and computational experiments investigate the effect of storage design choices on the running time of programs.
Prerequisite: 151L or 152L or 259L.

251L. Intermediate Programming. (3)

An introduction to the methods underlying modern program development. Specific topics will include object-oriented design and the development of graphical user interfaces. Programming assignments will emphasize the use of objects implemented in standard libraries.
Prerequisite: 151L or 152L. Three lectures, 1 hr. recitation.

259L. Data Structures with JAVA. (5)

An accelerated course covering the material of 151L and 251L in one semester. Topics include elementary data structures and their implementation, recursive procedures, data abstraction and encapsulation, and program organization and verification. Programs will be written in JAVA. Credit not allowed for both 259L and 151L/251L.

261. Mathematical Foundations of Computer Science. (3)

Introduction to the formal mathematical concepts of computer science for the beginning student. Topics include elementary logic, induction, algorithmic processes, graph theory and models of computation.

293. Social and Ethical Issues in Computing. (1)

Overview of philosophical ethics, privacy and databases, intellectual property, computer security, computer crime, safety and reliability, professional responsibility and codes, electronic communities and the Internet, and social impact of computers. Students make oral presentations and produce written reports.

341L. Introduction to Computer Architecture and Organization. (3)

Survey of various levels of computer architecture and design: microprogramming and processor architecture, advanced assembly language programming, operating system concepts and input/output via the operating system.
Prerequisite: 241L and ECE 238L.

351L. Design of Large Programs. (4)

A projects course with emphasis on object-oriented analysis, design and programming. Also discussed are programming language issues, programming tools and other computer science concepts as needed to do the projects (e.g., discrete-event simulation, parsing).
Prerequisite: 251L or 259L.

357L. Declarative Programming. (3)

Course focuses on one of the declarative programming paradigms: functional, logic, or constraint programming. Specialized techniques are introduced with a view towards general principles. Selected advanced topics in programming language design and implementation are covered.
Prerequisite: 251L.

361L. Data Structures and Algorithms. (3)

An introduction to data structures and algorithms and the mathematics needed to analyze their time and space complexity. Topics include asymptotic notation, recurrence relations and their solution, sorting, hash tables, basic priority queues, search trees (including at least one balanced structure) and basic graph representation and search. Students complete a term project that includes an experimental assessment of competing data structures.
Prerequisite: 261 and 241L.

362. Data Structures and Algorithms II. (3)

A continuation of 361L with an emphasis on design of algorithms. Topics include: amortized analysis and self-adjusting data structures for trees and priority queues; union-find; minimum spanning tree, shortest path and other graph algorithms; elementary computational geometry; greedy and divide-and-conquer paradigms.
Prerequisite: 361L.

365. Introduction to Scientific Modeling. (3)

Symbolic computation applied to scientific problem solving, modeling, simulation and analysis.
Prerequisite: 151L or 152L.

***375. Introduction to Numerical Computing. (3)**

(Also offered as MATH 375.) An introductory course covering such topics as solution of linear and nonlinear equations; interpolation and approximation of functions, including splines; techniques for approximate differentiation and integration; solution of differential equations; familiarization with existing software.
Prerequisite: 151L.

390. Topics in Computer Science for Non-Majors—Undergraduate. (1-3, no limit) Δ

This course is intended to provide students in other disciplines with an opportunity to study aspects of modern computer science, tailored to their own field of study.
Restriction: permission of instructor.

394. Computer Generated Imagery and Animation. (3)

(Also offered as ARTS 394 and MA 394.) Introduction to story boarding, modeling, rendering, animation and dynamics. Class uses high-level commercial animation software. Course emphasizes both the development of technical skills and the aesthetic aspects of computer imagery. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.

401. Theoretical Foundations of Computer Science. (3)

Mathematical reasoning for computer science. Topics include propositional and first-order logic, group theory, introduction to formal languages and formal models of computation.
Restriction: undergraduate. Offered on a CR/NC basis only.

412. Introduction to Computer Graphics: Scanline Algorithms. (3)

(Also offered as ECE 412.) This course is an introduction to the technical aspects of raster algorithms in computer graphics. Students will learn the foundational concepts of 2-D and 3-D graphics as they relate to real-time and offline techniques. Students will develop a video game as a final project to demonstrate the algorithms learned in class.
Prerequisite: 361L or ECE 331. (Fall)

413. Introduction to Ray and Vector Graphics. (3)

(Also offered as ECE 413.) Topics include ray-geometry intersections, viewing, lenses, local/global illumination, procedural textures/models, spline curves and surfaces, and statistical integration for realistic image synthesis. Students will write a raytracing renderer from scratch, exploring high performance implementations and realistic rendering.
Prerequisite: 361L or ECE 331.

422/522. Digital Image Processing. (3)

Introduction to fundamentals of digital image processing. Specific topics include grey level histograms, geometric/grey level transformations, linear systems theory, Fourier transforms, frequency domain filtering, wavelet transforms, image compression, edge detection, color vision, and binary image morphology.
Prerequisite: MATH 314 or MATH 321.

****423. Introduction to Complex Adaptive Systems. (3)**

Introduces topics in complex adaptive systems, including: definitions of complexity, fractals, dynamical systems and chaos, cellular automata, artificial life, game theory, neural networks, genetic algorithms and network models. Regular programming projects are required.
Prerequisite: 251 and MATH 163.

427/527. Principles of Artificially Intelligent Machines. (3)

Survey of artificial intelligence exclusive of pattern recognition. Heuristic search techniques, game playing, mechanical theorem proving, additional topics selected by the instructor.
Prerequisite: 351L.

429/529. Introduction to Machine Learning. (3)

Introduction to principles and practice of systems that improve performance through experience. Topics include statistical learning framework, supervised and unsupervised

learning, Bayesian analysis, time series analysis, reinforcement learning, performance evaluation and empirical methodology; design tradeoffs.

Prerequisite: 362 and STAT 345 and (MATH 314 or MATH 321).

***438. The Science of Intelligent Systems. (3)**

Concepts of intelligence from psychology and computer science. Areas considered include production systems, expert systems, computer assisted instruction, models for semantics and human cognitive processes from pattern recognition to output systems. Includes a project.

***441. Modern Computer Architecture. (3)**

A study of the design concepts of major importance in modern computers. Topics will include microprogramming, language-directed computers, parallel processors and pipeline computers. Emphasis will be placed on the relationship of architecture to programming issues.
Prerequisite: 341L.

***442. Introduction to Parallel Processing. (3)**

(Also offered as ECE 432.) Machine taxonomy and introduction to parallel programming. Performance issues, speed-up and efficiency. Interconnection networks and embeddings. Parallel programming issues and models: control parallel, data parallel and data flow. Programming assignments on massively parallel machines. Recommended: 481 or ECE 437.

Prerequisite: (341L or ECE 337) and (351L or ECE 331).

***452. Simulation. (3)**

(Also offered as MGMT 532.) Study of a variety of simulation methods as an aid to managerial decisions involving both micro- and macro-systems. Problems and projects require active computer programming of simulations.

454/554. Compiler Construction. (3)

Syntax analysis and semantic processing for a block-structured language. Lexical analysis, symbol tables, run-time management. Students will write a compiler.

****460. Software Engineering. (3)**

Software engineering principles will be discussed and applied to a large team developed project. Other topics relevant to the production of software will also be covered, including ethics, legalities, risks, copyrights and management issues.

464/564. Introduction to Database Management. (3)

Introduction to database management systems. Emphasis is on the relational data model. Topics covered include query languages, relational design theory, file structures and query optimization. Students will implement a database application using a nonprocedural query language interfaced with a host programming language.

***471. Introduction to Scientific Computing. (3)**

(Also offered as MATH 471.) Introduction to scientific computing fundamentals, exposure to high performance programming language and scientific computing tools, case studies of scientific problem solving techniques.

473/573. Physics and Computation. (3) Moore

(Also offered as NSMS 573) A survey of complex systems at the interface between physics and computer science, including phase transition, power laws, social networks, NP-completeness, and Monte Carlo methods.

****481. Computer Operating Systems. (3)**

(Also offered as ECE *437.) Fundamental principles of modern operating systems design, with emphasis on concurrency and resource management. Topics include processes, inter-process communication, semaphores, monitors, message passing, input/output device, deadlocks memory management, files system design.
Prerequisite: 341L or (ECE 330 and ECE 337).

****485. Introduction to Computer Networks. (3)**

(Also offered as ECE 440.) Theoretical and practical study of computer networks, including network structures and architectures. Principles of digital communications systems.

Network topologies, protocols and services. TCP/IP protocol suite. Point-to-point networks; broadcast networks; local area networks; routing, error and flow control techniques.

491. Special Topics—Undergraduates. (1-6 to a maximum of 12) Δ

Undergraduate seminars in special topics in computer science.

****492. Introduction to Computers in Manufacturing. (3)**

Topics in computers and computing as related to manufacturing. Topics covered will include networks and distributed systems, software for real-time systems and database management. Term project required. Course cannot apply to major, minor or master's degree in Computer Science.

****494. Advanced Topics in Computer Generated Imaging. (3)**

(Also offered as MA 494 and ARTS 494/594.) A continuation of 394. Students are expected to research and make presentations on advanced topics in CGI. Significant term project required. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.

499. Individual Study—Undergraduate. (1-3 to a maximum of 6) Δ

Guided study, under the supervision of a faculty member, of selected topics not covered in regular courses. At most 3 hours may be applied toward the CS hour requirement.

Note: All prerequisites for graduate level courses require a grade of B or better.

500. Introduction to the Theory of Computation. (3)

Covers basic topics in automata, computability and complexity theory, including: models of computation (finite automata, Turing machines and RAMs); regular sets and expressions; recursive, r.e., and non-r.e. sets and their basic closure properties; complexity classes; determinism vs. non-determinism with and without resource bounds; reductions and completeness; practice with NP- and P-completeness proofs; and the complexity of optimization and approximation problems. Prerequisite: 401.

504. Algorithm Heuristics. (3)

Efficient problem solving techniques. Connection, search and tour problems. Branch-and-bound and backtracking. Dynamic programming. Developing heuristics. Prerequisite: 561.

506. Computational Geometry. (3)

Development of algorithms and data structures for the manipulation of discrete geometric objects in two- and three-dimensional space. Typical problems include intersection and union of polyhedra, convex hulls, triangulation, point location, neighborhood structures and path computations. Prerequisite: 561.

509. Parallel Algorithms. (3)

(Also offered as ECE 509.) Design and analysis of parallel algorithms using the PRAM model, with emphasis on graph algorithms, searching and sorting and linear algebra applications. Embedding into hypercubic and related networks. Introduction to parallel complexity theory. Prerequisite: 561 or ECE 537.

510. Randomized Algorithms. (3)

Introduction to probability theory, moments and deviation, tail inequalities, probabilistic method, Markov Chains and Random Walks, dynamic graph algorithms, data stream algorithms, and parallel and distributed algorithms. Prerequisite: 500 and 530 and 561.

511. Algorithms in the Real World. (3)

Study of algorithms which have been successful in real world. New algorithmic tools, ways to create approximation algorithms for NP-Hard problems, exploit the power of randomness, and create tractable abstract problems from messy real-world problems. Prerequisite: 530 or 561.

512. Advanced Image Synthesis. (3)

(Also offered as ECE 512.)

Covers image synthesis techniques from perspective of high-end scanline rendering, including physically-based rendering algorithms. Topics: radiometry, stochastic ray tracing, variance reduction, photon mapping, reflection models, participating media, advanced algorithms for light transport.

513. Real-Time Rendering and Graphics Hardware. (3)

(Also offered as ECE 513.)

Course covers advanced algorithms in real-time rendering and graphics hardware, bringing students up to speed with cutting edge real-time graphics. Topics: advanced GPU algorithms for graphics and non-graphics applications. Term project required.

515. Scientific and Information Visualization. (3)

(Also offered as ECE 515.)

Introduction to scientific and data visualization techniques. Topics: data manipulation, feature extraction, visual display, peer critique of project design, data formats and sampling, geometric extraction, volume visualization, flow visualization, abstract data visualization, user interaction techniques.

520. Topics in Interdisciplinary Biological and Biomedical Sciences. (3, unlimited) Δ

(Also offered as ANTH 620, BIOL 520, ECE 620, STAT 520) Varying interdisciplinary topics taught by collaborative scientists from UNM, SFI, and LANL.

522/422. Digital Image Processing. (3)

Introduction to fundamentals of digital image processing. Specific topics include grey level histograms, geometric/gray level transformations, linear systems theory, Fourier transforms, frequency domain filtering, wavelet transforms, image compression, edge detection, color vision, and binary image morphology.

Prerequisite: MATH 314 or MATH 321.

523. Complex Adaptive Systems. (3)

A graduate introduction to computational tools to measure, simulate and analyze complexity in biological and social systems. Topics include cellular automata, dynamical systems, genetic algorithms and other biologically inspired computational methods. Programming maturity is required.

524. Collaborative Interdisciplinary Teaching. (3)

(Also offered as BIOL 524, ANTH 524, STAT 524, ECE 524) Course designed to develop the methods content and assessment of effective interdisciplinary biological courses; Students will develop and teach an undergraduate interdisciplinary topics course. Topics vary. Restriction: permission of instructor.

527/427. Principles of Artificially Intelligent Machines. (3)

Survey of artificial intelligence exclusive of pattern recognition. Heuristic search techniques, game playing, mechanical theorem proving, additional topics selected by the instructor. Prerequisite: 351L.

528. Advanced Topics in Artificial Intelligence. (3)

Continues the topics presented in 427/527, including writing an expert system shell in LISP; designing and building an object-oriented interpreter; creating a hybrid environment by attaching rules to objects. Representation issues to include: semantic nets, frames, objects, conceptual graphs and others. Assignments include writing a recursive descent semantic net parser. Prerequisite: 427 or 527.

529/429. Introduction to Machine Learning. (3)

Introduction to principles and practice of systems that improve performance through experience. Topics include statistical learning framework, supervised and unsupervised learning, Bayesian analysis, time series analysis, reinforcement learning, performance evaluation and empirical methodology; design tradeoffs.

Prerequisite: 362 or 530 or 561.

530. Geometric and Probabilistic Methods in Computer Science. (3)

Introduction to applied mathematics for computer scientists. Specific topics include discrete and continuous random variables (including transformation and sampling), information theory, Huffman coding, Markov processes, linear systems theory, Fourier transforms, principal component analysis, and wavelet transforms.
Prerequisite: STAT 345.

531. Pattern Recognition. (3)

(Also offered as ECE 517.) Decision functions and dichotomization; prototype classification and clustering; statistical classification and Bayes theory; trainable deterministic and statistical classifiers. Feature transformations and selection. Introduction to sequential, hierarchical and syntactic methods.
Prerequisite: STAT 345 or ECE 340.

532. Computer Vision. (3)

(Also offered as ECE 516.) Theory and practice of feature extraction, including edge, texture and shape measures. Picture segmentation; relaxation. Data structures for picture description. Matching and searching as models of association and knowledge learning. Formal models of picture languages.
Prerequisite: STAT 345 or ECE 340, CS 361L or ECE 331.

534. Advanced Computer Graphics. (3)

Realism in computer graphics: hidden surface removal, rendering, surface modeling, ray tracing, radiosity. Advanced modeling techniques: surface patches, solid modeling, scan conversion. Scientific visualization. Architectures for computer graphics.
Prerequisite: 433.

537. Automated Reasoning. (3)

Both theoretical foundations of and practical issues in automated reasoning will be covered. Students will read selected papers for class discussion and will be required to do a term project.
Prerequisite: 561.

547. Neural Networks. (3)

(Also offered as ECE 547.) A study of neuron models, basic neural nets and parallel distributed processing.
Prerequisite: MATH 314 or 321.

550. Programming Languages and Systems. (3)

Current trends in design and philosophy of languages and systems. Data abstraction, data flow languages, alternative control structures, environments, correctness, software tools.
Prerequisite: 451.

551. Individual Study—Graduate. (1-3 to a maximum of 6) Δ

Guided study, under the supervision of a faculty member, of selected topics not covered in regular courses.
Restriction: permission of instructor.

554./454. Compiler Construction. (3)

Syntax analysis and semantic processing for a block-structured language. Lexical analysis, symbol tables, run-time management. Students will write a compiler.
Prerequisite: 341L and 351L.

555. Advanced Topics in Compiler Construction. (3)

Aspects needed to write production quality compilers. Optimization, error recovery, parse table compression, semantic processing of complex data structures, type checking, run-time support, code generation, compiler-writing systems.
Prerequisite: 454 or 554.

557. Selected Topics in Numerical Analysis. (3, no limit.) Δ

(Also offered as MATH 557.) Possible topics include approximation theory, two point boundary value problems, quadrature, integral equations and roots of nonlinear equations.

558. Software Foundations. (3)

Introduction to modern programming techniques and programming language features and the theory used to describe and define programming languages, using types as the organizational principle.

561. Algorithms/Data Structure. (3)

Study of data structures and algorithms and mathematics needed to analyze their time and space complexity. Topics include: amortized analysis and self-adjusting data structures for trees and priority queues, graphing algorithms, greedy and divide-and-conquer paradigms.

564./464. Introduction to Database Management. (3)

Introduction to database management systems. Emphasis is on the relational data model. Topics covered include query languages, relational design theory, file structures and query optimization. Students will implement a database application using a nonprocedural query language interfaced with a host programming language.
Prerequisite: 561.

565. Topics in Database Management. (3)

A continuation of 464/564 with emphasis on query optimization, leading-edge data models, transaction management and distributed databases. Additional topics determined by student interests.
Prerequisite: 564.

569. Computational Medicine. (3)

Goal of course is to promote analytical thinking through introduction of new application domains. Topics: theory of graph algorithms, convex programming, applied optimization techniques, application of radiological physics, basic radiography, radiation therapy planning, medical imaging.

571. Quantum Computation. (3) Caves, Deutsch,

Geremia, Landahl, Moore
(Also offered as NSMS, PHYC 571.) This course explores the concepts and mathematical techniques underlying quantum computation. Topics include quantum entanglement, quantum cryptography, teleportation, models for quantum computation, quantum algorithms, quantum error correction, and fault-tolerant quantum computation.

573./473. Physics and Computation. (3) Moore

(Also offered as NSMS 573) A survey of complex systems at the interface between physics and computer science, including phase transition, power laws, social networks, NP-completeness, and Monte Carlo methods.

575. Introductory Numerical Analysis: Numerical Linear Algebra. (3)

(Also offered as MATH 504.) Direct and iterative methods of the solution of linear systems of equations and least squares problems. Error analysis and numerical stability. The eigenvalue problem. Descent methods for function minimization, time permitting.
Prerequisite: MATH 464 or MATH 514. {Spring}

576. Introductory Numerical Analysis: Approximation and Differential Equations. (3)

(Also offered as MATH 505.) Solution of nonlinear problems and minimization. Numerical approximation of functions. Interpolation by polynomials, splines and trigonometric functions. Numerical integration and solution of ordinary differential equations. An introduction to finite difference and finite element methods, time permitting.
Prerequisite: MATH 316 or MATH 401. {Fall}

580. The Specification of Software Systems. (3)

A comparative study of the techniques used to specify software systems. The course will emphasize formal techniques and will cover the specification of sequential and concurrent systems. Although no programming will be required, students will be required to write specifications for several small software systems.
Prerequisite: 460.

581. Fundamentals of Software Testing. (3)

Introduces the components of software development life cycle and role of software test process, test planning and strategy, static testing, tracking bugs, dynamic testing, use of automated testing as well as other testing concepts.

583. Object-Oriented Testing. (3)

Introduction to software test process. Topics include: testing perspectives, object-oriented concepts, UML diagrams, development/testing processes, test design, test case development, verifying tests, test case automation, test patterns, and understanding basic concepts of class hierarchies.

585. Computer Networks. (3)

A theoretical and practical study of computer networks, including network structures and architectures; protocols and protocol hierarchies; error handling; routing; reliability; point-to-point networks; broadcast networks; local area networks; efficiency and throughput; communications technologies; case studies.

587. Advanced Operating Systems. (3)

Theory of design of operating systems. Modeling, simulation, synchronization, concurrency, process hierarchies, networks and distributed systems.

****590. Topics in Computer Science for Non-Majors-Graduate. (1-3, no limit) Δ**

This course is intended to provide students in other disciplines with an opportunity to study aspects of modern computer science, tailored to their own field of study.

Restriction: permission of instructor.

591. Special Topics-Graduate. (1-6, no limit) Δ

Graduate seminars in special topics in computer science.

Restriction: permission of instructor.

592. Colloquium. (1 to a maximum of 4) Δ

Required of all graduate students. May be repeated, with at most 2 credits towards the M.S. requirements and at most 2 further credits towards the Ph.D. requirements. Students will write a short essay on the topic of one or more of the colloquia offered that semester. **Offered on a CR/NC basis only.**

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

609. Advanced Parallel Algorithms. (3)

(Also offered as ECE 609.) Design and analysis of advanced parallel algorithms, parallel complexity theory, ideal and realistic models of parallel computation, and experimental parallel algorithms; emphasis on combinatorial problems.

Prerequisite: 509 or ECE 509.

650. Reading and Research. (3 to a maximum of 6) Δ

Restriction: permission of instructor.

691. Seminar in Computer Science. (1-6 to a maximum of 12) Δ

Restriction: permission of instructor.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

ELECTRICAL AND COMPUTER ENGINEERING

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Associate Professors

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Sanjay Krishna, Ph.D., University of Michigan (Ann Arbor)

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James F. Plusquellic, Ph.D., University of Pittsburgh

Balu Santhanam, Ph.D., Georgia Institute of Technology

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Pradeep Sen, Ph.D., Stanford University

Jamesina J. Simpson, Ph.D., Northwestern University

Payman Zarkesh-Ha, Ph.D., Georgia Institute of Technology

Lecturers

Edward D. Graham Jr., Ph.D., North Carolina State University

Honggang Yu, Ph.D., University of New Mexico

Professors Emeriti

Nasir Ahmed, Ph.D., The University of New Mexico

Lewellyn Boatwright, Ph.D., University of Illinois

Victor W. Bolie, Ph.D. Iowa State University

Martin D. Bradshaw, Ph.D., Carnegie Institute of Technology*

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**Registered Professional Engineer in a state or territory outside New Mexico.

Baccalaureate Programs

Director of Undergraduate Studies
Professor Gregory L. Heileman

Introduction

The Electrical and Computer Engineering (ECE) Department's vision demonstrates its long-standing commitment to provide excellent, "world class" quality undergraduate and graduate programs in a vibrant academic environment. In doing this, we serve our varied constituents: our students; local, national and international industry; the federal research laboratories; local, national, and international graduate and professional schools; the state of New Mexico; and our alumni.

The ECE department offers two undergraduate degree programs, one in electrical engineering and one in computer engineering. The technology in both these fields changes very rapidly. For this reason the curriculum in both programs stresses fundamental concepts as well as current application methods. Students are advised to get the latest Advisement Brochure for either program for changes made after this catalog is printed.

Admission to Baccalaureate Programs

Students must be admitted for study at the University of New Mexico and must have completed approximately one year of the appropriate freshman year subjects before applications can be processed for admission to the Baccalaureate Programs in Electrical and Computer Engineering. Approval from the ECE department is required. Applicants must consult the appropriate departmental advisor for evaluation of academic work before admission can be completed.

The criteria for admission to Baccalaureate Programs in Electrical and Computer Engineering are specified in detail in the respective Advisement Brochures, which may be obtained from the department. There are 18 semester hours of freshman year technical subjects required by the School of Engineering for admission and a minimum grade point average of 2.50 in those courses is required for admission to undergraduate study in either Electrical Engineering or Computer Engineering. A total of 26 semester hours applicable to a degree is required for admission with a grade point average of at least 2.20. All applicants must have completed ENGL 101 or its equivalent before admission. All courses required in a Baccalaureate degree program in the ECE Department must have grades of C or better for satisfying both admission and graduation requirements.

Policy on Passing Grades

Students admitted or readmitted to the Electrical Engineering or Computer Engineering degree programs may **not** apply a course toward the B.S. degree in Electrical Engineering or Computer Engineering if the grade earned in the course is not a C or better, regardless of where that grade was earned. In order to fulfill the requirements for the UNM Core Curriculum, which went into effect in the Fall of 1999, students must have a C or better on specific UNM core classes.

Course Prerequisites

No one may enroll in an undergraduate course in the ECE Department without first earning a grade of C or better in all prerequisites for the course.

Residence Policy

Students admitted to a B.S. degree program in the ECE Department must complete a minimum of 30 semester credit hours of work applicable to the B.S. degree in Electrical Engineering or Computer Engineering after admission to the program.

Courses Numbered 300 or Above (8-Hour Rule)

The policy on courses numbered 300 or above is defined by the School of Engineering policy in this catalog. This policy is commonly referred to as the *8-Hour Rule*. Briefly, this policy states that a student may not enroll in courses in the junior year of the curriculum (300-level or above) unless the student is within 8 credit hours of meeting all requirements of the first two years and is enrolled in the remaining courses to satisfy those requirements, with the exception of MATH 314, 316 and CE 304.

ECE courses numbered 300 through 499 are designed primarily for B.S. majors in the ECE Department; courses numbered 500 and above are designed primarily for M.S. and Ph.D. students in the ECE department. Therefore, students who have not been admitted to one of the degree programs in the ECE department may take a maximum of four ECE courses numbered 300 or above. This restriction will not apply to students who are taking an approved minor in the ECE department or who are enrolled in an approved dual degree program. Non-degree students who already have a B.S. or M.S. degree and are making up deficiencies for entrance into the ECE graduate program or are engaged in continuing education will be given special consideration, but are expected to obtain advising from the ECE Graduate Director each semester.

Minor Studies Requirements

Minors in Electrical and Computer Engineering are offered to students majoring in Physics, Mathematics and Computer Science. 1) For a minor in Electrical Engineering, Physics and Mathematics students must take 203, 213, 206L, 238L, 314, 321L and one of 340, 360, 371 and 445. 2) For a minor in Electrical Engineering, Computer Science students must take 203, 206L, 213, 314, 321L and two of 322L, 340, 360, 371 and 445. 3) For a minor in Computer Engineering, Physics and Mathematics students must take 203, 213, 238L, 331, 344L and 337. 4) For a minor in Computer Engineering, Computer Science students must take 203, 206L, 213, 321L, 322L, 338 and 438. Substitutions for the above required courses may be made with the approval of the designated ECE advisor for the appropriate minor.

Additional Information

Advisement

Students are required to consult a departmental undergraduate faculty advisor and obtain approval for registration each semester. At this time, faculty advisors review the program requirements, including scholarship, course requirements, prerequisites and progress toward degree goals. A computer hold on the student's academic record is removed *only after* this advisement. The department has an Undergraduate Academic Advisor who is available to answer questions students have concerning the undergraduate programs, and to assist students in arranging for consultation with faculty advisors.

Engineering Design

Design is at the heart of engineering. Thus, design is integrated throughout the courses offered in the two ECE undergraduate programs, beginning with the very first courses, and culminating in a year-long team-based senior design project. Specifically, in ECE 419 and 420, students from the computer and electrical engineering programs work together in order to create specifications for designing, managing and building a high technology product.

Electrical Engineering

Electrical Engineering has been and continues to be a very dynamic field that provides exciting and excellent career

opportunities. Electrical engineers use mathematics, physics and other sciences, together with computers, electronic instrumentation and other tools to create a wide range of systems such as integrated circuits, telecommunication networks, wireless personal communication systems, diagnostic medical equipment, robots, radar systems and electrical power distribution networks. Their involvement has changed the way we live and work.

The continuous need to improve and discover new systems makes the electrical engineering profession more sought after than ever before. The Bachelor of Science in Electrical Engineering is the first degree offered at the University of New Mexico and provides the student with the necessary skills to compete in such a rapidly changing discipline.

Program Goals for Electrical Engineering Degree

The principal goal of this program is to provide students with the fundamentals of electrical engineering in order that they have an excellent base for a successful engineering career. This includes building a sufficient reading knowledge and analytical capability so that the graduates can continue to expand their knowledge as their fields of interest and the scope of electrical engineering changes. Our core courses are intended to provide a broad base so that those who terminate their formal education with the Bachelor's degree can continue to grow. Likewise, the base provides insight into fields that students may choose to study at the graduate level. This goal is met by a curriculum in which there is a progression in course work and in which fundamental knowledge of earlier years is applied in later engineering courses.

The Objectives of the ECE undergraduate programs in Electrical and Computer Engineering are to educate students to become resourceful practitioners of engineering who:

1. Are capable of utilizing their engineering skills in industry, non-profit organizations, and national laboratories, or in the pursuit of graduate education;
2. Are knowledgeable of the professional responsibilities and social context associated with being an engineer; can work in teams and effectively communicate the results of their work;
3. Will develop their knowledge and skills throughout their careers; and,
4. Function well in a diverse environment.

Scholarships

In addition to the scholarships available through the University of New Mexico and the School of Engineering, the ECE department has scholarships available for highly qualified students.

Curriculum in Electrical Engineering

The Bachelor of Science Program in Electrical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Hours required for graduation: 132

First Year—First Semester		Hrs. Cr
ENGL 101	Composition I: Exposition	3
ECE 101	Introduction to Electrical and Computer Engineering	1
ECE 131	Programming Fundamentals	3
PHYC 160	General Physics	3
MATH 162	Calculus I	4
	Core Elective ¹	3
		17

Second Semester		
MATH 163	Calculus II	4
ECE 231	Intermediate Programming and Engineering Problem Solving	3
CHEM 121	General Chemistry I	3
CHEM 123L	General Chemistry I Lab	1
PHYC 161	General Physics	3
PHYC 161L	General Physics Lab	1
ENGL 102	Composition II: Analysis and Argument	3
		18

Second Year—First Semester		
ECE 203	Circuit Analysis I	3
ECE 238L	Computer Logic Design	4
MATH 264	Calculus III	4
MATH 316	Applied Ordinary Differential Equations	3
CE 304	Engineering Mechanics	4
		18

Second Semester		
ECE 206L	Instrumentation	2
ECE 213	Circuit Analysis II	3
PHYC 262	General Physics	3
MATH 314	Linear Algebra with Applications	3
ENGL 219	Technical and Professional Writing	3
		14

Third Year—First Semester		
ECE 314	Signals and Systems	3
ECE 321L	Electronics I	4
ECE 344L	Microprocessors	4
ECE 371	Materials and Devices	4
	Core Elective ¹	3
		18

Second Semester		
ECE 322L	Electronics II	4
ECE 340	Probabilistic Methods in Electrical Engineering	3
ECE 360	Electromagnetic Fields and Waves	3
	Core Elective ¹	3
	Focus Elective	3
		16

Fourth Year—First Semester ³		
ME/CE 350	Engineering Economy	3
ECE 419	Senior Design I	3
ECE 445	Introduction to Control Systems	3
	Core Elective ¹	3
	Focus Electives ⁴	3
		15

Second Semester		
ECE 420	Senior Design II	3
ECE 441	Introduction to Communication Systems	3
	Tech Elective ²	3
	Core Elective ¹	3
	Core Elective ¹	3
		15

- Notes:
- ¹ See Electrical Engineering Advisement Brochure for list of approved UNM core electives.
 - ² Technical electives must be approved in writing by the ECE department and 300, 400 and 500 level ECE courses. Technical electives may be a 300, 400 or 500 level course in Math (except MATH 345, 441, or 461), Physics, Computer Science, or another in the engineering department.



- 3 Students are encouraged to take the Fundamentals of Engineering Examination during their senior year. This is in preparation for professional registration examination.
- 4 See Electrical Engineering Advisement Brochure for a list of approved focus electives.

Computer Engineering

Computer Engineering is an exciting, rapidly growing and changing field with high-paying jobs in industry, government and education. Computers pervade society, from microprocessors in electronic devices, to personal computers, laptops and workstations, to large parallel and distributed computers for solving complex problems. Computer engineers design computers and computer systems and write software for a wide variety of applications. Some specific areas are robotics, spacecraft and space applications, medical applications, navigation systems, information systems, entertainment systems, virtual reality, telecommunications, computer networks, computer graphics, the World Wide Web, embedded systems and digital systems in general.

The Bachelor of Science in Computer Engineering is intended to prepare students for work in industry as well as for graduate school. The ECE Department offers both M.S. and Ph.D. graduate programs in Computer Engineering.

Program Goals for Computer Engineering Degree

Computer engineering degree programs vary from institution to institution, so it is important to understand the goals of this program. One important goal of the program is to integrate computer hardware (design), computer software (programming) and electrical engineering into a broad and cohesive program within the framework of an engineering degree. This goal includes providing a core set of courses which lays a firm foundation for specialization in all significant areas of Computer Engineering. Other goals are: 1) to stress fundamental and advanced principles to prepare the student to become a practicing engineer, obtain an advanced degree or engage in continuing education; 2) to provide opportunities for specialization and for hands-on experience through laboratories at all levels; 3) to maintain modern and up-to-date laboratories; and 4) to take advantage of resources within electrical engineering and computer science.

The Objectives of the ECE undergraduate programs in Electrical and Computer Engineering are to educate students to become resourceful practitioners of engineering who:

1. Are capable of utilizing their engineering skills in industry, non-profit organizations, and national laboratories, or in the pursuit of graduate education;
2. Are knowledgeable of the professional responsibilities and social context associated with being an engineer; can work in teams and effectively communicate the results of their work;
3. Will develop their knowledge and skills throughout their careers; and,
4. Function well in a diverse environment.

The Computer Engineering degree program can be looked at as consisting of three major threads that are intertwined: computer hardware, computer software and electrical engineering. The hardware sequence consists of ECE 238L, 337, 338, 438 and 440, all of which include at least some hardware design. The software sequence consists of CS 151L and ECE 231, 344L, 330, 331 and 435; all of these include some software design. Finally, the electrical engineering sequence includes ECE 203, 206L, 213, 314 and 321L. ECE 338 and 438 are the culmination of the hardware design sequence and involve software as well. ECE 335, 435 and are the culmination of the software design sequence and generally involves integrating hardware and software, e.g., embedded systems, high-performance computing, wireless networks and multimedia systems. Design projects in ECE

344L require knowledge of hardware, software and circuits/electronics.

Curriculum in Computer Engineering

The Bachelor of Science Program in Computer Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Hours required for graduation: 132

First Year—First Semester		Cr Hrs.
MATH 162	Calculus I	4
ECE 101	Intro to ECE	1
ECE 131	Programming Fundamentals	3
PHYC 160	General Physics	3
ENGL 101	Composition I: Exposition Social/Behavioral Science	3
<hr/> Core Elective ¹		3
		<hr/> 17

Second Semester		
MATH 163	Calculus II	4
ECE 231	Intermediate Programming and Engineering Problem Solving	3
PHYC 161	General Physics	3
PHYC 161L	General Physics Laboratory	1
ENGL 102	Composition II: Analysis and Argument	3
<hr/> Humanities Core Elective ¹		3
		<hr/> 17

Second Year—First Semester		
ECE 203	Circuit Analysis I	3
ECE 238L	Computer Logic Design	4
MATH 316	Applied Ordinary Differential Equations	3
ENGL 219	Technical and Professional Writing	3
<hr/> Basic Science with Laboratory		4
		<hr/> 17

Second Semester		
ECE 206L	Instrumentation	2
ECE 213	Circuit Analysis II	3
MATH 314, 321	Linear Algebra	
—or— 375	Introduction to Numerical Computing	3
MATH 264	Calculus III	4
ECE 330	Software Design	3
		<hr/> 15

Third Year—First Semester		
ECE 321L	Electronics I	4
ECE 314	Signals and Systems	3
ECE 337	Intro to Computer Architecture and Organization	3
MATH 327	Discrete Structures	3
<hr/> Core Elective ¹		3
		<hr/> 16

Second Semester		
<hr/> ECE Elective ²		3
ECE 331	Data Structures and Algorithms	3
ECE 344L	Microprocessors	3
ECE 340	Probabilistic Methods in Engineering	3
<hr/> Core Elective ¹		3
		<hr/> 15

Fourth Year—First Semester		
ECE 419	Senior Design I	3
<hr/> ECE Track Elective ²		3
ECE 437	Computer Operating Systems Senior Elective ³	3
CE/ME 350	Engineering Economy	3
<hr/> Humanities Core Elective ¹		3
		<hr/> 18

Second Semester

ECE 420	Senior Design II	3
ECE 440	Computer Networks	3
	Senior Elective ³	3
	Senior Elective ³	3
	Fine Arts Core Elective ¹	3
		<hr/> 15

Notes:

- 1 See approved list of Core Electives in Computer Engineering Advisement Brochure.
- 2 ECE Track Consists of: ECE 338 and 438 or ECE 335 and 435.
- 3 Senior Electives: These electives will be developed in consultation with the computer engineering advisor from ECE, CS, Physics or other engineering related courses. See list of suggestions in Computer Engineering Advisement Brochure.

Electrical and Computer Engineering Laboratories

Laboratories emphasize the major specialty areas of electrical and computer engineering. Laboratory courses are organized around design and the solution of engineering problems rather than a pattern of routine experiments.

Computer Facilities

The ECE department is well equipped with a large number of state-of-the-art computer systems and workstations which are used for undergraduate instruction and research. These systems are available in all laboratories and in our student computer room. The ECE computer systems are integrated into the campus-wide network. The ECE building also offers a wireless network so that students have ready access to the computer systems from every classroom and meeting space.

Cooperative Education and Part-Time Study

Electrical and Computer Engineering students may participate in a cooperative education program. In this program, students gain engineering experience with full-time employment during part of the year and full-time study for the remainder of the year. It is also possible to participate in programs in which the student has a mixture of part-time engineering employment and part-time study. Because almost all courses required for both degree programs are offered in each of the fall and spring semesters, the department offers a firm base for both cooperative education and part-time study. Both the Electrical and Computer Engineering programs require a minimum grade point average of 2.50 to participate in the co-op program. See appropriate entry in this catalog in the School of Engineering, Co-op section.

Honors Program

Students with a B+ average (3.20 degree GPA) in the Department of Electrical and Computer Engineering are encouraged to enroll in the Honors Program. ECE students may graduate with General Honors (honors in general studies) or with Departmental Honors or with both. Information is available from University College advisors, departmental advisors and the University Honors Center.

Graduate Program

Director of Graduate Studies
Professor W. Wennie Shu

Application Deadlines for Domestic Students:

Fall semester: July 15
Spring semester: November 15
Summer semester: April 15

Application Deadlines for International Students and Domestic Students Requesting Financial Aid:

Fall semester: February 15
Spring semester: July 15

NOTE: Early application is recommended.

Graduate Degrees Offered

M.S. in Computer Engineering

Areas of study are: computer design, architecture and VLSI design, computer networks and systems, image processing, computational intelligence, computer graphics and vision, and bioengineering.

M.S. in Electrical Engineering

Areas of study are: systems and controls, signal processing, communications, optoelectronics, applied electromagnetics, microelectronics, and bioengineering.

Dual Degree Programs— M.B.A. and M.S. in Electrical Engineering or in Computer Engineering

This dual degree program leading to a Master of Business Administration and a Master of Science in Electrical Engineering or Master of Science in Computer Engineering is aimed at electrical or computer engineering graduate students who have interest in a career that requires graduate level training in both business and electrical or computer engineering. The main advantage of a dual degree program is that it minimizes the time, expense and coursework for earning both graduate degrees, one from the School of Engineering (SOE) and the other from the Anderson Schools of Management (ASM). The advantage is realized by "sharing" courses between the two degrees as stipulated in the program. A requirement of a dual degree program is that both degrees must be earned and granted simultaneously. Hence, one degree is not awarded even if its requirements are fulfilled. Withdrawal from the program entails an application to "restart" down a path that leads to the completion of degree the student desires. In some cases, this may mean additional course requirements.

The 3/2 M.B.A. ECE Student

For those Electrical and Computer Engineering students pursuing the 3/2 MBA program, the double master's program must be entered soon after becoming a graduate student. (See <http://mba.mgt.unm.edu/altprograms/32> for more information on the 3/2 MBA program). In addition to fulfilling the MBA requirements from the ASM after receiving the bachelor's degree from the SOE, the 3/2 Electrical and Computer Engineering student must earn at least eighteen hours in ECE courses including nine hours in an area of study as described in the Plan II requirements of the Electrical and Computer Engineering Graduate Student Handbook. The MBA requirements can be found at the ASM website: <http://www.mgt.unm.edu>.

MGMT 501 (Statistics)— Taken as ECE 340 equivalent
MGMT 502 (Accounting)— Taken in senior year
MGMT 504 (Micro-economics)— Taken ECON 300 in junior year
MGMT 506 (Organizational Behavior)— Taken in senior year
MGMT 508 (Ethics)— Taken in senior year
MGMT 511 (Technical Communications)— Taken in senior year

18 hours

Requirements to complete M.B.A.:

- 12 additional hours in core M.B.A. curriculum (MGT 520, 522, 526, 598)
- 12 additional hours in elective M.B.A. courses
- Maximum 6 hours (ECE) outside ASM
- 48 M.B.A. curriculum hours total.

M.S. in Electrical Engineering or M.S. in Computer Engineering Student: This means **9 extra hours** must be taken to obtain the M.B.A. degree for a total of 42 semester hours.

Requirements to complete M.S. in Electrical and Computer Engineering (See ECE Graduate Handbook for Plan II details):

- 18 hours in ECE courses (9 hours in area, maximum of 6 hours at 400 level)
- 15 hours of M.B.A. courses
- 33 hours total in MSEE or MSCoMPE Plan II program.

M.B.A. student: This means **12 extra hours** must be taken to obtain the M.S. in Electrical Engineering or M.S. in Computer Engineering degree for a total of 42 semester hours.

The Non-3/2 MBA ECE Student

The Electrical and Computer Engineering graduate student who did not complete his/her B.S.E.E. or B.S.C.E. degree requirements under the 3/2 M.B.A. program is also eligible to enter the double master's program. In addition to fulfilling the M.B.A. requirements from the ASM, the non-3/2 ECE graduate student must earn at least eighteen hours in ECE courses including nine hours in an area of study as described in the Plan II requirements of the ECE Graduate Student Handbook. The M.B.A. requirements can be found at the ASM website: <http://www.mgt.unm.edu>.

Requirements to complete M.B.A.:

- 30 hours in core M.B.A. curriculum (MGT 501, 502, 504, 506, 508, 511, 520, 522, 526, 598, excluding waivers)
- 12 additional hours in elective M.B.A. courses
- Maximum 6 hours (ECE) outside ASM
- 48 M.B.A. curriculum hours total.

M.S. in Electrical and Computer Engineering or M.S. in Computer Engineering Student: This means **27 extra hours** must be taken to obtain the M.B.A. degree for a total of 60 semester hours. (Waivers can be earned for ECE 340, ECON 300 and other courses taken during undergraduate/graduate programs).

Requirements to complete M.S. in Electrical Engineering or M.S. in Computer Engineering (See ECE Graduate Handbook for Plan II details):

- 18 hours in ECE courses (9 hours in area, maximum of 6 hours at 400 level)
- 15 hours of M.B.A. courses
- 33 hours total in graduate M.S. in Electrical Engineering or M.S. in Computer Engineering Plan II program.

M.B.A. student: This means **12 extra hours** must be taken to obtain the M.S. in Electrical and Computer Engineering or M.S. in Computer Engineering degree for a total of 60 semester hours.

M.S. in Optical Science and Engineering

The Optics Program is jointly administered by the Department of Physics and Astronomy and the Department of Electrical and Computer Engineering. It features an internship option under which a student can apply qualified industrial/government laboratory research along with successfully completed course work toward the degree.

Current research areas: advanced materials, atom optics, biomedical optics, fiber optics, laser physics, lithography, nanostructures, nonlinear optics, optical imaging, optical sensors, optoelectronics, photonic integrated circuits, quantum optics, spectroscopy, and ultra-fast phenomena.

See the Graduate Interdisciplinary Studies section of the catalog for degree requirements. Other program information is available at <http://www.optics.unm.edu>.

Ph.D. in Engineering

Concentration in Computer Engineering

Course Requirements:

In addition to the general University doctoral degree requirements listed in the Graduate Program section of the UNM Catalog, students pursuing a Ph.D. in Engineering with a concentration in Computer Engineering must meet the following criteria:

- Students must choose an area of emphasis and take three courses (9 hours) from this area of emphasis. Acceptable courses for each emphasis are determined by the student's advisor and committee on study.
- One course (3 hours) from another computer engineering or electrical engineering emphasis.
- 14 courses (42 hours) of technical electives. Technical electives are any courses in engineering, math, or physics at the 400 level or above. Only those courses that are designated for graduate credit in the UNM catalog may be used to satisfy this requirement.
- Two credit hours of ECE 590, Graduate Seminar. ECE 590 credits will not apply toward the required number of degree hours in the program.
- No more than 9 hours of problems courses (ECE 551 or 651) will count toward the Ph.D.

Computer Engineering Graduate Areas of Emphasis:

- Computer Architecture (ECE 537, 538, and 520)
- High-Performance Computing (ECE 537, 538, and 509)
- Computer Networks and Systems (ECE 537, 536, and 540)
- Image Processing (ECE 577, 537, and 641)
- Computational Intelligence (ECE 533, 537, and 539)

Computer Engineering Graduate Core Courses:

ECE 500, ECE 509, ECE 517, ECE 520, ECE 533, ECE 536, ECE 537, ECE 538, ECE 539, ECE 540, ECE 547, ECE 549

Equivalent graduate-level courses taken at another institution may be used to satisfy this requirement, but this must be decided on a case-by-case basis by the Graduate Advisor or Graduate Committee in the ECE department.

Qualifying Examination

A student admitted into the Ph.D. program is expected to take the Qualifying examination within three semesters (excluding summer sessions) and pass the Qualifying examination within five semesters (excluding summer sessions) from his/her admittance into the program, unless otherwise determined by the academic advisor and the ECE graduate chair.

Comprehensive Examination

Before a student may complete this requirement, he/she must have passed the Qualifying examination. The Comprehensive examination must be administered and passed in the same semester the Candidacy form is submitted to and approved by the Office of Graduate Studies.

Defense of Dissertation

All candidates must pass a Final examination (Defense of Dissertation). The Dissertation Committee conducts the defense of the dissertation.

Ph.D. in Engineering

Concentration in Electrical Engineering

Course Requirements:

In addition to the general University doctoral degree requirements listed in the Graduate Program section of the UNM Catalog, students pursuing a Ph.D. in Engineering with a concentration in Electrical Engineering must meet the following criteria:

1. Students must choose an area of emphasis and take three courses (9 hours) from this area of emphasis.
2. One course (3 hours) from another Computer Engineering or Electrical Engineering emphasis.
3. 14 courses (42 hours) of technical electives. Technical electives are any courses in engineering, math, or physics at the 400 level or above. Only those courses that are designated for graduate credit in the UNM catalog may be used to satisfy this requirement.
4. Two credit hours of ECE 590, Graduate Seminar. ECE 590 credits will not apply toward the required number of degree hours in the program.
5. No more than 9 hours of problems courses (ECE 551 or 651) will count toward the Ph.D.

Electrical Engineering Graduate Areas of Emphasis:

1. Control Systems (ECE 500, 541, and 546)
2. Signal Processing (ECE500, 541, and 539)
3. Image Processing (ECE 500, 533, and 541)
4. Communications (ECE 500, 541, and 542)
5. Optoelectronics (ECE 561, 570, and 572)
6. Applied Electromagnetics (ECE 561, 560, 534 or 569)
7. Microelectronics (ECE 520, 523, and 576)

Electrical Engineering Graduate Core Courses:

ECE 500, ECE 520, ECE 523, ECE 533, ECE 534, ECE 539, ECE 546, ECE 541, ECE 542, ECE 560, ECE 561, ECE 565, ECE 569, ECE 572, ECE 576

Equivalent graduate-level courses taken at another institution may be used to satisfy this requirement, but this must be decided on a case-by-case basis by the Graduate Advisor or Graduate Committee in the ECE department.

Qualifying Examination

A student admitted into the Ph.D. program is expected to take the Qualifying examination within three semesters (excluding summer sessions) and pass the Qualifying examination within five semesters (excluding summer sessions) from his/her admittance into the program, unless otherwise determined by the academic advisor and the ECE graduate chair.

Comprehensive Examination

Before a student may complete this requirement, he/she must have passed the Qualifying examination. The Comprehensive examination must be administered and passed in the same semester the Candidacy form is submitted to and approved by the Office of Graduate Studies.

Defense of Dissertation

All candidates must pass a Final examination (Defense of Dissertation). The Dissertation Committee conducts the defense of the dissertation.

Ph.D. in Optical Science and Engineering

The Optics Program is jointly administered by the Department of Physics and Astronomy and the Department of Electrical and Computer Engineering. Considerable interactions occur with the Center for High Technology Materials and the optical research groups at the Air Force Research Laboratory, Sandia National Laboratories, Los Alamos National Laboratory and other organizations in Albuquerque that offer extensive opportunities for research work toward the degree.

Current research areas: ultra-fast optics and photonics, laser physics and engineering, optical imaging, quantum optical, optoelectronic devices, fiber lasers and amplifiers, optical communication, optical materials, optical lithography, nonlinear optics, integrated optics, quantum computing, bio-optics, non-photonics, and laser cooling.

See the Graduate Interdisciplinary Studies section of the catalog for degree requirements. Other program information is available at <http://www.optics.unm.edu>.

Nanoscience & Microsystems (NSMS) M.S. & Ph.D. Degree Program

This department participates in the interdisciplinary NSMS program; for more information, see the Graduate Interdisciplinary Studies section of this catalog.

Electrical and Computer Engineering (ECE)

101. Introduction to Electrical and Computer Engineering. (1)

Insight into electrical engineering is gained through videos, "hands-on" experiments, use of computer software to learn basic problem-solving skills and a team-oriented design project.

131. Programming Fundamentals. (3)

Fundamental programming concepts, including consideration of abstract machine models with emphasis on the memory hierarchy, basic programming constructs, functions, parameter passing, pointers and arrays, file I/O, bit-level operations and interfacing to external devices.

203. Circuit Analysis I. (3)

Basic elements and sources. Energy and power. Ohm's law and Kirchhoff's laws. Resistive networks, node and loop analysis. Network theorems. First-order and second-order circuits. Sinusoidal sources and complex representations: impedance, phasors, complex power. Three-phase circuits. Prerequisite: ECE 131 and MATH 163. Pre- or Corequisite: MATH 316 and PHYC 161.

206L. Instrumentation. (2)

Introduction to laboratory practices and the use of test equipment. Measurements on basic electrical components, dc and ac circuits using ohmmeters, voltmeters, ammeters and oscilloscopes. Circuit simulation. Prerequisite: 203 and ENGL 102.

213. Circuit Analysis II. (3)

General transient analysis of electrical circuits. Laplace transform with applications to circuit analysis. State-space equations. Fourier series analysis. The network function; convolution; frequency response. Prerequisite: 203 and MATH 316. Corequisite: MATH 314.

231. Intermediate Programming and Engineering Problem Solving. (3)

Introduction to elementary data structures, program design and computer-based solution of engineering problems. Topics include use of pointers, stacks, queues, linked lists, trees, graphs, systems and device-level programming and software design methodology. Prerequisite: ECE 131.

238L. Computer Logic Design. (4)

Binary number systems. Boolean algebra. Combinational, sequential and register transfer logic. VHDL. Arithmetic/logic unit. Memories, computer organization. Input-output. Microprocessors. Prerequisite: ECE 131.

**314. Signals and Systems. (3)

Continuous and discrete time signals and systems; time and frequency domain analysis of LTI systems, Fourier series and transforms, discrete time Fourier series/transform sampling theorem, block diagrams, modulation/demodulation, filters. Prerequisite: 213 and MATH 264.

**321L. Electronics I. (4)

Introduction to diodes, bipolar and field-effect transistors. Analysis and design of digital circuits, gates, flip-flops and memory circuits. Circuits employing operational amplifiers. Analog to digital and digital to analog converters. Prerequisite: 213.

****322L. Electronics II. (4)**

Analysis, design, and characterization of linear circuits including operational amplifiers. Design of biasing and reference circuits, multistage amplifiers, and feedback circuits.
Prerequisite: 321L.

330. Software Design. (3)

Design of software systems using modern modeling techniques. Relationship between software design and process, with emphasis on UML and its interface application code. Exposure to design patterns, software frameworks, and software architectural paradigms.
Prerequisite: 231

****331. Data Structures and Algorithms. (3)**

An introduction to data structures and algorithms. Topics include asymptotic notation recurrence relations, sorting, hash tables, basic priority queues, balanced search trees and basic graph representation and search.
Prerequisite: 231 and MATH 327. Corequisite: 340.

****335. Integrated Software Systems. (3)**

Course considers design principles, implementation issues, and performance evaluation of various software paradigms in an integrated computing environment. Topics include performance measurement and evaluation, program optimization for the underlying architecture, integration and security for large-scale software systems.
Prerequisite: 330 and 337.

****337. Introduction to Computer Architecture and Organization. (3)**

Survey of various levels of computer architecture and design; microprogramming and processor architecture, assembly language programming, operating system concepts and input/output via the operating system. Three lectures, 1 hr. lab.
Prerequisite: 231 and 238L. {Spring}

****338. Intermediate Logic Design. (3)**

Advanced combinational circuits; XOR and transmission gates; computer-based optimization methods; RTL and HDL; introduction to computer aided design; advanced sequential machines; asynchronous sequential machines; timing issues; memory and memory interfacing; programmable logic devices; and VLSI concepts.
Prerequisite: 238L.

****340. Probabilistic Methods in Engineering. (3)**

Introduction to probability, random variables, random processes, probability distribution/density functions, expectation correlation, power spectrum, WSS processes, confidence intervals, transmission through LIT systems, applications of probability.
Prerequisite: MATH 314.

****344L. Microprocessors. (4)**

Computers and Microprocessors: architecture, assembly language programming, input/output and applications.
Prerequisite: 206L and 238L and 321L. Three lectures, 3 hours lab.

345. [*445.] Introduction to Control Systems. (3)

Introduction to the feedback control problem. Plant modeling, transfer function and state-space descriptions. Stability criteria. Nyquist and root-locus design. Introduction to analytical design. Z-transforms and digital control. Laboratory design project.
Prerequisite: 314.

****360. Electromagnetic Fields and Waves. (3)**

Maxwell's equations, plane wave propagation, waveguides and transmission lines, transient pulse propagation and elementary dipole antenna.
Prerequisite: 213 and PHYC 161 and MATH 264.

****371. Materials and Devices. (4)**

Introduction to quantum mechanics, crystal structures, insulators, metals, and semiconductor material properties, bipolar, field effect and light emitting devices.
Prerequisite: PHYC 262.

412. Introduction to Computer Graphics: Scanline Algorithms. (3)

(Also offered as CS 412.) This course is an introduction to the technical aspects of raster algorithms in computer graphics. Students will learn the foundational concepts of 2-D and 3-D graphics as they relate to real-time and offline techniques. Students will develop a video game as a final project to demonstrate the algorithms learned in class.
Prerequisite: 331 or CE 361L. {Fall}

413. Introduction to Ray and Vector Graphics. (3)

(Also offered as CS 413.) Topics include ray-geometry intersections, viewing, lenses, local/global illumination, procedural textures/models, spline curves and surfaces, and statistical integration for realistic image synthesis. Students will write a raytracing renderer from scratch, exploring high performance implementations and realistic rendering.
Prerequisite: CS 361L or ECE 331.

419. Senior Design I. (3)

Design methodology and development of professional project oriented skills including communication, team management, economics and engineering ethics. Working in teams, a proposal for a large design is prepared in response to an industrial or in-house sponsor.
Restriction: ECE major and senior standing.

420. Senior Design II. (3)

Continuation of 419. Students work in assigned teams to implement proposal developed in 419. Prototypes are built and tested to sponsor specifications, and oral and written reports made to the project sponsor.
Prerequisite: 419.

421./523. Analog Electronics. (3)

Design of advanced analog electronic circuits. BJT and MOSFET operational amplifiers, current mirrors and output stages. Frequency response and compensation. Noise. A/D and D/A converters.
Prerequisite: 322L.

***424. Digital VLSI Design. (3)**

CMOS logic gates and circuits, transistor implementations, applications to sequential circuits, VLSI data path and controller design, VLSI routing issues and architectures, RTL and VLSI impacts and applications to microprocessor design.
Prerequisite: 321L and 338.

***432. Introduction to Parallel Processing. (3)**

(Also offered as CS 442.) Machine taxonomy and introduction to parallel programming. Performance issues, speed-up and efficiency. Interconnection networks and embeddings. Parallel programming issues and models: control parallel, data parallel and data flow. Programming assignments on massively parallel machines.
Prerequisite: (331 or CS 351L) and (337 or CS 341L).

****435. Software Engineering. (3)**

Management and technical issues including business conduct and ethics related to the design of large engineering projects. Student teams will address the design, specification, implementation, testing and documentation of a large hardware/software project.
Prerequisite: 331 and 335.

***437. Computer Operating Systems. (3)**

(Also offered as CS 481.) Fundamental principles of modern operating systems design, with emphasis on concurrency and resource management. Topics include processes, inter-process communication, semaphores, monitors, message passing, input/output device, deadlocks memory management, files system design.
Prerequisite: (330 and 337) or CS 341L.

***438. Design of Computers. (3)**

Computer architecture; design and implementation at HDL level; ALU, exception handling and interrupts; addressing; memory; speed issues; pipelining; microprogramming; introduction to distributed and parallel processing; buses; bus

protocols and bus masters. CAD project to include written and oral presentations.

Prerequisite: 337 and 338 and 344L.

***439. Introduction to Digital Signal Processing. (3)**

Bilateral Z transforms, region of convergence, review of sampling theorem, aliasing, the discrete Fourier transform and properties, analysis/design of FIR/IIR filters, FFT algorithms spectral analysis using FFT.

Prerequisite: 314.

***440. Introduction to Computer Networks. (3)**

(Also offered as CS 485.) Theoretical and practical study of computer networks, including network structures and architectures. Principles of digital communications systems. Network topologies, protocols and services. TCP/IP protocol suite. Point-to-point networks; broadcast networks; local area networks; routing, error and flow control techniques.

Prerequisite: 330 and 337. Corequisite: 340.

***441. Introduction to Communication Systems. (3)**

Amplitude/frequency modulation, pulse position/amplitude modulation, probabilistic noise model, AWGN, Rice representation, figure of merit, phase locked loops, digital modulation, introduction to multiple access systems.

Prerequisite: 314 and 340.

***442. Introduction to Wireless Communications. (3)**

The course is an introduction to cellular telephone systems and wireless networks, drawing upon a diversity of electrical engineering areas. Topics include cellular concepts, radio propagation, modulation methods and multiple access techniques.

Prerequisite: 314 and 360.

***443. Hardware Design with VHDL. (3)**

The VHDL hardware description language is used for description of digital systems at several levels of complexity, from the system level to the gate level. Descriptions provide a mechanism for documentation, for simulation and for synthesis.

Prerequisite: 338.

***446. Design of Feedback Control Systems. (3)**

Modeling of continuous and sampled-data control systems. State-space representation. Sensitivity, stability and optimization of control systems. Design of compensators in the frequency and time domains. Phase-plane, describing function design for non-linear systems, and laboratory design project.

Prerequisite: 345.

448/548. Fuzzy Logic with Applications. (3)

Theory of fuzzy sets; foundations of fuzzy logic. Fuzzy logic is shown to contain evidence, possibility and probability logics; course emphasizes engineering applications; control, pattern recognition, damage assessment, decisions; hardware/software demonstrations.

456/556. Entrepreneurial Engineering. (3)

(Also offered as ME 456.) Review and application of necessary elements for successfully launching technical businesses; focuses upon technology, manufacturing, management, marketing, legal and financial aspects. Students work in groups developing elements of new businesses and producing business plans.

Restriction: senior standing.

460/560. Introduction to Microwave Engineering. (3)

This lecture/laboratory course provides essential fundamentals for rf, wireless and microwave engineering. Topics include: wave propagation in cables, waveguides and free space; impedance matching, standing wave ratios, Z- and S- parameters.

Prerequisite: 360.

***463. Advanced Optics I. (3)**

(Also offered as PHYC 463.) Electromagnetic theory of geometrical optics, Gaussian ray tracing and matrix methods, finite ray tracing, aberrations, interference and diffraction.

Prerequisite: PHYC 302.

***464. Laser Physics I. (3)**

(Also offered as PHYC 464.) Resonator optics. Rate equations; spontaneous and stimulated emission; gas, semiconductor and solid state lasers, pulsed and mode-locked laser techniques.

Prerequisite: 360 or PHYC 406.

469/569. Antennas for Wireless Communication Systems. (3)

Aspects of antenna theory and design; radiation from dipoles, loops, apertures, microstrip antennas and antenna arrays.

Prerequisite: 360.

***471. Materials and Devices II. (3)**

An intermediate study of semiconductor materials, energy band structure, p-n junctions, ideal and non-ideal effects in field effect and bipolar transistors.

Prerequisite: 360 and 371.

****473. Semiconductor Materials, Devices, and Circuits. (3)**

This course is primarily for non-EE majors (ChE, Physics, Chemistry, etc.) who will work in the semiconductor industry. It describes integrated circuit electronics from basic concepts, transistor operation, logic circuit electronic, layout and higher level design. Credit is not allowed for undergraduate or graduate Electrical or Computer Engineering majors.

Restriction: senior standing.

474L/574L. Microelectronics Processing. (3)

Fledderman, Hersee

(Also offered as NSMS 574L.) Materials science of semiconductors, microelectronics technologies, device/circuit fabrication, parasitics and packaging. Lab project features small group design/fabrication/testing of MOS circuits.

***475. Introduction to Electro-Optics and Opto-Electronics. (3)**

Basic electro-optics and opto-electronics, with engineering applications. Interaction of light with matter. Introduction to optics of dielectrics, metals and crystals. Introductory descriptions of electro-optic, acousto-optic and magneto-optic effects and related devices. Light sources, displays and detectors. Elementary theory and applications of lasers, optical waveguides and fibers.

Prerequisite: 371.

486/586. Design for Manufacturability. (3)

(Also offered as ME 486.) Introduction to methods of design for manufacturability. Emphasis is on teamwork and designing to your customer's needs. This is achieved through statistical methods and computer based systems.

Restriction: senior standing.

***487. Semiconductor Factory Design and Operations. (3)**

A detailed overview of the operations of an integrated circuit fabrication facility using Sandia's Microelectronics Development Laboratory as a prototype. Topics include building facilities, equipment, software tracking and personnel.

490. Internship. (3)

Professional practice under the guidance of a practicing engineer. Assignments include design or analysis of systems or hardware, or computer programming. A preliminary proposal and periodic reports are required. The engineer evaluates student's work; a faculty monitor assigns grade.

Restriction: ECE major and junior standing. (12 hours/week) (24 hours/week in summer session). Offered on a CR/NC basis only.

491. Undergraduate Problems. (1-6 to a maximum of 6) Δ

Registration for more than 3 hours requires permission of department chairperson.

493. Honors Seminar. (1-3)

A special seminar open only to honors students. Registration requires permission of department chairperson.

494. Honors Individual Study. (1-6)

Open only to honors students. Registration requires permission of the department chairperson and of the supervising professor.

495/595. Special Topics. (1-4 to a maximum of 9, 1-4 to a maximum of 15) Δ

Restriction: ECE major and senior standing.

500. Theory of Linear Systems. (3)

State space representation of dynamical systems. Analysis and design of linear models in control systems and signal processing. Continuous, discrete and sampled representations. This course is fundamental for students in the system areas.

505. Multimedia Systems. (3)

Course considers the fundamental knowledge of multimedia systems. Learn to design multimedia systems for different engineering, science, training and entertainment applications. Topics include audio, video, compression, quality of service, synchronization, resource management, multimedia networking and multimedia applications.

506. Optimization Theory. (3)

Introduction to the topic of optimization by the computer. Linear and nonlinear programming. The simplex method, Karmakar method, gradient, conjugate gradient and quasi-Newton methods, Fibonacci/Golden search, Quadratic and Cubic fitting methods, Penalty and Barrier methods.

509. Parallel Algorithms. (3)

(Also offered as CS 509) Design and analysis of parallel algorithms using the PRAM model, with emphasis on graph algorithms, searching and sorting, and linear algebra applications. Embedding into hypercubic and related networks. Introduction to parallel complexity theory. Prerequisite: 537.

510. Medical Imaging. (3)

This course will introduce the student to medical imaging modalities (e.g. MRI, Nuclear Imaging, Ultrasound) with an emphasis on a signals and systems approach. Topics will include hardware, signal formation, image reconstruction and application.

512. Advanced Image Synthesis. (3)

(Also offered as CS 512.)

Covers image synthesis techniques from perspective of high-end scanline rendering, including physically-based rendering algorithms. Topics: radiometry, stochastic ray tracing, variance reduction, photon mapping, reflection models, participating media, advanced algorithms for light transport.

513. Real-Time Rendering and Graphics Hardware. (3)

(Also offered as CS 513.) Course covers advanced algorithms in real-time rendering and graphics hardware, bringing students up to speed with cutting edge real-time graphics. Topics: advanced GPU algorithms for graphics and non-graphics applications. Term project required.

514. Nonlinear and Adaptive Control. (3)

Linearization of nonlinear systems. Phase-plane analysis. Lyapunov stability analysis. Hyperstability and Popov stability criterion. Adaptive control systems. Adaptive estimation. Stability of adaptive control systems, backstepping and nonlinear designs. Prerequisite: 500.

515. Scientific and Information Visualization. (3)

(Also offered as CS 515.) Introduction to scientific and data visualization techniques. Topics: data manipulation, feature extraction, visual display, peer critique of project design, data formats and sampling, geometric extraction, volume visualization, flow visualization, abstract data visualization, user interaction techniques.

516. Computer Vision. (3)

(Also offered as CS 532.) Theory and practice of feature extraction, including edge, texture and shape measures. Picture segmentation; relaxation. Data structures for picture description. Matching and searching as models of asso-

ciation and knowledge learning. Formal models of picture languages.

517. Pattern Recognition. (3)

(Also offered as CS 531) Decision functions and dichotomization; prototype classification and clustering; statistical classification and Bayes theory; trainable deterministic and statistical classifiers. Feature transformations and selection.

518. Synthesis of Nanostructures. (3) Brinker, Brueck (Also offered as CHNE, NSMS 518.) Underlying physical and chemical principles (optics, organic and inorganic chemistry, colloid chemistry, surface and materials science) for nanostructure formation using 'top-down' lithography (patterned optical exposure of photosensitive materials) and 'bottom-up' self-assembly. Labs will synthesize samples. Prerequisite: 510. (Spring)

519. Theory, Fabrication, and Characterization of Nano & Microelectromechanical Systems (NEMS/MEMS). (3) (Also offered as ME, NSMS 519.) Lectures and laboratory projects on physical theory, design, analysis, fabrication, and characterization of micro and nanosystems. Special attention given to scaling effects involved with operation of devices at nano and microscale.

520. VLSI Design. (3)

Advanced topics include: IC technologies, CAD tools, gate arrays, standard cells and full custom designs. Design of memories, PLA, I/O and random logic circuit. Design for testability.

523/421. Analog Electronics. (3)

Design of advanced analog electronics circuits. BJT and MOSFET operational amplifiers, current mirrors and output stages. Frequency response and compensation. Noise. A/D and D/A converters.

524. Collaborative Interdisciplinary Teaching. (3)

(Also offered as ANTH 624, BIOL 524, CS 524, STAT 524) Course designed to develop the methods content and assessment of effective interdisciplinary biological courses; Students will develop and teach an undergraduate interdisciplinary topics course. Topics vary. Restriction: permission of instructor.

525. Microelectronics Test Engineering. (3)

Course describes the intricacies of testing large, modern integrated circuits. These topics include: test economics, defects and fault models, automatic test equipment (ATE) architecture, ATE programming and timing, software issues, characterization and Shmoo plots, defect electronics, diagnostics, IDDQ testing, board testing, analog and mixed signal issues.

526. Microelectronic Reliability. (3)

Microelectronic reliability failure mechanisms: metal electromigration and stress voiding; oxide wearout and hot carrier injection; packaging; qualification testing; statistics; radiation effects; EOS/ESD; wafer level reliability; new material reliability.

527. Microelectronic Failure Analysis. (3)

Microelectronic failure analysis process: electrical characterization, package analysis, global and local failure site isolation; photon and thermal emission; electrical, laser, e-beam and mechanical probing; FIB; deprocessing; backside techniques; EOS/ESD; surface material analysis; FA lab management.

528. Embedded Systems Architecture. (3)

Development and analysis of techniques and algorithms for use in embedded processor systems. Application of tools implementing solutions to control and data applications involving standard processing paradigms and programmable logic systems.

529. Semiconductor Process Integration and Test. (3)

Topics relevant to manufacturing a quality semiconductor product are introduced. These include reliability, test, packaging, mechanical and thermal problems and handling damage effects.

531. Error-Correcting Codes. (3)

Efficient insertion of redundant bits into binary data for protection against error; association with linear algebra; sequential coding and decoding logic; arithmetic codes for computational circuits.

532. Nanoscale Electronic and Photonic Devices. (3)

Huffaker

(Also offered as NSMS 532.) Introduces devices, device physics, characteristics and possible applications specific to the nanoscale. Topics include single electron transistor, carbon nanotube electronics, quantum dot devices, spin-polarized electronic and photonic devices.

533. Digital Image Processing. (3)

Fundamentals of 2D signals and systems. Introduction to multidimensional signal processing. Applications in digital image processing. Image formation, representation and display. Linear and nonlinear operators in multiple dimensions. Orthogonal transforms representation and display. Image analysis, enhancement, restoration and coding. Students will carry out image processing projects.

534. Plasma Physics I. (3)

(Also offered as ASTR, PHYC, CHNE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, nonlinear effects, applications.

536. Computer System Software. (3)

Course considers design principles, implementation issues and performance evaluation of system software in advanced computing environments. Topics include resource allocation and scheduling, information service provider and manipulation, multithreading and concurrency, security for parallel and distributed systems.

537. Foundations of Computing. (3)

Computational aspects of engineering problems. Topics include machine models and computability, classification and performance analysis of algorithms, advanced data structures, approximation algorithms, introduction to complexity theory and complexity classes.

538. Advanced Computer Architecture. (3)

Course provides an in-depth analysis of computer architecture techniques. Topics include high speed computing techniques, memory systems, pipelining, vector machines, parallel processing, multiprocessor systems, high-level language machines and data flow computers.

539. Digital Signal Processing. (3)

Hilbert spaces, orthogonal basis, generalized sampling theorem, multirate systems, filterbanks, quantization, structures for LTI systems, finite word-length effects, linear prediction, min/max phase systems, multiresolution signal analysis.

540. Advanced Networking Topics. (3)

Research, design and implementation of high-performance computer networks and distributed systems. High speed networking technologies, multimedia networks, enterprise network security and management, client/server database applications, mobile communications and state-of-the-art internetworking solutions.

541. Probability Theory and Stochastic Processes. (3)

Axiomatic probability theory, projection theorem for Hilbert spaces, conditioned expectations, modes of stochastic convergence, Markov chains, mean-square calculus, Wiener filtering, optimal signal estimation, prediction stationarity, ergodicity, transmission through linear and nonlinear systems, sampling.

542. Digital Communication Theory. (3)

Elements of information theory and source coding, digital modulation techniques, signal space representation, optimal receivers for coherent/non-coherent detection in AWGN channels, error probability bounds, channel capacity, elements of block and convolutional coding, fading, equalization signal design.

Prerequisite: 541.

544. Digital Control Systems. (3)

Discrete-time signals and systems. Performance and stability criteria. Design approaches for digital control of analog plants. Sampling and signal quantization. Optimal and adaptive control. Microprocessor implementation of digital control algorithms.

Prerequisite: 500.

545. Large-Scale Systems. (3)

Introduction to large-scale systems, models for large scale systems, model reduction, hierarchical control, decentralized control, structural properties of large scale systems.

Prerequisite: 500.

546. Multivariable Control Theory. (3)

Hermite, Smith and Smith-McMillan canonic forms for polynomial and rational matrices. Coprime matrix-fraction representations for rational matrices. Bezout identity. Poles and zeros for multivariable systems. Matrix-fraction approach to feedback system design. Optimal linear-quadratic-Gaussian (LQG) control. Multivariable Nyquist stability criteria.

Prerequisite: 500.

547. Neural Networks. (3)

(Also offered as CS 547.) A study of biological and artificial neuron models, basic neural architectures and parallel and distributed processing.

548./448. Fuzzy Logic with Applications. (3)

(Also offered as CE 548.) Theory of fuzzy sets; foundations of fuzzy logic. Fuzzy logic is shown to contain evidence, possibility and probability logics; course emphasizes engineering applications; control, pattern recognition, damage assessment, decisions; hardware/software demonstrations.

549. Information Theory and Coding. (3)

An introduction to information theory. Fundamental concepts such as entropy, mutual information, and the asymptotic equipartition property are introduced. Additional topics include data compression, communication over noisy channels, algorithmic information theory, and applications.

Prerequisite: 340 or equivalent.

550. Social and Ethical Issues in Nanotechnology. (1-3)

[3] Mills, Fledderman

(Also offered as CHNE, NSMS 550.) In this course, students will examine issues arising from this emerging technology, including those of privacy, health and safety, the environment, public perception and human enhancement.

551. Problems. (1-6 to a maximum of 9) Δ **553L. Experimental Techniques in Plasma Science. (3)**

(Also offered as CHNE 553L.) Theory and practice of plasma generation and diagnostics, coordinated lectures and experiments, emphasis on simple methods of plasma production and selection of appropriate diagnostic techniques, applications to plasma processing and fusion.

Prerequisite: 534.

554. Advanced Optics II. (3)

(Also offered as PHYC 554.) Diffractions theory, coherence theory, coherent objects, and incoherent imaging, and polarization.

555. Foundations of Engineering Electromagnetics. (3)

Mathematical foundations for engineering electromagnetics: linear analysis and method of moments, complex analysis and Kramers-Kronig relations, Green's functions, spectral representation method and electromagnetic sources.

556./456. Entrepreneurial Engineering. (3)

(Also offered as ME 556.) Review and application of necessary elements for successfully launching technical businesses; focuses upon technology, manufacturing, management, marketing, legal and financial aspects. Students work in groups developing elements of new businesses and producing business plans.

557. Pulsed Power and Charged Particle Acceleration. (3)

Principles of pulsed power circuits, components, systems and their relationship to charged particle acceleration and transport. Energy storage, voltage multiplication, pulse shaping, insulation and breakdown and switching. Single particle dynamics and accelerator configurations.

558. Charged Particle Beams and High Power Microwaves. [Charged Particle Beams] (3)

(Also offered as CHNE 546.) Overview of physics of particle beams and applications at high-current and high-energy. Topics include review of collective physics, beam emittance, space-charge forces, transport at high power levels, and application to high power microwave generation. Prerequisite: 557 and CHNE 545.

559. Internship in Optical Science and Engineering. (3)

(Also offered as PHYC 559.) Students do research and/or development work at a participating industry or government laboratory in any area of optical science and engineering.

560/460. Introduction to Microwave Engineering. (3)

This lecture/laboratory course provides essential fundamentals for rf, wireless and microwave engineering. Topics include: wave propagation in cables, waveguides and free space; impedance matching, standing wave ratios, Z- and S- parameters.

561. Engineering Electromagnetics. [Electrodynamics] (3)

Maxwell's equations, electromagnetic interaction with materials, the wave equation, plane wave propagation, wave reflection and transmission, vector potentials and radiation equations, electromagnetic field theorems, wave propagation in anisotropic media and metamaterials, period structures, dielectric slab waveguides. Prerequisite: 555.

563. Computational Methods for Electromagnetics. (3)

Computational techniques for partial differential and integral equations: finite-difference, finite-element, method of moments. Applications include transmission lines, resonators, waveguides, integrated circuits, solid-state device modeling, electromagnetic scattering and antennas. Prerequisite: 561.

564. Guided Wave Optics. (3)

Optical propagation in free space, colored dielectrics, metals, semiconductors, crystals, graded index media. Radiation and guided modes in complex structures. Input and output coupling, cross-coupling mode conversion. Directional couplers, modulators, sources and detectors.

565. Optical Communication Components and Subsystems. (3)

Optical waveguides, optical fiber attenuation and dispersion, power launching and coupling of light, mechanical and fiber lifetime issues, photoreceivers, digital on-off keying, modulation methods, SNR and BER, QAM and M-QAM, modulation methods, SNR, and BER, intersymbol interference (impact on SNR), clock and data recovery issues, point-to-point digital links, optical amplifiers theory and design (SOA, EDFA, and SRA), simple WDM system concepts, WDM components.

566. Advanced Optical Subsystems and Networks. (3)

External modulators WDM system design, other multiple access techniques design issues, analog transmission systems nonlinear processes in optical fibers and their impact on system performance, optical networks, photonic packet switching, coherent lightwave systems, basic principles for homodyne and heterodyne detection, noise reduction, relevant digital modulation formats: PSK, ASK, FSK, DPSK. Practical implementation, performance of synchronous and asynchronous heterodyne systems, phase noise, polarization mismatch. Prerequisite: 565.

569/469. Antennas for Wireless Communications Systems. (3)

Aspects of antenna theory and design; radiation from dipoles, loops, apertures, microstrip antennas and antenna arrays.

570. Optoelectronic Semiconductor Materials and Devices. (3)

Theory and operation of optoelectronic semiconductor devices; semiconductor alloys, epitaxial growth, relevant semiconductor physics (recombination processes, heterojunctions, noise, impact ionization), analysis of the theory and practice of important OE semiconductor devices (LEDs, Lasers, Photodetectors, Solar Cells). Prerequisite: 471 or 572.

572. Semiconductor Physics. (3)

(Also offered as NSMS 572.) Crystal properties, symmetry and imperfections. Energy bands, electron dynamics, effective mass tensor, concept and properties of holes. Equilibrium distributions, density of states, Fermi energy and transport properties including Boltzmann's equation. Continuity equation, diffusion and drift of carriers. Prerequisite: 471.

574L/474L. Microelectronics Processing. (3)

(Also offered as NSMS 574L.) Materials science of semiconductors, microelectronics technologies, device/circuit fabrication, parasitics and packaging. Lab project features small group design/fabrication/testing of MOS circuits.

575. Junction Devices. (3)

Advanced junction devices including VLSI bipolar transistors, Si-Ge and III-V HBTs, high-level injection, high-frequency devices. Prerequisite: 471 or 572.

576. Modern VLSI Devices. (3)

Review of the evolution of VLSI technology and basic device physics. Detailed analysis of MOSFET devices, CMOS device design including device scaling concepts. Prerequisite: 471 or 572.

577. Fundamentals of Semiconductor LEDs and Lasers. (3)

Carrier generation and recombination, photon generation and loss in laser cavities, density of optical modes and blackbody radiation, radiative and non-radiative processes, optical gain, spontaneous and stimulated emission, Fermi's golden rule, gain and current relations, characterizing real diode lasers, dynamic effects, rate equation; small signal and large signal analysis, radiative intensity noise and linewidth. Prerequisite: 572.

578. Advanced Semiconductor Lasers. (3)

Scattering matrix theory, S and T matrices, gratings, DBR and DFB lasers, perturbation and coupled-mode theory, photonic integrated circuits, tunable lasers, directional couplers. Prerequisite: 577.

579. Advanced Microelectronic Processing. (3)

Relevant techniques in advanced metallization, including process requirements for gigabit devices, state of the art metal deposition approaches, multi-level interconnects, ultra-thin diffusion barrier technology, advanced dielectrics, metal-dielectric integration, micromachining, contamination control, cluster tools, metrology.

580. Advanced Plasma Physics. (3)

(Also offered as PHYC 580, CHNE 580.) Prerequisite: 534 or PHYC 534.

581. Colloidal Nanocrystals for Biomedical Applications. (3)

(Also offered as BIOM, NSMS 581.) Intended for students planning careers combining engineering, materials science, and biomedical sciences. Covers synthesis, nanocrystals characterization, biofunctionalization, biomedical nanosensors, FRET-based nanosensing, molecular-level sensing/imaging, and applications in cell biology, cancer diagnostics and therapy, neuroscience, and drug delivery.

585. Modern Manufacturing Methods. (3)

(Also offered as ME 585.) Study of business of manufacturing, emphasizing modern approaches. Topics include: U.S. manufacturing dilemma; JIT, kanban, pull manufacturing, quality; modeling; design for production; manufacturing economics; management issues; DIM; case studies.

586/486. Design for Manufacturability. (3)

(Also offered as ME 586.) Introduction to methods of design for manufacturability (DFM). Emphasis is on teamwork and designing your customers needs. This is achieved through statistical methods and computer based systems.

590. Graduate Seminar. (1 to a maximum of 2) Δ

Offered on a CR/NC basis only.

591. Integrating Nanotechnology with Cell Biology and Neuroscience Seminar. (1, no limit) Δ

Graduate seminar on Integrating Nanotechnology with Cell Biology and Neuroscience. Grades based on active participation, including oral presentation.

594. Complex Systems Theory. (3)

Advanced topics in complex systems including but not limited to biological systems social and technological networks, and complex dynamics.

Prerequisite: graduate standing.

595/495. Special Topics. (1-4 to a maximum of 15, 1-4 to a maximum of 9) Δ**599. Master's Thesis. (1-6, no limit) Δ**

Offered on a CR/NC basis only.

609. Advanced Parallel Algorithms. (3)

(Also offered as CS 609.) Design and analysis of advanced parallel algorithms, parallel complexity theory, ideal and realistic models of parallel computation, and experimental parallel algorithms; emphasis on combinatorial problems.

Prerequisite: 509 or CS 509.

620. Topics in Interdisciplinary Biological and Biomedical Sciences. (3, unlimited) Δ

(Also offered as ANTH 620, BIOL 520, CS 520, STAT 520) Varying interdisciplinary topics taught by collaborative scientists from UNM, SFI, and LANL.

637. Topics in Algorithms. (3 to a maximum of 9) Δ

Advanced topics including parallel and high-performance computing, multimedia, virtual reality, real-time systems and robotics, encryption and security, information technology, applied algorithms and computational science algorithms and applications.

Prerequisite: 537.

638. Topics in Architecture and Systems. (3 to a maximum of 9) Δ

Advanced topics including advanced computer architecture, networks, distributed computing, large-scale resource management, high-performance computing and grid-based computing.

Prerequisite: 538.

642. Detection and Estimation Theory. (3)

Hypothesis testing; Karhunen-Loeve representation; optimal detection of discrete- and continuous-time signals; ML, MMSE, and MAP estimation; sufficient statistics, estimation error bounds; Wiener and Kalman-Bucy filtering; detection/receivers for multiuser and multipath fading channels.

Prerequisite: 541.

649. Topics in Control Systems. (3 to a maximum of 9) Δ

Prerequisite: 546.

651. Problems. (1-6 to a maximum of 9) Δ**661. Topics in Electromagnetics. (3)**

Topics include advanced antenna theory, electromagnetic scattering and propagation, electromagnetic compatibility, low temperature plasma science, advanced plasma physics, and other subjects in applied electromagnetics.

Prerequisite: 561.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

MECHANICAL ENGINEERING

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Robert H. Greenlee, M.S., The University of New Mexico*

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Baccalaureate Program**Director of Undergraduate Programs**

Robert H. Greenlee

Introduction

In order to meet the challenge of today's rapidly changing technologies, mechanical engineering students are well-grounded in the basic principles of analysis, design, experimentation and computer utilization. A range of technical electives enables students to develop and specialize in their fields of interest. After graduation, mechanical engineers will conceive, plan and design a wide variety of devices, machines and systems for energy conversion and utilization, automation and robotics, environmental control, material processing and handling, manufacturing and CAD/CAM, dynamical systems, fluid flow and other purposes. They will be active in creative design, applied research and development and management.

Program Goals

The principal goal of the B.S.M.E. program is to provide students with the fundamentals of mechanical engineering that they have a solid base for an engineering career. This includes building a sufficient knowledge base, exercising creative and analytical capability, and developing communication skills so that the graduates can continue to expand their learning as their fields of interest and the scope of mechanical engineering evolve. Our core courses are intended to provide a broad base so that those who terminate their formal education with the B.S.M.E. degree can continue to grow intellectually. Likewise, the base provides insight into fields that students may choose to study at the graduate level.

This goal is met by a curriculum in which fundamental knowledge of earlier years is applied in later engineering courses. Specifically, the goals for the B.S.M.E. program at the University of New Mexico are closely linked to the criteria set forth by ABET. The following statement has been adopted by the Mechanical Engineering Faculty to represent our educational goals.

Outcomes

The Department of Mechanical Engineering at the University will provide students with a quality mechanical engineering education. Each Mechanical Engineering student will demonstrate the following by the time of graduation:

- a. an ability to apply knowledge of mathematics, science, and engineering;
- b. an ability to design and conduct experiments as well as analyze and interpret data;
- c. an ability to design a system, component, or process that meets desired needs;
- d. an ability to function in multi-disciplinary, multi-cultural teams;
- e. an ability to identify, formulate, and solve engineering problems;
- f. an understanding of professional and ethical responsibility;
- g. an ability to communicate effectively;
- h. the broad education necessary to understand the impact of engineering solutions in a global/societal context;
- i. a recognition of the need for and an ability to engage in lifelong learning;
- j. a knowledge of contemporary issues;
- k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice;

Objectives

The Department of Mechanical Engineering will produce graduates who:

- a. Have the educational background necessary to compete successfully with peers who graduated from other institutions;
- b. Have an educational foundation which allows them to continue the growth of their careers.

Laboratories and Computer Facilities

In addition to attending formal lectures, mechanical engineering students gain hands-on experience in the laboratory with measurement techniques, test procedures and equipment representative of the type encountered in industry. The laboratories include materials testing, measurements, fluid mechanics, heat transfer, robotics and microcomputers, manufacturing and CAD/CAM, instrumentation and a computer laboratory to which all students have access.

Cooperative Education

To complement their formal course work with practical experience, mechanical engineering students may elect a cooperative education program in which they are employed full time by an industrial or governmental agency for a part of

the year. They are full-time students for the remaining part of the year. Students who need financial aid or who wish to gain engineering experience will find this program attractive. The Department of Mechanical Engineering does not offer technical elective credit for cooperative education.

Planning for Graduate Studies

For those mechanical engineering students wishing to continue their education at an advanced level, the Mechanical Engineering Department offers the M.S., M.E.M.E. and Ph.D. degrees. More information on the graduate programs may be found in the Graduate Programs section.

The Mechanical Engineering degree has proven to be excellent preparation for graduate engineering programs as well as for other professional programs such as law, business administration, medicine and dentistry.

Admission to Baccalaureate Program

Students must be admitted for study at the University of New Mexico and must have completed approximately one year of the freshman year subjects before applications are processed for admission to the Baccalaureate Program in Mechanical Engineering. Approval from the ME Department is required. Applicants must consult the appropriate undergraduate departmental advisor for evaluation of academic work before admission can be completed.

At least 18 semester hours of freshman year technical subjects (Computer Science, Engineering, Math, Physics and Chemistry) are required by the School of Engineering for admission into degree programs. A minimum grade point average of 2.75 in those technical courses is required for admission to undergraduate study in Mechanical Engineering. A total of 26 semester hours (technical plus non-technical courses) applicable to the B.S.M.E. degree is also required for admission with a grade point average of at least 2.20. All applicants must have completed English 101 or its equivalent before admission. All courses required in the B.S.M.E. program must have grades of C- or better for satisfying both admission and graduation requirements, except a C (or better) in Core Curriculum courses is required.

Students transferring from other units or the School of Engineering must have a grade point average of at least 2.50 on all required technical course work applied towards the B.S.M.E. degree before being admitted to Mechanical Engineering.

Transfer students from other universities or from other colleges at the University of New Mexico must complete at least 18 semester hours of required technical (Computer Science, Engineering, Math, Chemistry and Physics) courses applicable towards the B.S.M.E. degree at the University of New Mexico with a grade point average of at least 2.75 before being admitted to Mechanical Engineering.

For all transfer students, a grade point average of 2.20 is required for all (technical plus non-technical) courses taken at the University of New Mexico that are applicable towards the B.S.M.E. degree before being admitted to Mechanical Engineering.

Advisement

Upon admission to the ME program (until graduation), each student will be assigned to one of the faculty members for advisement. Students in the ME program are required to seek advisement from their designated advisor each semester during the pre-registration period. The purpose of this session is to help the student with any problems he/she may have in his/her program of studies. Students will not be allowed to register until they have consulted with their advisor.

Policy on D or D+ Grades

Students admitted or readmitted to the Mechanical Engineering degree program may not apply a course toward the B.S. degree in Mechanical Engineering if the highest grade earned in the course is a D+ or less, regardless of where that grade was earned.

Accreditation

The Bachelor of Science Program in Mechanical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Curriculum in Mechanical Engineering

Hours required for graduation: 130

Freshman Year—First Semester		Hrs. Cr.
CHEM 121	General Chemistry	3
CHEM 123L	General Chemistry Lab	1
ENGL 101	Composition I: Exposition	3
ME 160L	Mechanical Engineering Design I	3
MATH 162	Calculus I	4
	Core Humanities Elective	3
		17

Freshman Year—Second Semester		Hrs. Cr.
CHEM 122	General Chemistry II	3
CHEM 124L	General Chemistry II Lab	1
ENGL 102	Composition II: Analysis and Argument	3
PHYC 160	General Physics	3
MATH 163	Calculus II	4
CS 151L	Computer Programming	3
	Fundamentals for Non-Majors	3
		17

Sophomore Year—First Semester		Hrs. Cr.
ME 260L	Mechanical Engineering Design II	3 (2-4)
CE 202	Engineering Statics	3 (3-0)
PHYC 161	General Physics	3 (3-0)
MATH 264	Calculus III	4 (4-0)
ME 217	Energy, Environ & Society	3 (3-0)
		16 (15-4)

Sophomore Year—Second Semester		Hrs. Cr.
ME 306	Dynamics	3 (3-0)
ECE 203	Circuit Analysis I	3 (3-0)
MATH 316	Applied Ordinary Differential Equations	3 (3-0)
ME 318L	Mechanical Engineering Laboratory	4 (3-3)
	Core Writing and Speaking Elective	3
		16 (15-3)

Junior Year—First Semester		Hrs. Cr.
ME 317L	Fluid Mechanics	4 (3-3)
ME 301	Thermodynamics	3 (3-0)
CE 302	Mechanics of Materials	3 (3-0)
	MATH Elective ⁴	3 (3-0)
ECON 105	Introductory Macroeconomics	3 (3-0)
		16 (15-3)

Junior Year—Second Semester		Hrs. Cr.
ME 302	Thermodynamics II	3 (3-0)
	—or—	
ME 314	Design of Machinery	3 (3-0)
ME 360L	Mechanical Engineering Design III	3 (2-3)
ME 357	Introduction to Mechanical Vibrations	3 (3-0)
ME 370	Engineering Materials Science	3 (3-0)
ME 352L	Materials Laboratory	1 (0-3)
	Core Second Language Elective ³	3 (3-0)
		16 (14-6)

Senior Year—First Semester		Hrs. Cr.
ME 320L	Heat Transfer	4 (3-3)
ME 459	Mechanical Engineering Design IV	3 (3-0)
ME 380	Analysis and Design of Mechanical Control Systems	3 (3-0)
	ME Engineering Science Elective ¹	3 (3-0)
	Core Fine Arts Elective	3 (3-0)
		16 (15-3)

Senior Year—Second Semester		Hrs. Cr.
ME 460	Mechanical Engineering Design V	4 (2-3)
	Technical Elective ³	3 (3-0)
	ME Technical Elective ²	3 (3-0)
	ME Engineering Science Elective ¹	3 (3-0)
	Core Humanities Elective	3 (3-0)
		16 (14-3)

FSAE Option

FSAE is a program in which the students design, build, and test a racing car. Students wishing to pursue the Formula SAE option, substitute the following curriculum for the second semester of their Junior year and both semesters of their senior year. All three FSAE courses must be completed for this option.

Junior Year—Second Semester		Hrs. Cr.
ME 302	Thermodynamics II	3 (3-0)
	—or—	
ME 314	Design of Machinery	3 (2-3)
ME 360L	Mechanical Engineering Design III	3 (2-3)
ME 357	Introduction to Mechanical Vibrations	3 (3-0)
ME 370	Engineering Materials Science	3 (3-0)
ME 406L	Formula SAE Racecar Design	3 (3-0)
		16 (14-6)

Senior Year—First Semester		Hrs. Cr.
ME 320L	Heat Transfer	4 (3-3)
ME 459	Mechanical Engineering Design IV	3 (3-0)
ME 380	Analysis and Design of Mechanical Control Systems	3 (3-0)
ME 407	Formula SAE Racecar Fabrication Lab	3 (3-0)
	Core Fine Arts Elective	3 (3-0)
		16 (15-3)

Senior Year—Second Semester		Hrs. Cr.
ME 408	Formula SAE Racecar Test Lab	1 (1-0)
	ME Science Elective ¹	3 (3-0)
	ME Technical Elective ³	3 (3-0)
	ME Engineering Science Elective ¹	3 (3-0)
	Core Humanities Elective	3 (3-0)
	Core Second Language Elective ³	3 (3-0)
		16 (16-0)

- Mechanical Engineering Science Electives** includes all Mechanical Engineering elective courses 300 level and above except for: ME 455, ME 456, ME 484, ME 485, ME 488, or ME 407/408 FSAE. Undergraduate Problems, ME 451/452, ME 463, and Special Topics Courses ME 461/462, must be approved by the Mechanical Engineering Undergraduate Advisor to be used as a Mechanical Engineering Science Elective.
- Mechanical Engineering Technical Electives** include all Mechanical Engineering elective courses 300 and above.
- Technical Elective** may be selected from the mechanical engineering technical or science electives or from appropriate upper division (300 level and above) courses from Math/Statistics, Chemistry, Physics, Computer Science, and Engineering. Technical Electives may not be taken on the CR/NC grading option.
- Math Elective** course must be selected from Math 311, 312, 313, 314, 321, or Stat 345.



For further information contact:
 Undergraduate Coordinator
 Mechanical Engineering, Room 200
 MSC01 1150
 1 University of New Mexico-0001
 Albuquerque, NM 87131
 (505) 277-1325

Honors Program

Students with a major (B.S.M.E.) average of at least 3.50 are encouraged to enroll in the Honors Program. ME students may graduate with General Honors or with Department Honors or both. Information is available from department advisors and the University Honors Center.

Graduate Programs

Director of Graduate Programs
 Nader Ebrahimi

Graduate Programs Website:
<http://megrad.unm.edu>

Career Potentials

The graduate programs offered in the department are planned to prepare graduates for professional engineering work in private industry or governmental laboratories or for teaching/research positions. The focus is on the fundamental concepts in the selected research area, with elective and supporting work to complete the study program.

Application Information

We welcome applications from students who have earned distinguished academic records. Results of the Graduate Record Examination (GRE) General Test must be submitted to the Department prior to admission.

The following deadlines apply:

	Domestic Applicants Not Requesting Financial Aid (TA/PA)	International and Domestic Applicants Requesting Financial Aid (TA/PA)
Fall	July 30	March 1
Spring	November 30	August 1
Summer	April 30	N/A

The Director of Graduate Programs makes admission decisions. Applicants must hold (or will have completed by the time they arrive) an accredited Bachelor of Science in Mechanical Engineering (B.S.M.E.) degree and at least a B average in their final two years (or their final, earned 60 credit hours) of their last degree.

Applications from individuals with a B.S. degree in other Engineering disciplines, Math, Computer Science, and Physical Sciences (such as Physics and Chemistry) are also considered. To qualify for a graduate degree, applicants are expected to have at least an undergraduate-level exposure to most of the core ME disciplines. Those who are deemed deficient may be asked to take additional (leveling) courses.

General Degree Requirements

All graduate students in Mechanical Engineering are required to complete a set of core courses as part of an M.S.M.E. or Ph.D. programs. Ph.D. students may satisfy these requirements with equivalent courses taken as part of an MS program as approved by the ME Graduate Director. Courses taken at the ME 400-level are not accepted and may not be repeated at the ME 500-level to satisfy the core requirements. The ME Graduate Core consists of four courses:

- 1) One mathematics course, selected from:
 - ME 500 Numerical Techniques in Mechanical Engineering
 - ME 504 Computational Mechanics
 - CHNE 525 Methods of Analysis in Chemical & Nuclear Engineering
 - Any Math/Stat 5XX course

- 2) One thermal science course, selected from:
 - ME 520 Advanced Thermodynamics
 - ME 530 Theoretical Fluid Mechanics
- 3) One solid mechanics course, selected from:
 - ME 501 Advanced Mechanics of Materials
 - ME 512 Continuum Mechanics
 - ME 540 Elasticity
- 4) One dynamics & control course, selected from:
 - ME 516 Applied Dynamics
 - ME 580 Dynamic System Analysis
 - ME 581 Digital Control of Mechanical Systems

Equivalent graduate-level courses taken at another institution may be used to satisfy this requirement, but this must be decided on a case-by-case basis by the Graduate Director or Graduate Committee in the ME department.

Degrees Offered

Detailed degree requirements are explained in the ME Graduate Manual as a supplement to the UNM Graduate Catalog. The Mechanical Engineering Department offers the following graduate degrees:

Master of Science in Mechanical Engineering (M.S.M.E.)

A minimum of 24 hours of 500-level credit is required for all students pursuing the M.S.M.E. degree program.

Plan I (Thesis)– This degree plan requires 31 semester credit hours. Six (6) credit hours (ME 599) will be required for a thesis. A seminar course must be taken for two semesters.

Plan II (Non-Thesis)– This degree plan requires 34 semester credit hours. Three (3) credit hours (ME 599) will be required for a project. A seminar course must be taken for two semesters.

Optional Concentration: Manufacturing Engineering– The M.S.M.E. with Manufacturing Concentration requires 37 semester credit hours and a three-month industrial internship in a manufacturing setting. At least three electives for this program must be selected from a set of engineering science courses defined by the department.

Notes Regarding the M.E. in Manufacturing Engineering

The M.E.M.E. degree is offered by the Manufacturing Engineering Program (MEP). This program is (administratively) separate from the ME Department at the University of New Mexico and is housed in the Manufacturing Technology and Training Center (MTTC), located in the South Campus. Details of this degree program are found in the "School of Engineering" section of this Catalog.

Ph.D. in Engineering

Concentration in Mechanical Engineering

The Doctor of Philosophy degree requires 54 semester credit hours beyond the bachelor's degree, exclusive of the dissertation credit. Details of all special requirements are subject to departmental policy.

Course Requirements:

In addition to the general University doctoral degree requirements listed in the Graduate Programs section of the UNM Catalog, students pursuing a Ph.D. in Engineering with a concentration in Mechanical Engineering must meet the following criteria:

1. Four courses will comprise the Mechanical Engineering Graduate Core (see above).
2. Each Ph.D. student must have one hour of seminar credit on his/her program. The student shall register

for ME 591/592 for three semesters while attending the seminars. In the first two semesters, registration in ME 591/592 may be for zero credit hours. In the third semester the student must register for one credit hour.

Qualifying Examination

Ph.D. students must pass the Mechanical Engineering Qualifying Examination before they form a Committee-on-Studies and file the Advancement to Candidacy form. Students must take the Qualifying Examination no later than the second semester in the Mechanical Engineering Graduate program as a Ph.D. student.

Comprehensive Examination

Before a student may complete this requirement, he/she must have passed the Qualifying examination. The Comprehensive examination must be administered and passed in the same semester the Candidacy form is approved by the Graduate Director and the Dean of Graduate Studies.

Defense of Dissertation

All candidates must pass a Final examination (Defense of Dissertation). The Dissertation Committee conducts the defense of the dissertation.

Facilities

The Mechanical Engineering building houses most department facilities, including the Controls, Fluid Mechanics, Heat Transfer, Material Science, Materials Test, Microprocessor, Robotics and Vibrations Laboratories. Other facilities supporting research are the High Performance Computing, Educational and Research Center (HPCERC) and the Manufacturing Technology and Training Center (MTTC).

The Department of Mechanical Engineering has close collaboration with the University of New Mexico School of Medicine, nearby Los Alamos and Sandia National Laboratories, plus the Air Force Research Laboratory. Research facilities at these laboratories are often used by graduate students.

Additional information on the programs and facilities of the Mechanical Engineering Department may be obtained by contacting either the graduate director or the chairperson.

Mechanical Engineering (ME)

160L. Mechanical Engineering Design I. (3)

Introduction to engineering graphics, the design process, computer aided design, engineering ethics, design economics and project management. Two hours lecture, 3 hours lab. Pre- or Corequisite: Math 162.

217. Energy, Environment and Society. (3)

A look at the social, ethical, and environmental impacts of energy use both now and through history. A survey of renewable energy and conservation and their impact on environmental and social systems.

260L. Mechanical Engineering Design II. (3)

The design process, project management, shop practice CNC and rapid prototyping, design economics and engineering ethics. Two hours lecture, 3 hours lab. Pre- or Corequisite: CHEM 121 and CHEM 123L.

301. Thermodynamics. (3)

Thermodynamic equilibrium, thermodynamic properties and equations of state. First and second laws of thermodynamics and their applications to engineering systems. Availability and irreversibility and their application to second law analysis. Prerequisite: CHEM 122 and 124L and PHYC 161 and MATH 163 and MATH 264.

**302. Applied Thermodynamics. (3)

Thermodynamic relations, thermodynamic properties of mixtures, psychrometrics, thermodynamics of chemical reactions, phase and chemical equilibrium, thermodynamics cycles and design of energy systems. Prerequisite: 301.

306. Dynamics. (3)

Principles of dynamics. Kinematics and kinetics of particles, systems of particles and rigid bodies. Prerequisite: CE 202 and MATH 264.

314. Design of Machinery. (3)

Graphical and analytical techniques in kinematics and kinetics of linkages. Synthesis of linkages. Cam design. Prerequisite: 306.

**317L. Fluid Mechanics. (4)

Fluid statics. Control volume forms of continuity, momentum and energy. Pipe flow and turbomachinery. Introduction to boundary layers and turbulent flow. Laboratory experiments and demonstrations of basic concepts. Prerequisite: 306 and 318L and MATH 316. Corequisite: 301.

318L. Mechanical Engineering Laboratory. (4)

Measurement techniques and instrumentation for experiments in mechanical engineering, report writing, basic concepts of probability and statistics, discrete and continuous probability distributions, test statistics, classical and robust test of significance, measurement and uncertainty, design of experiments, regression analysis, applications in analysis of engineering experiments. Prerequisite: PHYC 161 and MATH 264. Pre- or corequisite: MATH 316 and ECE 203.

**320L. Heat Transfer. (4)

Principles and engineering applications of heat transfer by conduction, convection and radiation. Laboratory experiments and demonstrations of fundamental heat transfer concepts. Prerequisite: 301 and 317L and MATH 316.

350. Engineering Economy. (3)

(Also offered as CE 350.) A study of methods and techniques used in determining comparative financial desirability of engineering alternatives. Includes time value of money (interest), depreciation methods and modern techniques for analysis of management decisions. Prerequisite: MATH 162 or MATH 180. Restriction: junior or senior standing.

352L. Materials Laboratory. (1)

The effects of microstructure, processing, composition and thermal treatment on physical and mechanical properties of engineering materials will be investigated. A variety of materials will be processed, tested and microscopically studied in the laboratory. Corequisite: 370.

353L. Fluid Mechanics Lab. (1)

Laboratory experiments and demonstrations of basic concepts of fluid mechanics. Prerequisite: 306 and 318L and MATH 264 and MATH 316. Corequisite: 301.

354L. Heat Transfer Laboratory. (1)

Laboratory experiments and demonstrations of fundamental heat transfer concepts. Prerequisite: 301 and 317L and MATH 316.

357. Introduction to Mechanical Vibrations. (3)

Free and forced vibrations of one and two degrees of freedom systems for both steady state and transient forcing. Also vibrations of selected continuous systems and balancing. Prerequisite: 306 and MATH 316.

360L. Mechanical Engineering Design III. (3)

Finite element analysis and its use in the design process, validation of FEA results, CAD, engineering ethics, design economics and project management. Prerequisite: 260L and CE 302 and MATH 264 and MATH 316. Two hours of lecture, 3 hours of lab.

**365. Heating, Ventilating and Air Conditioning Systems. (3)

Methods of analysis and design of systems for conditioning of spaces for people and equipment. Prerequisite: 320L.

370. Engineering Materials Science. (3)

The structure of matter and its relation to mechanical properties. Mechanical behavior of structural materials: metals, ceramics and polymers.

Prerequisite: CHEM 122 and 124L. Corequisite: 352L.

****380. Analysis and Design of Mechanical Control Systems. (3)**

System dynamics and modeling; transfer functions; concept of feedback and system stability; transient and steady-state response; control system analysis and design using root locus and frequency response methods.

Prerequisite: 357 and MATH 316. Restriction: ME majors and senior standing.

400/500. Numerical Methods in Mechanical Engineering. (3)

Computer algebra, nonlinear equations, systems of linear equations, the eigen value problem, numerical integration and differentiation, initial value problems, boundary value problems; applications to model problems in solid mechanics, fluid mechanics and heat transfer.

Prerequisite: 317 and 320 and CE 302 and MATH 316.

401/501. Advanced Mechanics of Materials. (3)

State of stress and strain at a point, stress-strain relationships; topics in beam theory such as unsymmetrical bending, curved beams and elastic foundations; torsion of noncircular cross-sections; energy principles.

Prerequisite: CE 302. Restriction: ME majors and senior standing.

404/504. Computational Mechanics. (3)

Weak formulations of governing equations in solid mechanics, fluid mechanics, and heat conduction, Finite element equations in two and three-dimensions. Numerical algorithms for static and time-dependent cases.

Prerequisite: MATH 312 and CS 151L.

405/505. High Performance Engines. (3)

(Also offered as CHNE 405.) Students will capitalize on 1) applications of engineering fundamentals to engine operation and design; 2) implementation of computing and information technology for modeling, simulation, visualization, and design; and 3) case studies of "famous" racing engines.

Prerequisite: CHNE 302 or ME 301.

406L. Formula SAE Racecar Design. (3)

Design racecar that will participate in Formula SAE international competition including acceleration, autocross and endurance events. Vehicles are judged on performance, cost and design. Project management, vehicle dynamics, tires, brakes, suspension and steering are covered.

Restriction: ME majors and junior or senior standing.

407. Formula SAE Racecar Fabrication Lab. (3)

Manufacture vehicle designed in 406. Make project management decisions on build or buy balancing cost, performance and schedule. Use CAD/CAM extensively to design, machine and fabricate complex parts. Plan integrated drivers' training and test programs.

Prerequisite: 357 and 406.

408. Formula SAE Racecar Test Lab. (1)

Implement testing program to validate vehicle design fabricated in 407 using state of the art data acquisition equipment. Modify and redesign as required. Continue drivers' training program. Participate in Formula SAE international competition.

Prerequisite: 407.

416/516. Applied Dynamics. (3)

Kinematics and Kinetics of a particle and systems of particles; Lagrange's equations; three-dimensional dynamics of rigid bodies.

Prerequisite: 306 and 357 and MATH 316.

419/519. Theory, Fabrication, and Characterization of Nano & Microelectromechanical Systems (NEMS/ MEMS). (3)

Lectures and laboratory projects on physical theory, design, analysis, fabrication, and characterization of micro and nano-systems. Special attention given to scaling effects involved with operation of devices at nano and microscale.

Restriction: senior standing.

421/521. Thermal System Design and Optimization. (3)

Review of thermal sciences, optimization methods, introduction to thermal design and optimization, design of different thermal systems such as heat exchanger, energy conversion, heat transfer enhancement, Cryogenics, micro-electronic cooling. Environmental issues and thermoeconomics.

Prerequisite: 301 and 317L and 320L.

428/528. Advanced Fluid Mechanics. (3)

Introduction to potential flow, compressible flow and viscous flow including lubrication and boundary layers. Applications to be discussed will be selected from topics in piping networks, turbomachinery, computational methods, turbulence and measurement techniques.

Prerequisite: 301 and 317L and 320L.

429/529. Gas Dynamics. (3)

One and two-dimensional compressible flow of ideal gases including shock compressible flow along with applications, including numerical and experimental methods.

Prerequisite: 301 and 317L.

447/547. Principles of Precision Engineering. (3)

Lectures and laboratory projects emphasizing precision engineering in advanced manufacturing. Sub-micron, microinch and nanometer resolution and repeatability; applications for ultraprecision systems and design of instruments to achieve accurate metrology and repeatable performance. Term project to demonstrate principles.

Restriction: ME majors and senior standing.

451–452. Undergraduate Problems. (1-3, 1-3 to a maximum of 6) Δ

A project of an original nature carried out under faculty supervision. A student may earn 451 or 452 credit for an industrial project by prearranging approval of the project by a faculty advisor and the department chairperson.

Restriction: ME majors and senior standing.

455. Engineering Project Management. (3)

(Also offered as CE 455.) Estimating, proposing, planning, scheduling, quality and cost control and reporting of an engineering project. Case studies of typical engineering projects. Small projects carried out by student teams.

Restriction: ME majors and senior standing.

456/556. Entrepreneurial Engineering. (3)

(Also offered as ECE 456.) Review and application of necessary elements for successfully launching technical businesses; focuses upon technology, manufacturing, management, marketing, legal and financial aspects. Students work in groups developing elements of new businesses and producing business plans.

Restriction: senior standing.

459. Mechanical Engineering Design IV. (3)

Review of stresses. Statistical considerations. Methods of design for static and fatigue strength. Design of machine elements such as bolts, welded joints, springs, bearings, belts, chains, clutches, brakes and shafts.

Prerequisite: 360L and 370L.

460. Mechanical Engineering Design V. (4)

Capstone design course for Mechanical Engineering students. Students work in teams to design complete engineering systems. Considerations include technical solution, function, manufacturability, cost, safety and standards, and materials. Written and oral presentation skills are emphasized.

Prerequisite: 320L and 380 and 459.

461/561.–462/562. Special Topics. (1-4, 1-4, no limit) Δ

Formal course work on special topics of current interest.
Restriction: ME majors and senior standing.

463. Undergraduate Honors Thesis. (3)

Independent project of an original nature carried out under faculty supervision, in partial fulfillment of Departmental Honors designation.

Restriction: permission of instructor.

470/570. Microprocessors in Mechanical Systems. (3)

Introduction to microprocessor organization, interfacing, machine and assembler-language programming. Several projects involving the use of a microcontroller in various mechanical systems.

Restriction: senior standing.

471/571. Advanced Materials Science. (3)

(Also offered as NSMS 569.) This course covers advanced treatments of the science of engineering materials and mechanical behavior of materials. Examples are crystal structures, defects, micro mechanisms of deformation, thermodynamic and kinetic processes, and structure-processing-property relations of engineering materials.

474/574. Modeling, Simulation and Synthesis of Electromechanical Control Systems. (3)

Computer-aided simulation of dynamic systems and design of control systems, electrical machines, actuators and sensors; linearization techniques; scaling; performance criteria; robustness; state-space design; prototyping and breadboarding techniques. Synthesis through hardware implementation of an electromechanical control system.

Prerequisite: 380 or ECE 345.

475/575. Random Dynamic Processes and Controls. (3)

The class will concentrate on practical application of random analyses to control systems. Frequency domain aspects of control systems will be reviewed. The course utilizes random analysis tools including Power Spectral Density and coherence. Student should have a basic knowledge of MATLAB.

Prerequisite: 380.

480/580. Dynamic System Analysis. (3)

Mathematical modeling of continuous and discrete systems (mechanical, hydraulic, electric, electro-mechanical, thermal, etc.). Analysis of state equations. Controllability, observability and stability.

Prerequisite: 380.

481/581. Digital Control of Mechanical Systems. (3)

Analysis and design of feedback systems in which a digital computer is used as the real-time controller. Design methods will include transform-based techniques using the Z-transform and time-domain techniques using the state-space approach.

Prerequisite: 380.

482/582. Robot Engineering. (3)

Robot geometry, resolution, accuracy and repeatability, kinematic design of robots, Denavit-Hartenberg homogeneous transformations, direct and inverse kinematics and solutions, motion trajectories, differential tracking, force and compliant analysis, robotic control and programming.

Restriction: senior standing.

483/583. Statistical Methods for Improving Product Quality. (3)

Course covers basic concepts of statistical inference and topics in reliability, acceptance sampling, statistical process control, full and fractional factorial experiments, and response surface methodology. The emphasis will be on the effective implementation of the techniques rather than their mathematical development.

Prerequisite: MATH 264. Restriction: ME majors and senior standing.

484/584. Computer Aided Design. (3)

Implementation of CAD/CAM in automated manufacturing systems, laboratory work on CAD solid modeling software.

Restriction: ME majors and senior standing.

485/585. Modern Manufacturing Methods. (3)

Study of business of manufacturing, emphasizing modern approaches. Topics include: U.S. manufacturing dilemma; JIT, kanban, pull manufacturing, quality; modeling; design for production; manufacturing economics; management issues; DIM; case studies.

Restriction: ME majors and senior standing.

486/586. Design for Manufacturability. (3)

(Also offered as ECE 486.) Introduction to methods of design for manufacturability. Emphasis is on teamwork and designing your customer's needs. This is achieved through statistical methods and computer based systems.

Restriction: ME majors and senior standing.

487/587. LEGO® Robotics. (3)

Design and construction of an autonomous, microcomputer-controlled mobile robot using LEGO® pieces and assorted electromechanical actuators and sensors. Students work in teams and robots compete at the end of the semester.

Restriction: ME majors and senior standing.

488/588. Design and Manufacturing in Industry. (3)

Weekly visits to local companies, to examine design and manufacturing techniques. A product- and/or process-oriented term paper (and presentation) is required, covering economic, design and manufacturing issues.

Restriction: ME majors and senior standing.

489/589. Intelligent Controls in Manufacturing. (3)

Emphasizes factory automation through software system architecture. Topics include hierarchical control systems, open architecture controllers, Computer Integrated Manufacturing (CIM), concurrent engineering, genetic algorithms, fuzzy logic and control systems for machines, workcells and factories.

Restriction: ME majors and senior standing.

500/400. Numerical Methods in Mechanical Engineering. (3)

Computer algebra, nonlinear equations, systems of linear equations, the eigen value problem, numerical integration and differentiation, initial value problems, boundary value problems; applications to model problems in solid mechanics, fluid mechanics and heat transfer.

501/401. Advanced Mechanics of Materials. (3)

(Also offered as CE 501.) State of stress and strain at a point, stress-strain relationships; topics in beam theory such as unsymmetrical bending, curved beams and elastic foundations; torsion of noncircular cross-sections, energy principles.

504/404. Computational Mechanics. (3)

Weak formulations of governing equations in solid mechanics, fluid mechanics, and heat conduction. Finite element equations in two and three-dimensions. Numerical algorithms for static and time-dependent cases.

505/405. High Performance Engines. (3)

(Also offered as CHNE 505.) Students will capitalize on 1) applications of engineering fundamentals to engine operation and design; 2) implementation of computing and information technology for modeling, simulation, visualization, and design; and 3) cases studies of "famous" racing engines.

Prerequisite: Engineering Thermodynamics equivalent to CHNE 301/ME 301.

506. Boundary Element Methods in Engineering. (3)

This course presents an introduction to the boundary element method with emphasis placed on concepts and fundamentals. Example applications will be taken from the fields of fluid mechanics, heat transfer, structural mechanics and acoustics.

510. Nonlinear Modeling and Analysis. (3)

Analysis of the behavior of systems described by nonlinear differential equations. Investigation of their stability properties and introduction to nonlinear control methods.

512. Introduction to Continuum Mechanics. (3)

Vector and tensor analysis, kinematics of continua, equations of motion, first and second laws of thermodynamics, constitutive equations for elastic solids and compressible viscous fluids.

516./416. Applied Dynamics. (3)

Kinematics and kinetics of a particle and systems of particles; Lagrange's equations; three-dimensional dynamics of rigid bodies.

519./419. Theory, Fabrication, and Characterization of Nano & Microelectromechanical Systems (NEMS/ MEMS). (3)

(Also offered as ECE, NSMS 519). Lectures and laboratory projects on physical theory, design, analysis, fabrication, and characterization of micro and nanosystems. Special attention given to scaling effects involved with operation of devices at nano and microscale.

520. Advanced Thermodynamics I. (3)

Precise development of thermodynamic definitions, fundamental relations, equilibrium conditions, Legendre transformation and thermodynamic potentials. Maxwell relations, stability of thermodynamic systems, properties of materials, introduction to irreversible thermodynamics.

521./421. Thermal System Design and Optimization. (3)

Review of thermal sciences, optimization methods, introduction to thermal design and optimization, design of different thermal systems such as heat exchanger, energy conversion, heat transfer enhancement, Cryogenics, micro-electronic cooling. Environmental issues and thermoeconomics.

Prerequisite: 301 and 317L and 320L.

522. Heat Conduction. (3)

Formulations of equations and boundary conditions for heat transfer problems involving conduction. Techniques of solution, including separation of variables, integral transforms, numerical methods, Green's function and approximate methods. Special topics in heat conduction.

Prerequisite: 320L and MATH 312.

523. Convection. (3)

Exact and approximate solution techniques and their relevance to experiments in forced, natural and mixed convection. Laminar flow, turbulent flow, transition phenomena and convection in porous media. (Alternate Fall)

528./428. Advanced Fluid Mechanics. (3)

Introduction to potential flow, compressible flow and viscous flow including lubrication and boundary layers. Applications to be discussed will be selected from topics in piping networks, turbomachinery, computational methods, turbulence and measurement techniques.

Prerequisite: 301 and 317L and MATH 316.

529./429. Gas Dynamics. (3)

One and two-dimensional compressible flow of ideal gases including shock compressible flow along with applications, including numerical and experimental methods.

Prerequisite: 301 and 317L.

530. Theoretical Fluid Mechanics I. (3)

Derivation of the Navier-Stokes equations. Introduction to two- and three-dimensional potential flow theory; viscous flow theory, including the development of Prandtl boundary-layer equations and the momentum integral approach, and compressible flow theory, including thermodynamics of shock waves, friction and heat addition.

534. Boundary Layers. (3)

Derivation of boundary layer equations, similarity solutions, integral methods and experimental results for laminar boundary layers. Stability of laminar boundary layers. Boundary layer transition. Turbulent fluctuations and transport.

Prerequisite: 530.

540. Elasticity. (3)

Field theory of elasticity; Saint Venant's problems; introduction to plane theory of elasticity.

544. Mechanics of Inelastic Continuum. (3)

Constitutive equations and numerical algorithms for elastoplasticity, viscoplasticity and continuum damage mechanics. Correlation with experimental data. Thermodynamical restrictions and concepts of material stability, softening and localization.

Prerequisite: 512.

547./447. Principles of Precision Engineering. (3)

Lectures and laboratory projects emphasizing precision engineering in advanced manufacturing. Sub-micron, microinch and nanometer resolution and repeatability; applications for ultraprecision systems and design of instruments to achieve accurate metrology and repeatable performance. Term project to demonstrate principles.

551-552. Problems. (1-3, 1-3 to a maximum of 6) Δ**556./456. Entrepreneurial Engineering. (3)**

(Also offered as ECE 556.) Review and application of necessary elements for successfully launching technical businesses; focuses upon technology, manufacturing, management, marketing, legal and financial aspects. Students work in groups developing elements of new businesses and producing business plans.

559. Design Project. (3)

Independent work under the guidance of the student's Committee-on-Studies in support of the Project course requirement of the Plan II (non-Thesis) M.S. degree.

561./461.-562./462. Special Topics. (1-4, 1-4, no limit) Δ**570./470. Microprocessors in Mechanical Systems. (3)**

Introduction to microprocessor organization, interfacing, machine and assembler-language programming. Several projects involving the use of a microcontroller in various mechanical systems.

571./471. Advanced Materials Science. (3)

(Also offered as NSMS 569.) This course covers advanced treatments of the science of engineering materials and mechanical behavior of materials. Examples are crystal structures, defects, micro mechanisms of deformation, thermodynamic and kinetic processes, and structure-processing-property relations of engineering materials.

574./474. Modeling, Simulation and Synthesis of Electromechanical Control Systems. (3)

Computer-aided simulation of dynamic systems and design of control systems, electrical machines, actuators and sensors; linearization techniques; scaling; performance criteria; robustness; state-space design; prototyping and breadboarding techniques. Synthesis through hardware implementation of an electromechanical control system.

575./475. Random Dynamic Processes and Controls. (3)

The class will concentrate on practical application of random analyses to control systems. Frequency domain aspects of control systems will be reviewed. The course utilizes random analysis tools including Power Spectral Density and coherence. Student should have a basic knowledge of MATLAB.

Prerequisite: 380.

580./480. Dynamic System Analysis. (3)

Mathematical modeling of continuous and discrete systems (mechanical, hydraulic, electric, electro-mechanical, thermal, etc.). Analysis of state equations. Controllability, observability and stability.

581./481. Digital Control of Mechanical Systems. (3)

Analysis and design of feedback systems in which a digital computer is used as the real-time controller. Design methods will include transform-based techniques using the Z-transform and time-domain techniques using the state-space approach.

582./482. Robot Engineering II. (3)

Robot geometry, resolution and repeatability, kinematic design of robots, Denavit-Hartenberg homogeneous trans-

formations, direct and inverse; kinematics and solutions, motion trajectories, differential tracking, force and compliant analyses, dynamics, control and programming.

583/483. Statistical Methods for Improving Product Quality. (3)

Course covers basic concepts of statistical inference and topics in reliability, acceptance sampling, statistical process control, full and fractional factorial experiments, and response surface methodology. The emphasis will be on the effective implementation of the techniques rather than their mathematical development.

584/484. Computer Aided Design. (3)

Implementation of CAD/CAM in automated manufacturing systems, laboratory work on CAD solid modeling software.

585/485. Modern Manufacturing Methods. (3)

(Also offered as ECE 585.) Study of business of manufacturing, emphasizing modern approaches. Topics include: U.S. manufacturing dilemma; JIT, kanban, pull manufacturing, quality; modeling; design for production; manufacturing economics; management issues; DIM; case studies.

586/486. Design for Manufacturability. (3)

(Also offered as ECE 586.) Introduction to methods of design for manufacturability (DEM). Emphasis is on team work and designing to your customers needs. This is achieved through statistical methods and computer based systems.

587/487. LEGO® Robotics. (3)

Design and construction of an autonomous microcomputer-controlled mobile robot using LEGO® pieces and assorted electromechanical actuators and sensors. Students work in teams and robots compete at the end of the semester.

588/488. Design and Manufacturing in Industry. (3)

Weekly visits to local companies, to examine design and manufacturing techniques. A product- and/or process-oriented term paper (and presentation) is required, covering economic, design and manufacturing issues.

589/489. Intelligent Controls in Manufacturing. (3)

Emphasizes factory automation through software systems architecture. Topics include hierarchical control systems, open architecture controllers, Computer Integrated Manufacturing (CIM), concurrent engineering, genetic algorithms, fuzzy logic and control systems for machines, workcells and factories.

591–592. Seminar. (0-1, no limit) Δ
Offered on a CR/NC basis only.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.

634. Turbulence and Turbulent Boundary Layer Flow. (3)

Turbulent flow with emphasis on thin-shear layer flow and mixing processes. Phenomenological descriptions of turbulent closure schemes and modeling techniques. Instability and transition. Numerical schemes for solving incompressible and compressible turbulent boundary layer and free turbulence equations.
Prerequisite: 534.

699. Dissertation. (3-12, no limit) Δ
Offered on a CR/NC basis only.

OTHER COURSES OF INSTRUCTION

The courses listed in this category are of three types: 1) engineering courses for students not majoring in engineering; 2) general courses for engineering students; and 3) courses taken by students participating in the Engineering Cooperative Education Program.

I. Engineering Courses for Students not Majoring in Engineering (ENGN)

These courses are designed for students in the humanities, social sciences, business management, fine arts and education.

322. Special Topics. (1-3)

Selected topics in technologies of current interest. (Offered upon demand)

II. General Courses for Engineering Majors (ENG)

116. Introduction to Engineering. (1-3 to a maximum of 6) Δ

Description of the engineering profession, orientation to engineering education, introduction to the engineering design process. Does not count toward degree credit in the College of Arts and Sciences or in the School of Engineering. Two hours lecture and demonstrations. (Offered upon demand)

200. Technology in Society. (3)

This is an introduction to the ways in which technology shapes the world—and is itself shaped by society, culture, politics, economics and history. Topics include industrialization, technological changes, cultural impact, environmental policies and social and ethical responsibilities.

501. Systems Engineering Design. (3)

A broad introduction to systems engineering and the structured approach necessary for the design of complex systems. The formulation of systems problems and the approach to their solution is emphasized. Topics include mathematical techniques for systems engineering, requirements driven design process, and decision analysis tools.
Restriction: admission to the Certificate in Systems Engineering Program.

502. Systems Architecture. (3)

The foundations for developing and evaluating architectures for systems. The process for generating a functional, physical, and operational architecture from a top level operations concept. Topics include: structured analysis, object oriented approaches, generation of executable architecture models.
Restriction: admission to the Certificate in Systems Engineering Program.

503. Systems Engineering Management. (3)

An overview of the systems engineering management process. Topics include technical planning, cost estimating and budgeting, risk management, project control, trade-off analysis and decision making.
Restriction: admission to the Certificate in Systems Engineering Program.

III. Cooperative Education Program (ECOP)

The School of Engineering offers a cooperative education program (Co-op) for students majoring in any field in the School of Engineering. The Co-op curriculum is a program that combines classroom study with a planned program of related engineering or computer science work experience in industry and government agencies. The program extends the period necessary to complete a student's degree to at least five years. Co-op students gain work experience that enhances their academic studies and provides the opportunity to earn a major portion of college expenses.

This experience allows students to better understand their field of study through work in a related area. The following rules apply to students seeking to participate in the ECoop program:

- Co-op programs for School of Engineering (SOE) students are approved by the Associate Dean for Academic Affairs.
- Co-op experiences will be in the area of engineering or computer science, and the student will be working as an engineer or computer scientist, or similar job classification. Examples of work that do not meet this guideline are: technician, computer network or database manager, webmaster, etc.
- Co-op experiences are supervised by an engineer or computer scientist, or someone with equivalent experience. A short resume of the proposed supervisor must be submitted to the Associate Dean with the Co-op application.
- The Co-op work should mostly be performed at the sponsor's site. Telecommuting does not meet this requirement.
- Co-op jobs located on the UNM campus and/or performed for a unit, department, or division of UNM are allowed only under unusual circumstances.
- Normally, all paperwork, including applicable signatures and approvals for a Co-op position, should be completed before the first day of classes during the semester in which the work will be performed. In unusual circumstances, the application may be completed and the Co-op started up to the end of the second week of classes.
- The following academic conditions apply:
 - The job will be an integral part of the student's academic program.
 - The student must be in good standing in his/her department and be making satisfactory progress toward completion of the degree program.
 - A minimum degree GPA of 3.0 or higher is required.
 - The student cannot be finished with all other requirements for his/her degree program at the time the Co-op starts. A student will be considered to have completed requirements for his/her degree when all required course work is completed, and research applicable to the thesis or dissertation is substantially completed. Students may not delay defense or submission to the graduate office of a thesis, project, or dissertation in order to qualify for the Co-op.

A brief letter from the student's faculty advisor or department chair stating that these conditions are fulfilled should be submitted to the Associate Dean with the application.

In addition, the student must have completed at least two semesters at the University of New Mexico and have completed the normal first semester of his or her curriculum. A transfer student from another university or college becomes eligible for the Co-op Program upon completion of 12 hours in a degree program in the School of Engineering.

While on each work phase Co-op students must register in Engineering Co-op 105. This registration maintains student academic status, including eligibility for dormitory, Lobo Card, library and insurance. After completing each work phase, the undergraduate Co-op student is encouraged to register in one of the School of Engineering courses, Evaluation of Co-op Work Phase, for 1 credit hour. A maximum of 6 hours of academic credit earned from the Co-op work phase may be counted as technical elective credit toward the student's undergraduate degree with the approval of the student's department. For computer science majors, Co-op may be applied for credit only as a general elective. Co-op is not counted toward the requirements for graduate degree.

To enroll in the following courses, contact:

The University of New Mexico Career Services
Cooperative Education
Student Service Center, Room 220
MSC06 3710
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2531

Students may receive credit for the evaluation phase only in the same semester or in the semester immediately following the related work-phase.

105. Cooperative Education Work Phase. (0)
\$10.00 annual fee. **Offered on a CR/NC basis only.** Open to undergraduate students in the School of Engineering only.

109. Evaluation of Cooperative Education Work Phase 1. (1)
Offered on a CR/NC basis only.

110. Evaluation of Cooperative Education Work Phase 2. (1)
Offered on a CR/NC basis only.

209. Evaluation of Cooperative Education Work Phase 3. (1)
Offered on a CR/NC basis only.

210. Evaluation of Cooperative Education Work Phase 4. (1 to a maximum of 3) Δ
Offered on a CR/NC basis only.

505. Cooperative Education Work Phase. (0, no limit) Δ
\$10.00 annual fee. **Offered on a CR/NC basis only.** Open to graduate students in the School of Engineering only.

COLLEGE OF FINE ARTS

James Linnell, Interim Dean
College of Fine Arts
MSC04 2570
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2111, FAX (505) 277-0708
<http://www.unm.edu/~finearts>

Introduction

This section of the catalog is designed to provide information about the College of Fine Arts and to help the student who plans to major in art history, art studio, media arts, music, theatre, dance or design for performance.

Programs offered by the college are described below. If you feel you need advice in selecting a program of studies, we encourage you to talk to a department chairperson or to an advisor in the College of Fine Arts Advisement Center, Center for the Arts 1103, (505) 277-4817.

In addition to the section on general academic regulations at the University, consult the list of courses offered by the college. These courses appear under eight headings:

Art History	Media Arts
Art Studio	Music
Dance	Music Education
Fine Arts	Theatre

In considering the course descriptions, note the prerequisites, as they determine the sequence in which courses may be taken. Also note that not all courses are offered every semester. While the listings in this catalog indicate the general pattern in which courses are offered, you will want to consult the current *Schedule of Classes*, <http://www.unm.edu/~unmreg/> to learn precisely which courses are offered in a given semester.

Programs in the College of Fine Arts have received accreditation from the National Association of Schools of Dance, the National Association of Schools of Music, and the National Association of Schools of Theatre.

Tamarind Institute

Marjorie L. Devon, Director
2500 Central Ave SE
Albuquerque, New Mexico 87106
(505) 277-3901
<http://tamarind.unm.edu>

Tamarind Institute, founded in June of 1970 as a division of the College of Fine Arts, is a professional center for training, study, and research in fine-art lithography. At the institute, students refine their technical and collaborative skills, and distinguished artists create original lithographs under conditions that fulfill the highest aesthetic and ethical traditions of the art.

Programs of advanced professional study are offered for qualified individuals who intend to pursue careers as master printers or teachers of lithography. The Department of Art and Art History, in cooperation with Tamarind Institute, offers an M.F.A. degree with a focus in collaborative printmaking. With prior acceptance, course credits are transferable to the M.F.A. program. Required courses in the history of the graphic arts and workshop management are offered through the Department of Art and Art History. University resources include the Fine Arts Library and the University Art Museum, which has an extensive collection of original lithographs by major artists of the 19th and 20th centuries.

Information on the Institute's services for artists, its professional printer training programs and its publications are available on request, or online at <http://tamarind.unm.edu>.

Degree Programs

Undergraduate Degrees Offered

Bachelor of Fine Arts
Major: Art Studio
Major: Interdisciplinary Film & Digital Media
Concentration: Production, Critical Studies
Bachelor of Arts in Fine Arts
Majors: Art History, Art Studio
Bachelor of Arts
Majors: Dance, Media Arts, Music, Theatre, Design for Performance
Bachelor of Music
Major: Music with concentrations in performance, in theory and composition, in jazz studies and in string pedagogy
Bachelor of Music Education
Major: Music Education with either instrumental or vocal concentration (Level 1 Licensure in Music, K–12, in New Mexico).

Graduate Degrees Offered

Master of Arts
Art History, Theatre and Dance
Master of Music
Concentrations: Music History and Literature, Theory and Composition, Performance, Conducting, Collaborative Piano, and Music Education

Master of Fine Arts
Art Studio, Dance, Dramatic Writing

Doctor of Philosophy
Art History

Undergraduate Admission Requirements

Pre-Major Status

Because of the nature of the arts, students are expected to begin courses in their intended major beginning in their first semester of enrollment at UNM. Beginning freshmen will be eligible for enrollment in the College of Fine Arts, as "pre-majors", if they indicate an interest in one of the disciplines in fine arts on their general UNM admissions application and meet general admission requirements to the University. Transfer students may be admitted as pre-majors based upon review of their academic records, and possibly a review of their portfolio. Determination will be made at time of submission of general UNM admissions application. If further information is needed, students will be contacted by the CFA Advisement Office.

Students will remain in pre-major status until that time when they make formal application to become a "declared major" or, until they have exhausted their eligibility in pre-major status. Students must submit an application to become a declared major during the semester in which they will earn a cumulative of 66 credit hours for consideration for the following spring or fall semester. If they do not yet meet the requirements to become a declared major (see full details below) by the time they have attempted 72 credit hours and earned 66 cumulative credit hours, they must be admitted into another degree granting unit of the University. Holds will be placed on pre-major students which will prevent them from registering for future semesters if they have exhausted their eligibility in pre-major status.

Admitted students who need to take an Introductory Studies (IS) course will be enrolled in University College and advised in the University College Advisement Office. Sometimes, a student is qualified for admission to the University, but he or she may be required to take one or more Introductory Studies

(IS) courses. These courses are designed to strengthen a student's preparation for university-level work in areas of demonstrated weakness. Required enrollment in these courses is based upon established minimum standards of performance on individual tests on the ACT or SAT. Students required to take these courses should do so in their first semester(s) at the University of New Mexico, and they must do so before they are eligible to proceed to other courses in those areas or to enroll as a pre-major or, declared major in the College of Fine Arts. Please refer to the Catalog section under University College for further details.

Declared Major Status

Applications for admission in some fields of study are screened on the basis of auditions, interviews, and/or evaluations of portfolios, with selection of successful applicants made on a competitive basis.

Students will graduate under the requirements in the UNM Catalog in effect at the time of their admission into the College of Fine Arts as declared majors. The University of New Mexico reserves the right to make changes in the curricula and degree requirements as deemed necessary, with the changes being applicable to currently enrolled students.

Admission from College of Fine Arts Pre-Major Status, University College, or another College/School within the University

To be eligible for admission as a declared major in the College of Fine Arts, you must meet the following requirements:

1. Completion of 26 hours of earned credit.
2. A grade point average of at least 2.50 in all hours attempted or, a grade point average of at least 2.50 in the last 30 hours attempted.
3. Competency in English writing as demonstrated by: achieving a score of 29 or higher on the English section of the ACT examination or 650 SAT verbal or, completion of ENGL 101 with a grade of C or better or, receiving credit through Advanced Placement Exam.
4. Completion of 12 credit hours of course work in the major area with at least a 3.0 grade point average.
5. Students seeking the Bachelor of Music or the Bachelor of Music Education degree must have approval to concentrate in the appropriate instrument or voice. Refer to the Music section for additional admission requirements to the instrumental and voice programs.

If you plan to major in one of the departments in the College of Fine Arts, you should transfer to the college as soon as the above requirements have been completed. To apply for transfer, go to the College of Fine Arts Advisement Center located in the Center for the Arts, room 1102, to obtain and submit the application for admission as a declared major. Applications are accepted during the fall and spring semesters.

Transfer from other accredited institutions

If you are transferring to the University of New Mexico after having studied at another college or university, you may be eligible for admission directly into the College of Fine Arts. In general, the screening procedures and admission requirements are the same as those described above for admission to become a declared major.

Additional Information

Advisement

The College of Fine Arts Advisement Center, Room 1102 in the Center for the Arts, provides undergraduates with advisement services during walk-in advisement hours. Check advisement hours online at <http://finearts.unm.edu>. Advisement is required for freshman and transfer students before registration. Art Studio transfer students may be required to present a portfolio for placement in the program. Music transfer students are required to take the theory and ear-training placement exams and to audition on their instrument or in voice. For further information, call the Fine Arts Advisement Center at (505) 277-4817.

Graduation Requirements

Most of the requirements for graduation are listed under the specific curricula described under the department headings. A few requirements, however, are common to all of this college's programs:

1. A minimum of 128 hours is required in all curricula. Of these, at least 40 hours must be completed in courses numbered 300 or above.
2. To receive a degree, you must have a grade point average of 2.00 or higher. You must also have achieved a grade point average of 2.00 or higher on all hours attempted while enrolled in the College of Fine Arts.
3. A minimum of one semester of resident enrollment is required after admission to the College of Fine Arts; in any case, you must be enrolled in the College of Fine Arts for your final semester at the University of New Mexico.
4. A minimum of 12 semester hours must be earned while enrolled in the College of Fine Arts.
5. No more than 4 hours of nonprofessional physical education courses may be counted toward a degree.
6. All degrees in the College of Fine Arts require completion of the following Core Curriculum (**see specific degree program for restrictions on core requirements**):
 - 1) **Writing and Speaking:** ENGL 101–102 and an additional course chosen from ENGL 219, 220; CJ 130; PHIL 156. If you received an ACT English score of 29 or better or an SAT verbal score of 650 or better, you are exempt from taking ENGL 101 and 102 and may substitute any 6 hours in Arts & Sciences electives. (**ENGL 220 is required for majors in Art History, Art Studio, Media Arts and Music. CJ 130 or 220 is required for majors in Music Education.**)
 - 2) **Mathematics:** One course chosen from Math 121, 129, 150, 162, 163, 180, 181, 215, Stat 145. (**Math 120 does not count toward degrees in Fine Arts.**)
 - 3) **Physical and Natural Sciences:** Two courses, one of which must include a laboratory chosen from: ANTH 121L, 150 and 151L, 160 and 161L; ASTR 101 and 101L; BIOL 110 and 112L, 123 and 124L; CHEM 111L, 121 and 123L (or 131L), 122 and 124L (or 132L); EPS 101 and 105L, 201L; ENVIS 101 and 102L; GEOG 101 and 105L; NVSC 261L, 262L, 263L; PHYC 102 and 102L, 105, 151 and 151L, 152 and 152L, 160 and 160L, 161 and 161L.
 - 4) **Social and Behavioral Sciences:** Two courses chosen from: AMST 182, 185; ANTH 101, 130; CRP 181; ECON 105, 106; Engineering-F 200; GEOG 102; LING 101 (AOA ANTH 110); POLS 110, 200, 220, 240; PSY 105; SOC 101. (**Music Education majors: PSY 105 and 220 are required.**)
 - 5) **Humanities:** HIST 101L, 102L.
 - 6) **Foreign Language** (non-English language; minimum 3 hours): One course chosen from any of the lower-division non-English language offerings of the Departments of Linguistics (including Sign Language), Spanish and Portuguese, Foreign Languages and Literatures, and foreign languages in other departments and programs. Students with knowledge of a second language equivalent to four semesters of study are deemed to have satisfied this requirement. CLEP and AP credit can be used for placement, but unless the student has demonstrated knowledge equivalent to four semesters of study, an additional semester of a second language must be taken.
 - 7) **Fine Arts** (minimum of 3 hours): One course chosen from: ARCH 121; ARTH 101, 201, 202; DANC 105; FA 284; MA 210; MUS 139; THEA 122. Students may elect to take one 3-hour studio course offered by the departments of Art and Art History, Music, Theatre and Dance and Media Arts to fulfill this requirement. (**Music and Music Education majors: MUS 139 will not count toward the degree.**)

A studio course is a course with primary, but not exclusive, emphasis on student activity leading to skill development and the enhancement and encouragement of the student's design or performance ability and/or artistic growth. Evaluation of individual learning may include public display of proficiency and/or evaluation by faculty other than the student's instructor.

A grade of C or better (not C-) is required in all courses used to fulfill the requirements of the Core Curriculum.

7. During the semester prior to graduation, the application for degree must be completed and returned to the Fine Arts Advisement Center, Center for the Arts 1103. For summer or fall graduation, the deadline is April 1. For spring graduation, the deadline is November 1. **If you fail to submit the application by the deadline, your graduation may be delayed.**
8. **You must also meet the University minimum degree requirements as outlined under Graduation Requirements in The Undergraduate Program section of this catalog.**

There are other specific courses required by some of the degree programs in Fine Arts. **Check your specific program for these courses.**

Major and Minor Studies. A student may choose a minor or a second major from B.A. programs and minors approved by the College of Arts and Sciences as stated in that section of the catalog. A minor may be selected from any program in the College of Fine Arts. Fulfilling the requirements for two majors may extend the hours required for a degree beyond 128 but will not necessarily constitute a second degree. If the minor or second major is outside the College of Fine Arts, a check for requirements must be made at the time the student applies for a degree.

Two Undergraduate Degrees. Students wishing a second undergraduate degree in the College of Fine Arts must complete a minimum of 30 hours in addition to those required for the first degree and fulfill all requirements for the second degree. For a student in the College of Fine Arts, the possibilities of a second degree are limited due to the great amount of time required for the practice of the fine arts. If a second degree is desired, students must consult with a department advisor in the College Advisement Center and with the associate dean for final approval. The awarding of a degree will be consistent with the regulations as stated in the Undergraduate Program section of this catalog

Additional Information

Advisement

The College of Fine Arts Advisement Center, Room 1102 in the Center for the Arts, provides undergraduates with advisement services during walk-in advisement hours. Check advisement hours online at <http://finearts.unm.edu>. Advisement is required for freshman and transfer students before registration. Art Studio transfer students may be required to present a portfolio for placement in the program. Music transfer students are required to take the theory and ear-training placement exams and to audition on their instrument or in voice. For further information, call the Fine Arts Advisement Center at (505) 277-4817.

College of Fine Arts Dean's List

Each fall and spring the semester grades are reviewed by the Fine Arts advisor. If a student enrolled in the College of Fine Arts has achieved a semester grade point average of 3.50 or higher on 12 or more graded credit hours, the student will be on that semester's College of Fine Arts Dean's List. Each student on the list will receive a letter of congratulations in the mail.

Departmental Honors

Students interested in graduating with departmental honors should read carefully the guidelines on honors in the Undergraduate Program section of this catalog and should visit the College of Fine Arts Advisement Center to request a copy of specific departmental honors guidelines and an application form. Students should apply through the College of Fine Arts Advisement Center no later than the end of their junior year.

To be eligible to apply for the departmental honors program in the College of Fine Arts, the student must have achieved a cumulative grade point average of 3.50 on a minimum of 60 hours in residence at the University of New Mexico. The application must be submitted at least two semesters prior to graduation. In addition, applicants should have demonstrated a high level of maturity, pursuit of excellence and the ability to work and think independently. The minimum requirement for graduation with departmental honors in the College of Fine Arts is the completion of 6 credit hours in honors thesis.

Probation and Suspension

Students enrolled in the College of Fine Arts are placed on probation at the end of any semester in which the cumulative grade point average on University of New Mexico course work falls below 2.00. At the end of the next semester of enrollment, the student's grades are reviewed. If the semester grades raise the cumulative grade point average to 2.00, the student is released from probation. If the cumulative grade point average is still below 2.00, but the semester grades show reasonable progress (usually a 2.00 or higher), the college will consider continuing the student on probation for another semester. If the semester grades are below 2.00, academic suspension may follow. For further information on the suspension period, see *Scholastic Regulations* in the Student Services Information section of this catalog.

Scholastic Standards

The curricula that lead to the degrees of Bachelor of Fine Arts and Bachelor of Music are **pre-professional** curricula. They are designed for students who plan to enter graduate school for the professional study of the fine arts. Most graduate schools require a grade point average of 3.00 in the student's major field of study as a condition of admission. For this reason, you should enter one of these curricula only if you are willing to make a firm commitment to work rigorously and intensively at the highest level of your creative and intellectual capacities. **The faculty reserves the right to require any student whose grades fall substantially below 3.00 in his or her major to transfer to another program.**

If your grades are low, or if you have had academic difficulties in the past, we urge you to consult with an advisor in the College of Fine Arts Advisement Center.

No student may undertake a program in excess of 18 hours during the regular semester and 9 hours in summer session without prior permission of the dean of the college.

College of Fine Arts Student Fees

Special Course Fee: A fee charged to support the instructional needs of a specific course and used to pay for materials or services provided to students.

Departmental Curriculum Fee: A fee charged to support the instructional needs of multiple courses in a curriculum or program and used to pay for general equipment and services provided to students.

College Technology Fee: A fee charged to support general student technology needs in the college and used to pay for technology equipment, technical support services, and IT instruction capabilities provided to the students.

Special Facilities in the College of Fine Arts

Instruction in the fine arts is enriched by the University Art Museum; several outstanding performance series in Popejoy Hall, Keller Hall, Rodey Theatre and Theatre X; a Fine Arts Library containing more than 105,000 volumes and a listening center with an extensive collection of CDs, tapes and records; the Bunting Visual Resources Library, containing 300,000 fine arts slides; and two research centers—the Arts of the Americas Institute and the Arts Technology Center.

Fine Arts Graduate Advisors

Colleen Sheinberg, Graduate Coordinator, Music
 Kat Heatherington, Advisor, Art and Art History
 Christina Squire, Theatre and Dance (Graduate Coordinator)
 Jennifer Predock-Linnell, Professor, Theatre and Dance (Dance)
 Jim Linnell, Professor, Theatre and Dance (Dramatic Writing)
 Susan Pearson, Professor, Theatre and Dance (Theatre Education)

Students wishing to pursue graduate programs in art history, art studio, music and theatre and dance must meet both minimum requirements for admission to graduate study and to the departmental programs listed below.

Graduate degrees offered in the fine arts include the Master of Arts, with majors in art history and theatre and dance; Master of Music; Master of Fine Arts, the terminal degree in art studio, Dramatic Writing and Dance; and the Doctor of Philosophy in art history.

Major in Interdisciplinary Film and Digital Media

The Interdisciplinary Film and Digital Media Program (IFDM) program focuses on digital media in a broad interdisciplinary context. Students, whose goal is to become an artist, writer, gamer, entrepreneur, engineer, critical thinker, scientist, film and video maker, animator, storyteller, designer, computer scientist or educator using or developing the tools of digital media, will find a path in this program. Sony Imageworks named the University of New Mexico as a partner in its Imageworks Professional Academic Excellence (IPAX) Program because of the interdisciplinary breadth and its focus on critical, creative, technical and collaborative learning reflected in the curriculum. The IFDM program is possible through the collaboration of the College of Fine Arts, the School of Engineering, the Anderson Schools of Management, the College of Arts and Sciences, and the participation of the School of Architecture and Planning, the School of Law and the College of Education. UNM CATALOG 2009–2010 Symbols, page 635.

Students in the program may pursue their interests in one of four different colleges within the University:

- Fine Arts— Bachelor of Fine Arts (B.F.A.) with concentrations in either Production or Critical Studies
- Anderson School of Management— Bachelor of Business Administration
- Arts & Sciences— Bachelor of Arts in Communication and Journalism
- School of Engineering— Area of focus in IFDM for Computer Engineering students, and an IFDM Fine Arts minor for Computer Science students

Admission into the IFDM program requires a three-tier application process. Students must apply for **general admission** to UNM through the Admissions Office. Additionally, students must also apply to become a **pre-major** in the program. This involves completion of the online IFDM pre-major application, usually in the early spring to begin the program in the fall immediately after admission. Each year a maximum of 50 students are admitted to the program as pre-majors. Finally, students must apply to the IFDM host college/school at UNM (e.g., College of Fine Arts) to become a **declared major**,

meeting all college/school admission requirements. Please contact the College of Fine Arts Advisement Office at 505-277-4817 to learn more about the B.F.A. in IFDM.

All students admitted to the program have to complete the general education University Core curriculum (e.g., Math, English, Science). Students will also have a set of ten common core courses for the IFDM program. These IFDM core classes are taken in order from the time a student is admitted as a pre-major into the program. The last core courses of the program include capstone courses, in which students work in interdisciplinary teams to complete projects relevant to their IFDM curriculum. The IFDM program requires that students earn a grade of at least a C or better in each IFDM core course in order to progress to the next core IFDM course. Students may also design a portion of their curriculum to further develop their specific interests in the major.

The curriculum leading to the B.F.A. is designed for students interested in pursuing concentrations in either Production or Critical Studies within the UNM Interdisciplinary Film and Digital Media Program. The Production Concentration focuses on the knowledge and practice involved in film and video making, gaming and simulation, the intersections of art making, live performance, installations, systems based art, with digital media, and the bridging of art, technology, and science in work-based on informatics or work responding to culture, history, society and the sciences. The Critical Studies Concentration emphasizes interdisciplinary and cross-cultural study, historical grounding, social and political analysis, and the art of written communication. It is intended for students who aspire to write professionally and creatively about digital media, systems-based artwork, software engineering, hardware design, film/video, perception, live performance, design, and visual culture. Students applying to become a declared major in IFDM must have completed the first two IFDM core courses and meet all other CFA admission requirements. Students are also expected to maintain and graduate with a 3.0 grade point average in classes applied to the major.

If you enroll in this program, you should read carefully the paragraph on Scholastic Standards for the College of Fine Arts. Courses offered in Departments of Art and Art History, Cinematic Arts, Music, and Theatre and Dance are part of the major field of study. Students are required to meet with an academic advisor in the College of Fine Arts each semester.

Requirements:

1. Arts & Sciences Required Courses (including UNM General Education Core Curriculum)- 34 hours

Selected from courses offered by departments of the College of Arts & Sciences. Specific requirements for those in the Critical Studies Concentration include PHIL 156, and AMST 182.

2. IFDM Core- 32 hours

IFDM 105 Inter and New Media Studies (3)
 CS 152L Computer Programming Fundamentals (3)
 IFDM 205 Studio I: Activating Digital Space (3)
 IFDM 210 Introduction to Modeling and Postproduction (3)
 IFDM 300 Critical Intermediations (3)
 IFDM 310 Studio II: Writing Digital Narrative (3)
 IFDM 400 Ethics Science & Technology (3)
 IFDM 410 The Business & Law of Film & New Media (3)
 IFDM 450 IFDM Capstone I Senior Projects (4)
 IFDM 451 IFDM Capstone II Senior Projects(4)

3. Concentration and Electives –63 hours

Critical Studies :

ARTH 250 Modern Art (3)
 ARTH 252 Contemporary Art & New Media (3)
 MA 210 Introduction to Film (3)
 MA 326 Hist of Film I: Silent (3)
 -or-
 MA 327: Hist of Film II: Sound (3)
 MA 331 Film Theory (3)

33 hours Major electives from (recommended): AMST 186, 320; ANTH 341; ARTH 422, 427; ARTS 130, 358; CJ 268; ENGL 419; HIST 439; MA 330; MUS 271; PHYC 105, 106, 106L, 108; WMST 357.

15 hours electives in any field.

OR**Production:**

ARTH 252: Contemporary Art & New Media (3)
 ARTS 130 Intro to Electronic Art (3)
 MA 111 Technical Introduction to Video Production (3)
 MA 210 Introduction to Film (3)
 MA 216 Video Production (3)
 -or-
 ARTS 230 Video Art (3)
 MA 409 Advanced Video Art (3) \

-or-
 THEA 471 Multimedia Prod for Designers (3)
 THEA 297 Sound for Performance (3)
 -or-
 ARTS 231 Sound Art (3)
 THEA 495 Studies in Theatre (3)
 THEA 458 Screenwriting (3)
 THEA 493 Art Direction for TV/Film (3)

27 hours Major electives from (recommended): ARTS 106, 289, 330, 432, 433, 494; CS 394; ENGL 222; MA 326, 327, 330; MA 429, 490; MUS 271, 305, 306, 311, 380, 412, 416, 481; PHYC 105, 106, 106L, 108; THEA 120, 196, 293, 296, 297, 355, 371, 403, 426, 458, 470, 472.

6 hours electives outside the Major.

Minor in Fine Arts

The College of Fine Arts offers a minor in interdisciplinary studies in Fine Arts for a total of 18 credit hours:

- Six hours: FA 284 and either FA 329 or ARTH/MA/MUSE/THEA/DANC 487
- Twelve hours electives from FA 329, 384, 394, ARTH/MA/MUSE/THEA/DANC 484, 487 and PHIL *467

Total: 18 hours.

Distributed Minor within Fine Arts (restricted to Computer Science majors in the IFDM program)

Students majoring in Computer Science who have been admitted in Interdisciplinary Film & Digital Media may select a distributed minor in Fine Arts. The distributed minor in Fine Arts requires:

- Fifteen hours: IFDM core courses which may partially satisfy the UNM core with approved substitution by CS academic advisor to include:
 - IFDM 105, and 400 (to satisfy Social/Behavioral core)
 - IFDM 205 (to satisfy Fine Arts core)
 - IFDM 300 (to partially satisfy Humanities core)
 - IFDM 310 (to partially satisfy Writing and Speaking core)
- Three hours: CS 152L which partially satisfies requirements for CS degree.
- Twelve hours: of Fine Arts electives to be chosen from:
 - ARTS 106, 121, 122, 289, 330
 - ARTH 201, 202, 250, 252, 427
 - MUS 271, 380
 - MA 111, 210, 390, 409
 - THEA 196, 296, 297, 458
- Fourteen hours: IFDM core courses to include:
 - IFDM 210, 410, 450, 451

Fine Arts (FA)

105. Fine Arts Co-op Work Phase. (0)
 Offered on a CR/NC basis only.

229. Topics. (1-3 for a maximum of 12) Δ
 Interdisciplinary topics in fine arts.

284. Experiencing the Arts. (3)
 Explores fundamental connections and differences among artistic media through readings, lectures, attendance at artistic exhibits and events, and discussions with creators of collaborative works of art.

299. Exploring Careers in the Arts. (2)
 A career planning course integrating practical realities and needs with professional artistic aspirations. Does not count toward 6 hours of Fine Arts required of Fine Arts Majors. Open to all students. **Offered on a CR/NC basis only.**

329. Historical Interdisciplinary Topics. (3 to a maximum of 6) Δ
 Analyzes major instances of interdisciplinary influence and collaboration in the history of the arts.

384. Interdisciplinary Topics. (3)
 In this studio course, students collaborate on creative problems and projects that combine various art forms.

394. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ
 An independent study in either critical studies or studio, beyond the scope of the Fine Arts interdisciplinary courses, which may occur within or outside the College of Fine Arts.

***475. The Professional Print Workshop. (2)** Devon
 Topics related to the operation of a professional printmaking workshop including history, business structures, ethics and marketing. {Fall}

***476. The Professional Printer. (4)** Hamon
 Advanced techniques in lithography with emphasis on development of skills necessary for the master printer. Lecture and practicum topics include theory and chemistry of lithography, collaboration, edition printing, workshop management and paper.
 Restriction: permission of instructor. {Fall}

ART AND ART HISTORY

David Craven, Chairperson
 Department of Art and Art History
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 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 277-5861, FAX (505) 277-5955

Associate Chairperson
 Kathleen Jesse

Director of Graduate Studies
 Justine Andrews

Professors
 Steve Barry, M.F.A., Hunter College
 Michael D. Cook, M.F.A., University of Oklahoma
 David Craven, Ph.D., University of North Carolina
 Constance DeJong, M.F.A., The University of New Mexico
 Elen Feinberg, M.F.A., Indiana University
 William T. Gilbert, M.F.A., University of Montana
 Christopher Mead, Ph.D., University of Pennsylvania
 Joyce Neimanas, M.F.A., School of the Art Institute of Chicago
 Adrienne Salinger, M.F.A., School of the Art Institute of Chicago
 Joyce M. Szabo, Ph.D., The University of New Mexico

Associate Professors
 Holly Barnett-Sanchez, Ph.D., University of California (Los Angeles)

Gina Bobrowski, M.F.A., University of Georgia
 Kirsten Buick, Ph.D., University of Michigan
 Kathleen Jesse, M.F.A., University of California (Berkeley)
 Andrea Polli, M.F.A., School of the Art Institute of Chicago
 Yoshiko Shimano, M.F.A., Mills College
 Jim Stone, M.F.A., Rhode Island School of Design
 Mary Tsiongas, M.F.A., California College of Arts and Crafts
 Baochi Zhang, M.F.A., Florida State University

Assistant Professors
 Scott Anderson, M.F.A., University of Illinois at Urbana-Champaign
 Susanne Anderson-Riedel, Ph.D., University of California (Los Angeles)
 Justine Andrews, Ph.D., University of California (Los Angeles)
 Ellen Babcock, M.F.A., California College of Arts and Crafts, San Francisco

Ligia Bouton, M.F.A., Rutgers University
 Catherine P. Harris, M.F.A., Stanford University; M.L.A.,
 University of California (Berkeley)
 Ray Hernández-Durán, Ph.D., The University of Chicago
 Patrick Manning, M.F.A., The University of New Mexico
 R. Lee Montgomery, M.F.A., San Francisco Art Institute
 Claudia X. Valdes, M.F.A., University of California (Berkeley)
 Robin Ward, M.F.A., The San Francisco Art Institute
 Catherine Zuromskis, Ph.D., University of Rochester

Adjunct Professors

Clarence Cruz, M.F.A., The University of New Mexico
 Marjorie Devon, B.A., University of California
 (Santa Barbara)
 Suzanne Fricke, Ph.D., The University of New Mexico
 Sheila Hannah, M.L.S., University of Arizona
 Charles Lovell, M.F.A., Central Washington University
 Barbara Lynes, Ph.D., Indiana University
 James Moore, Ph.D., Indiana University
 Eugenia Parry, Ph.D., Harvard University
 Michele Penhall, Ph.D., The University of New Mexico
 Donna Pierce, Ph.D., The University of New Mexico
 Marian Rodee, M.A., Columbia University

Instructor

D. Aaron Fry, A.B.D., The University of New Mexico

Professors Emeriti

Nick Abdalla, M.A., The University of New Mexico
 Jane Abrams, M.F.A., Indiana University
 Garo Antreasian, B.F.A., Herron School of Art
 Thomas F. Barrow, M.S., Institute of Design, I.I.T.
 J.J. Brody, Ph.D., The University of New Mexico
 Edward Bryant, M.A., University of North Carolina at
 Chapel Hill
 Flora Clancy, Ph.D., Yale University
 Robert M. Ellis, M.F.A., University of Southern California
 Martin Facey, M.F.A., University of California (Los Angeles)
 Betty Hahn, M.F.A., Indiana University
 Basia Irland, M.F.A., University of Massachusetts
 Christiane L. Joost-Gaugier, Ph.D., Harvard University
 Wayne R. Lazorik, M.F.A., University of Minnesota
 Ralph Lewis, M.A., The University of New Mexico
 Patrick Nagatani, M.F.A., University of California (Los
 Angeles)
 Howard D. Rodee, Ph.D., Columbia University
 O. Joseph Rothrock, Ph.D., Princeton University
 John H. Wenger, M.F.A., University of Arizona

Major Study Requirements

The majors in Art Studio and Art History offered by the College of Fine Arts are described below. The major in art offered by the College of Arts and Sciences is also described below.

Most of the requirements in these majors are set forth below. Note that in all programs you must also satisfy general college and University requirements for graduation.

Pre-professional Curriculum. The pre-professional curriculum leading to the Bachelor of Fine Arts is designed for students who anticipate further study at the graduate level. If you enroll in this program, you should read carefully the paragraph on Scholastic Standards for the College of Fine Arts which permits the faculty to exclude from the program any student whose grade point average in his or her major field of study falls below 3.20. **Studio courses and art history courses are both part of the major field of study.**

If you wish to take studio courses without the concentration and commitment that is implicit in this curriculum, you are advised to follow a program of study leading to the degree of Bachelor of Arts in Fine Arts with a studio major (see below). Also, you may take a number of studio courses as part of the art education curriculum. The Department of Art and Art History advisor will help you select the program that best suits your needs.

Minimum requirements for the program leading to the B.F.A. degree are as follows. Note that one of the requirements is that at least 9 hours of instruction are at the 400 level. Students whose performance does not qualify them for the B.F.A. program may complete their work in the B.A.F.A. program or transfer to another degree program entirely.

The program leading to the B.F.A. is as follows:

- | | |
|--|----------------|
| 1. Courses outside the major: | Credits |
| a. Thirty-four hours selected from courses offered by departments of the College of Arts and Sciences including Core Curriculum requirements (see Fine Arts Graduation Requirements 6). Specific requirements include English 220; | 34 |
| -and- | |
| b. Six hours selected from other departments of the College of Fine Arts (dance, media arts, fine arts, music and theatre) or from the School of Architecture and Planning; | 6 |
| -and- | |
| c. Eight additional hours selected from courses outside the major offered by any college, including Fine Arts. | 8 |
| Subtotal | 48 |
| 2. Major in art: | |
| a. Eighteen hours in art history including 201, 202 and 250, to be taken in the freshman and sophomore years; 3 hours of upper-division; and a 400 level of late modern; | 18 |
| -and- | |
| b. Fifty-two hours in studio courses. Required courses are art studio 106, 125 and 126. Also required are three courses chosen from 130, 157, 168, 187, and 213; and one course chosen from 205, 207, or 274; plus 9 additional hours at the 400 level. Many areas of special study require specific sequences of courses and corequisites which you must observe. The department advisor can inform you of these. | 52 |
| 3. Additional courses in any field, including art. | 10 |
| Total | 128 |

General (Liberal Arts) Curriculum

A major in **art history** is offered under the general curriculum. It is also possible within this curriculum to pursue a major in **art studio** that is less specialized than the pre-professional (B.F.A.) curriculum. These two programs, both of which lead to the Bachelor of Arts in Fine Arts, are as follows:

Art History Major

- | | |
|--|----------------|
| 1. Courses outside the major: | Credits |
| a. Forty hours selected from courses offered by departments of the College of Arts and Sciences including core curriculum requirements (see Fine Arts Graduation Requirements 6). Specific requirements include English 220 and as many semesters of one foreign language as are necessary for completion of the fourth semester course in that language. These will partially satisfy the college requirements for courses outside the major; | 40 |
| -and- | |
| b. Six hours selected from other departments of the College of Fine Arts (dance, cinematic arts, fine arts, music and theatre) or from the School of Architecture and Planning; | 6 |
| -and- | |
| c. Fourteen additional hours selected from courses outside the major offered by any college, including Fine Arts. | 14 |
| Subtotal | 60 |
| 2. Major in art history: | |
| a. Thirty-nine hours in art history courses including 201, 202 and 250; also required are three courses chosen from 315, 321, 322, 330, 340, 352, 431, and either 261 or 262; and one course chosen from 251, 303, 343, 402, 406, 411, 412, 415, and 432. A minimum of 18 hours must be taken in courses numbered 300 or above in art history; | 39 |

–and–

- b. Nine hours in studio courses, including Art Studio 106; a course taken from art studio 125 or 126; and 3 additional hours of studio. **9**
3. Additional courses in any field, including art. **20**
- Total 128**

Art Studio Major

1. Courses outside the major: **Credits**
- a. Forty hours selected from courses offered by departments of the College of Arts and Sciences including core curriculum requirements (see Fine Arts Graduation Requirements 6). Specific requirements include English 220. **40**
- and–
- b. Six hours selected from other departments of the College of Fine Arts (dance, media arts, fine arts, music and theatre) or from the School of Architecture and Planning; **6**
- and–
- c. Fourteen additional hours selected from courses outside the major offered by any college, including Fine Arts. **14**
- Subtotal 60**
2. Major in art:
- a. Fifteen hours in art history courses, including 201, 202 and 250 and 3 hours upper-division. **15**
- and–
- b. Thirty-three hours in studio courses, including Art Studio 106, 125 and 126; also required are two courses with one chosen from 130, 187, 205, 207, or 274 and the other chosen from 157, 168 or 213 and 9 hours upper-division. **33**
3. Additional courses in any field, including art. **20**
- Total 128**

Curricula in Teacher Education. If you are planning to become a teacher of art in the public schools, it is essential that you consult with the advisor in Art Education as soon as possible.

Note also that all students entering teacher preparation programs are required to meet the screening requirements for admission to such programs, as described in the College of Education section of this catalog.

Art Major in Arts and Sciences (Bachelor of Arts)

For the student enrolled in the College of Arts and Sciences, a 33-hour major may be taken with a concentration either in art studio or art history. Of these hours, at least 12 must be in courses numbered above 300.

The major with a concentration in art studio is as follows:

Nine hours of art history: ARTH 201, 202 and 250.
Twenty-four hours in art studio including ARTS 106, 125 and 126.

The major with a concentration in art history is as follows:

Writing and speaking and second language must be selected as two of the seven group requirements in Arts and Sciences.

Twenty-seven hours in art history courses, including:

ARTH 201, 202 and 250. Also, one selected from 261, 262, 315, 321, 322, 330 or 340. Also, one selected from 251, 343, 401, 402, 406, 411 or 412. Twelve of the 27 hours must be upper-division art history.

Six hours in art studio fundamentals:

ARTS 106. Also, one selected from 125 or 126.

Minor Study Requirements

The minor in art, consists of 24 semester hours. Students must complete all 9 hours from one of the two groups below:

Choose from:

ARTS 106, 125, 126

–or–

ARTH 201, 202, 250

Plus 15 hours of either Art Studio or Art History electives, out of which 6 hours must be upper-division.

Additional Information

Materials and Student Work

Students enrolling in art courses furnish their own materials except for certain studio equipment provided by the University.

All work when completed is under the control of the Department until after the exhibitions of student work. Each student may be requested to leave one or more pieces of original work with the Department.

Students are reminded that charges for classroom supplies and services in certain art studio courses must be paid to the University of New Mexico Cashier during the first three weeks of Fall and Spring semesters and the first week of Summer Session. In specific instances fee reductions may be granted upon approval of the appropriate representatives and if the deadline is met. See instructor for deadline.

The Department of Art and Art History accepts up to 6 hours of upper-division film history toward art history and art studio major and minor requirements. The Department accepts 3 hours of MA 390 as studio credit.

Graduate Programs

Director of Graduate Studies

Justine Andrews, Ph.D.

Application Deadlines

Fall Admission: January 15

*Spring Admission: November 15

* Spring admissions are only allowed for the University of New Mexico Art History M.A. students who complete their M.A. program in the fall and are accepted into the Ph.D. program.

Degrees Offered

M.A.

Major: Art History

M.F.A.

Major: Art Studio

Ph.D.

Major: Art History

The Department offers degrees in two fields: art studio and art history. In art studio the degree is the Master of Fine Arts. Students can focus on painting and drawing, photography, printmaking, art and ecology, electronic arts, or 3D; in art history the degrees are the Master of Arts and the Doctor of Philosophy with a concentration in either the Arts of the Americas or the Arts of the Modern World.

All students admitted to the graduate studio program are given studio space on campus. Admission is selective and limited by the number of studio spaces available. All photography graduate students are given both darkroom and individual studio spaces.

NOTE: The art studio printmaking program and the art history programs in Arts of the Modern World and Arts of the Americas (both M.A. and Ph.D.) are recognized by the Western Interstate Commission on Higher Education (WICHE) for inclusion in their Out-of-State Programs at In-State Tuition. Qualified residents of the 15 participating states in the Commission may enroll at reduced tuition rates in these three programs.

The general requirements of the University for the M.A. and Ph.D. degrees are given in earlier pages of this catalog. The requirements for the M.F.A. are given within this departmental text.

Financial Assistance

The Department has a limited number of graduate and teaching assistantships to offer graduate students. These are generally available after the first year in the graduate program. Assistantships are dependent upon departmental need. The appointments are usually .25 FTE and made on a semester to semester basis. Students must be enrolled for at least 6 semester graduate credit hours during this appointment.

Graduate Minor in Museum Studies

The Graduate Minor in Museum Studies is intended to be an interdisciplinary program that emphasizes mentoring and collaborative opportunities through a combination of structured work experiences, academic instruction, supervised internships, and short-term professional workshops and training courses. Additional emphasis will be placed on collection care, management, and preservation.

The Graduate Minor in Museum Studies requires 9 hours of course work and 6 hours of internship for a total of 15 hours.

Internship opportunities will be created at a number of museums on the University of New Mexico campus and around the state. Each internship will have a specific relation to the needs of the institution and its collections. Students will be able to apply for internships at specific museums. The application process will be competitive and based on selection criteria established by the specific internship's requirements.

The minor is available to any student enrolled in a graduate degree program. Once completed the minor designation will appear on a student's transcript.

The minor is distributed as follows:

- 6 hours of required Core Courses**
MSST 507, Museum Practices (3)
MSST 585, Seminar in Museum Methods (3)
- 3 hours of Museum Studies Topics courses**
MSST 529, Topics in Art History (3)
- 6 Hours of Internship**
MSST 586, Practicum: Museum Methods (3)

Art Studio Degree, M.F.A.

The M.F.A. is the terminal degree in art studio. It is designed to afford the student an opportunity to amplify his or her abilities as a professional artist. As such it provides the opportunity for the individual to focus on the creative aspects of their work. The M.F.A. usually requires at least three years of intensive study and research beyond the bachelor's degree. Although the formal requirements for the M.F.A. are in some respects comparable to doctoral degrees in other fields, the scope and objectives of the M.F.A. degree are uniquely different. As such, the M.F.A. degree represents strong creative achievement in studio art, an assured grasp of an area of focus, a sound knowledge of critical and historical artistic thought about art, and demonstrated expertise in conceiving and executing a significant body of creative work. Thus, as with the doctoral degree, its achievement is no mere matter of meeting requirements.

It requires a dedication to the creative aspects of the studio work culminating in a dissertation that entails planning, installing, and documenting a solo exhibition of the student's own creative work, producing a catalog, and giving an oral public presentation.

Course Work Requirements

The M.F.A. degree requires a minimum of 48 hours of course work. Thirty-six of these hours must be completed at the University of New Mexico, of which at least 18, exclusive of dissertation hours, must be taken after admission to the M.F.A. program.

Transfer/Application of Credit

With the approval of the graduate unit, up to 12 hours of the course work requirements for an M.F.A. may consist of a combination of the following: graduate-level credit taken at another accredited institution, application of credit in graduate-level courses earned while the student was in non-degree or undergraduate status or graduate-level University of New Mexico extension courses. These credits may be applied or transferred provided that:

1. the course work has not been counted toward a previous degree;
2. grades of B or better were earned;
3. the student has already completed at least 12 hours of graduate work in the M.F.A. program at the University;
4. the application/transfer of these credits is approved by the Committee on Studies and the Department Director of Graduate Studies in the student's Application for Candidacy;
5. the application/transfer of these credits is approved by the Dean of Graduate Studies.

Admission to the Studio Program

NOTE: Studio areas of focus are: painting and drawing, photography, printmaking, art and ecology, electronic arts, and 3D.

A prospective student in the graduate studio program must have completed an undergraduate degree including 42 hours in studio courses and 18 hours in art history. Any deficiencies in the required preparation must be removed during the first year of course work for the degree. As part of the application for admission to graduate study, the student must submit materials as follows:

1. Application for Admission, Registration Information and application fee.
2. Two sets of official transcripts from all institutions previously attended, send directly to the Department.
3. Three letters of recommendation.
4. Statement of Intent. A clearly written statement of intent describing in detail reasons for wishing admission. This statement, no more than three pages in length (type-written), should include the following:
 - a. information about the major and the proposed focus (painting and drawing, photography, printmaking, 3D);
 - b. a self-evaluation of current work;
 - c. an account of any special experiences which might indicate a background in art more extensive than most students with a B.A. or a B.F.A. degree;
 - d. a statement of goals while attending and after completing graduate study;
 - e. reasons for choosing the University of New Mexico as a place for graduate study. In evaluating this written statement, both its form and content will be carefully considered.
5. Portfolio. Applicants should submit work in a form that represents them best. This can include, but is not limited to, slides, original prints, CD-ROMs (specify Macintosh or PC), DVDs, and VHS. We take reasonable care but cannot be responsible for loss or damage. A combination of prints, slides (no more than 20), or other media is acceptable based on the uniqueness, size, or nature of your work. You may provide your work in any form that may be viewed directly on standard equipment (CD, DVD, VCR) but we take no responsibility for incompatibility or media failure. It is your responsibility to represent yourself well in this context; avoid complex presentations and excessive packaging. Also expected are:
 - a. an identifying list with information on the date, medium, and dimensions of each work.
 - b. a check or money order (no stamps) to provide sufficient funds for the return of the portfolio via U.S. Postal Service.

NOTE: For slide portfolios, fifteen to twenty 2" x 2" color slides must be sent in a standard 80-slide carousel tray. In addition to the information requested above, each slide must be labeled with the applicant's name.

All items mentioned above should be sent to the Graduate Office, Department of Art and Art History, MSC04 2560, 1 University of New Mexico, Albuquerque, NM 87131-0001. Phone: (505) 277-6672.

M.F.A. Degree Requirements

ARTS 502	Interdisciplinary Seminar	3
ARTS credits	(in addition to 502)	21
ARTH credits		6
Electives	Six hours outside studio	18
	Six hours outside the department	
	Six hours any area	
ARTS 699	Dissertation (solo exhibition and catalog)	12
Total		60

Transfer Credits

A maximum of 12 hours of graduate work at another institution or from non-degree status at the University of New Mexico are transferable to the M.F.A. program. Courses taken as extension credit at other universities are not accepted for graduate credit at the University of New Mexico.

NOTE: Transfer of credits is not automatic with admission. The student's Committee on Studies will determine the number, if any, allowable for transfer. Transfer credit is limited to 12 hours. Aside from this limitation, all other conditions of transfer noted in the doctoral description in the Graduate Program section of this catalog apply equally to the M.F.A.

Course Work

In their first fall semester of work, all students entering the M.F.A. program must enroll in Art Studio 502, *Interdisciplinary Seminar*.

Creative work is undertaken through graduate courses, topics courses, and one-on-one tutorial instruction.

Elective course work will be determined by the student's particular needs and shall be undertaken only with the advice and approval of the Department Director of Graduate Studies and the student's Committee on Studies. At least 18 hours exclusive of dissertation must be taken in courses numbered 500 or above completed at the University of New Mexico and no more than 24 hours exclusive of dissertation may be taken with a single professor.

Additional Requirements

- All students will be required to attend orientation and safety meetings before the start of the semester. Students are required to enroll in the Graduate Shop Foundations course offered every Fall semester.
- Graduate Reviews. In each of the first two semesters, students will participate in a review of their current and ongoing work. The review is open to faculty and students, and the public. These reviews will be conducted by a four-member faculty committee.
- Committee on Studies. Each student will be assisted by the Department of Art and Art History Graduate Office in planning a program of studies until such time as they form their Committee on Studies. The formation of the Committee on Studies should take place before the end of the second semester of study.

Duties of a Committee on Studies:

- to conduct the M.F.A. Qualifying Review, which takes place at the beginning of the third semester.
- to advise and assist the student in planning their program through the completion of degree requirements. This includes determining any transfer credit acceptable, the nature of elective courses and the approval of a specific dissertation program.
- to conduct the Advancement to Candidacy/Comprehensive Examination during the fifth semester of study.

- to evaluate the exhibition work and dissertation or catalog/public presentation and submit M.F.A. Final Examination Reports.

Formation of Committee on Studies

The formation of the Committee on Studies is done in consultation with the Department Director of Graduate Studies and the approval of the Department Chairperson. The process begins with the student finding a qualified faculty member (all full-time, regular faculty are qualified), normally in the student's area of focus, who is willing to serve as Committee Chairperson. Together they select three additional willing members, one of whom must be from outside the studio area. This faculty member may be from Art History or another department. A Committee on Studies Approval Form is submitted to the Department Director of Graduate Studies for approval by the Department Chairperson and for forwarding to the Office of Graduate Studies. Changes in the membership of the committee are also made in consultation with the Department Director of Graduate Studies and with the approval of the Department Chairperson.

Once the Committee on Studies has been established, it assumes the responsibility for guiding the student in academic and procedural matters. This in no way relieves the graduate student of his or her responsibility for complying with all regulations of the Department, College, and University, as stated elsewhere in this catalog.

Any grievance or conflict between students, faculty, staff, or administrators regarding graduate student matters shall be taken to the following, in this order, in an attempt to resolve the issue:

- Chairperson of the student's Committee on Studies
- Department Director of Graduate Studies
- Department Graduate Committee
- Chairperson of the Department
- College Graduate Committee
- Dean of the College
- Dean of the Office of Graduate Studies
- Faculty Senate Graduate Committee

M.F.A. Qualifying Review

- The four-member Committee on Studies will comprise the Qualifying Examination Committee.
- The exam will be given during the 12th week of the regular semester immediately after the student completes 18 graduate credits and has had two successful graduate reviews.
- This examination consists of three parts:
 - a review of a comprehensive selection of the student's work.
 - presentation of a formal typed essay of 7–12 pages (2,400–4,200 words) on the work to be reviewed (to be distributed to each committee member and the Department Graduate Office at least three days prior to the review).
 - an oral defense of the work by the candidate.
- The candidate will be informed at the conclusion of the exam of the results, which must be one of the following:
 - Pass, granted by the exam committee.
 - Fail with option granted by the review committee for a single retake. The second exam will be given following completion of at least a 3-credit tutorial with the Chairperson of the Committee on Studies. A second failure will result in being dropped from the program for unsatisfactory progress toward the degree.
 - Fail with no retest. The student will be dropped from the program for unsatisfactory progress toward the degree.

Residence Requirement

The M.F.A. degree shall require at least 36 hours of course work completed at the University of New Mexico, of which at least 18 hours must be taken after admission to the M.F.A. program (exclusive of dissertation hours).

Advancement to Candidacy and Comprehensive Examination

Between the Qualifying Review and Advancement to Candidacy, the student should meet on a regular basis (at least once a semester) with their Committee on Studies to plan and monitor the program of studies and to review their creative work.

Admission to graduate study and a successful Qualifying Review do not imply Advancement to Candidacy for a degree. The M.F.A. student must formally apply for and be admitted to candidacy for the degree. The Application for Candidacy is the vehicle that formally establishes the student's program of studies.

In order to be advanced to candidacy, the student must file an Application for Candidacy and have a formal Advancement to Candidacy and Comprehensive Examination meeting. The Application for Candidacy is filed when the student has completed the majority of their course work (40–45 hours) and can, with some confidence, project the remaining courses in their program of studies. The Announcement of the Comprehensive Examination is filed with the Application for Candidacy and Appointment of Dissertation Committee form. In any event, the examination must be held no later than the semester before the student registers for dissertation hours.

The purpose of the Comprehensive Examination meeting is for the Committee on Studies to:

1. Certify that the Residency Requirement has been met.
2. Review the work and give an oral Comprehensive Examination in order to establish the following:
 - a. that an outline of the student's dissertation, exhibition, catalog, and public talk is sufficient to allow the student to undertake his research.
 - b. that the student's general knowledge of critical and historical issues in art is at a level expected of an M.F.A. candidate.

If problems arise with any of the above, the Committee may choose to meet again after the student has had sufficient time to remedy any shortcomings. In this case, a written summary of what is expected in the way of additional course work or preparation needed for advancement must be furnished to the student (with a copy to the Department Director of Graduate Studies).

Approval of candidacy will be granted by the Dean of Graduate Studies only after the residency requirement is met and the program of studies has been approved by the Committee on Studies and the Department Director of Graduate Studies, providing the student has passed their comprehensive exam.

Approval of Candidacy in no way implies successful completion of the M.F.A. degree.

Dissertation Hours

Enrollment in Dissertation (699) may not begin prior to the semester in which the student is Advanced to Candidacy and passed the comprehensive exam.

Once the student has enrolled for Art Studio/Art History dissertation (699), he or she must maintain continuous enrollment (exclusive of summer session) until the dissertation/final project is accepted by the Committee on Studies and the Dean of the Office of Graduate Studies. In extraordinary circumstances, the Dean of the Office of Graduate Studies may waive the requirement for continuous enrollment upon

presentation of a written request from the committee chairperson and the graduate unit.

M.F.A. candidates must be enrolled during the semester in which they graduate, including the summer session.

Creative work done for the dissertation is substantially new work executed specifically for the final exhibition. The exhibition is in no way to be thought of as a retrospective of work done through class or tutorial instruction.

The dissertation/final project will consist of:

1. a solo exhibition of studio work organized and installed by the student;
2. an exhibition catalog assembled by the student, which includes a written essay about or related to the issues represented in the creative work (10–15 pp. in length); and
3. a public presentation, a talk, or event that informs the audience about the nature of the creative process involved in the creation of the work.

Time Limit to Complete Requirements

A candidate for the M.F.A. will have five years for completion of all degree requirements from the date the student is formally advanced to candidacy by the Dean of the Office of Graduate Studies. Under extenuating circumstances, a student may request an extension of this time limit in writing but it must be done prior to the end of the time limit. The request must be supported by his or her Committee on Studies, the Department Graduate Director, the Department Chairperson and approved by the Dean of the Office of Graduate Studies.

Notification of Intent to Graduate

The semester before the student intends to graduate, the student should inform the Department Graduate Office and, through it, the Office of Graduate Studies, of the intention to complete all degree requirements during the semester. Degrees are awarded three times during the year; commencement exercises are held in May and December.

The Final Examination

The M.F.A. Final Oral Examination will be given in conjunction with the exhibition of creative work. The Committee on Studies and other such persons as the Dean of the Office of Graduate Studies may require to be present will conduct the examination.

The examination will cover the exhibition (the studio work and its installation), final copy of the exhibition catalog, and the public presentation. In order for the student to graduate in a given semester, the examination must be held no later than the published dates in November, April, and July.

The student must notify the Office of Graduate Studies at least two weeks before the date of the examination on the forms available. Results of the examination are recorded on the reverse side of the final examination announcement form. The student is responsible for initiating the procedure and making sure that the original notice is sent to the Office of Graduate Studies.

At the conclusion of the examination, the voting members shall confer in camera and vote their recommendations. The Committee may 1) recommend that the exhibition, catalog, and public talk be approved without change; 2) recommend that the exhibition, catalog, and public talk be approved subject only to minor corrections, editorial or otherwise; or 3) require the catalog be revised before approval. In the case of 1) or 2), no further meeting of the Committee will be required. The Chairperson of the Committee will be responsible for

seeing that the corrections are made. In the case of 3), the full Committee must determine if their recommendations have been fulfilled.

Two original copies of the catalog, six slides and six or more digital files such as jpgs, shall be deposited with the Department Graduate Office, as a permanent record of the visual work.

The Department of Art and Art History's Responsibility

The Department of Art and Art History's responsibility includes the evaluation of the creative work exhibited for the solo exhibition, catalog, and public presentation. The Department Director of Graduate Studies will verify to the Dean of the Office of Graduate Studies on designated forms the departmental approval.

M.F.A. to focus on lithography

Tamarind Institute and Department of Art and Art History, University of New Mexico

In addition to its Professional Printer Training and Master Printer Training programs, Tamarind Institute now offers, in cooperation with the University of New Mexico's Department of Art and Art History, the option of pursuing an M.F.A. upon completion of the Tamarind program. Degree requirements can normally be completed in three years. Credit hours taken at Tamarind can be applied to the M.F.A. program.

All students must have a strong interest in collaborative printmaking as Tamarind's programs focus on the acquisition of the technical and interpersonal skills for collaborative lithography. Students apply directly to TI for admission to the Professional Printer Training Program, and all students must complete the first year Professional Printer Training at Tamarind. This intensive program requires a time commitment of a minimum of 60 hours per week.

At the end of the Fall semester of the Professional Printer Training Program, students who wish to pursue the M.F.A. must apply for admission to graduate study to the University of New Mexico by January 15. The M.F.A. is the terminal degree in studio art and emphasizes the creative aspects of an individual's work.

Students must meet all the criteria and be accepted by Art and Art History in order to pursue the M.F.A. after completing the Professional Printer Training Program at Tamarind. Acceptance into the M.F.A. program is not guaranteed. Those who wish to be assured of having a place in the MFA program for the second year must be accepted simultaneously to Tamarind and Art and Art History (note that Art and Art History's deadline for admission is January 15; Tamarind's is February 1). Accepted candidates who do not participate in the Master Printer Program at Tamarind (only 1 – 3 candidates are accepted into this program each year) will complete years 2 and 3 in Art and Art History. See below for M.F.A. degree requirements.

During the Spring semester of the Professional Printer Training Program, students interested in pursuing the Tamarind Master Printer Program must submit an application to the Master Printer Training Program at Tamarind. If accepted to the Master Printer Program, M.F.A. students stay at Tamarind for year 2, then complete A&AH requirements during year 3. M.F.A./Master Printer Program students receive a stipend from TI, and must register for 12 credit hours each semester while in the Master Printer Program. All M.F.A. students must take the Methods course in the Fall semester of the second year and the Interdisciplinary Seminar in the Fall semester of the third year.

Students who have completed the Professional Printer Training Program but do not wish to pursue the M.F.A. will also have the opportunity to apply for the Master Printer

program. If accepted, they will receive a stipend, but they will not be required to register for credit.

Course requirements: Tamarind 1 year + 2 years M.F.A.

Fall 1 (Tamarind)
Professional Lithography I (4 – AS)
Lithography Workshop I (2 – AS)

Spring 1 (Tamarind)
Professional Lithography II (3 – AS)
History of Graphic Arts II (3 – AH)
Total Non-Degree Hours = 12

Students must be enrolled as a Non-Degree Student during their first year.

Students must be accepted into the M.F.A. program their second year.

Students will need to fulfill these remaining MFA credit hour requirements in years 2 and 3:

3	Art Studio 502 Interdisciplinary Seminar (must be taken Fall 2)
12	Art Studio courses
3	Art History courses
6	Electives outside of studio
6	Electives outside of department
6	Free electives
36	Hours from M.F.A. Program
+12	Hours from TI (non-degree)
48	required for M.F.A. Program
+12	Dissertation hours
60	TOTAL HOURS REQUIRED FOR M.F.A. DEGREE

Course requirements: Tamarind 2 years + 1 year M.F.A.

Fall 1 (Tamarind)
Professional Lithography I (4 – AS)
Lithography Workshop I (2 – AS)

Spring 1 (Tamarind)
Professional Lithography II (3 – AS)
History of Graphic Arts II (3 – AH)

TOTAL NON-DEGREE HOURS = 12

Students must be enrolled as a Non-Degree Student during their first year.

Students must be accepted into the M.F.A. program their second year.

Fall 2 3 Art History 500 Philosophy and Methods
9 Art Studio 595 Graduate tutorials with Tamarind instructors (Master Printer Program)

Spring 2 12 Art Studio 595 Graduate tutorials with Tamarind instructors (Master Printer Program)

Fall 3 9 Art Studio 502 Interdisciplinary Seminar Any 500-level graduate art studio or art history courses

Spring 3 12 Art Studio 699 Dissertation

Subtotal 33-42 Art Studio (9 from non-degree)
6-15 Art History (3 from non-degree)

Total 48 **Required for M.F.A.**
+12 Dissertation hours
60 Total required for M.F.A. Degree

More information on Department of Art and Art History's graduate program, as well as links to the University's Office of Graduate Studies can be found at http://www.unm.edu/artdept/graduate_programs/.

Tamarind Institute is a division of the College of Fine Arts of the University of New Mexico.

Art History

The Art History graduate program is organized into two areas of concentration, Art of the Americas and Art of the Modern World, each of which integrates several fields of emphasis:

- I. Arts of the Americas brings together the arts of pre- and post-conquest cultures. Along with the study of the acknowledged discontinuities in form and series brought about by European conquest, this concentration promotes the equally important study of continuities in the long histories of American art and architecture. The goal is to promote a clearer understanding of the Art of the Americas within the larger unity now perceived for American art traditions.

Arts of the Americas covers the cultures of the North, Middle, Central, and South Americas. A concentration in this area is usually achieved within one of the integral fields of emphasis: Pre-Columbian Art History, Native American Art History, and Spanish Colonial Art History.

- II. Arts of the Modern World encompasses the history of painting, sculpture, architecture, decorative art, drawing, graphic art, photography, and film in Europe and the Americas from 1750 to the present. It explores the democratization and consequent growth of intellectual and stylistic pluralism in the arts during a time of rapid technological, social, political, and aesthetic change. Current critical developments in the discipline of art history emphasize the need to reexamine works of art within their cultural contexts and to provide a theoretical framework for them while continuing the more traditional studies of the works in terms of characteristics of style, iconography, and medium. A concentration in this area is usually achieved within one of the integral fields of emphasis: History of Architecture, History of Photography, History of Graphic Arts, and 19th and 20th Century Western Art History.

Students may pursue an emphasis within either of the preceding areas of concentration. While focusing on a specialized field in preparation for their M.A. thesis or Ph.D. dissertations, students must also familiarize themselves with the other fields in their general area of concentration. Students are also encouraged to select courses in other graduate units within the University.

Admission to the Art History Programs

Applicants for admission to the M.A. program should preferably have an undergraduate major in the history of art with a minimum of 24 semester hours (or the equivalent as approved by the admitting faculty) as well as advanced courses in history, literature, and philosophy. Any deficiencies in this required preparation must be removed during the first year of course work for the degree. Graduate credit will not be given for courses taken to remove a deficiency, but graduate courses may be taken concurrently. Prospective students should note that candidates for the M.A. degree will be required to demonstrate a general knowledge of the history of art.

In preparing an application for admission to the doctoral program, the potential candidate is urged to state aims clearly and to specify the field of art history to be investigated. A candidate will not be accepted unless these aims fall within the scope of the University's program and unless the Department believes these aims can be realized. Field work and travel will inevitably be necessary in support of research at the doctoral level.

Applicants for admission to the Ph.D. program should have an M.A. in art history or, in exceptional circumstances as approved by the admitting faculty, in such cognate disciplines as history, anthropology, archaeology, or American Studies. Those admitted to the Ph.D. program without an M.A. in art history may be required to take additional graduate courses beyond the minimum Ph.D. requirement of 48 hours of course work; in all cases they must take and pass the M.A. comprehensive examination.

As part of the application for admission to graduate study, the student must submit materials as follows:

- 1. Application for Admission, Registration Information and application fee.
- 2. Two sets of official transcripts from all institutions previously attended.
- 3. Three Letters of Recommendation.
- 4. **Statement of Intent.** A clearly written statement of intent describing in detail reasons for wishing admission. This statement, no more than three pages in length (typewritten), should include the following:
 - a. the proposed field of concentration;
 - b. a self-evaluation of current work;
 - c. an account of any special experiences which might indicate a background in art more extensive than most students with a B.A. degree;
 - d. a statement of goals while attending and after completing graduate study;
 - e. reasons for choosing the University of New Mexico as a place for graduate study.
 In evaluating this written statement, both its form and content will be carefully considered.
- 5. **Writing Sample.** A recent example of creative scholarship in the form of an academic paper or article must be submitted for evaluation. This material will not be returned unless accompanied by a stamped, self-addressed envelope.

All items mentioned above should be mailed directly to the Graduate Office, Department of Art and Art History, MSC04 2560, 1 University of New Mexico, Albuquerque, NM 87131-0001.

M.A. Degree Requirements

(Also see the Master's Degree general requirements described in this catalog, Plan I.)

Course Work

ARTH 500 Philosophy and Methods of Art History	3
ARTH graduate courses in <i>primary concentration</i>	9
ARTH graduate courses in <i>secondary concentration</i>	9
ARTH graduate courses in another emphasis within the <i>primary concentration</i>	3
Minimum coursework listed above	24
ARTH 599 Master's Thesis	6
Total	30

All work offered toward degree requirements must fall within a five-year period. Transfer credits must fall within the OGS-mandated seven-year period.

The M.A. degree in Art History is *only* offered under *Plan I* (requiring thesis). *Plan I requirements* are:

- 1. A minimum of 24 hours of coursework, with a minimum of 15 hours in the major field
- 2. A minimum of 6 hours of 500-level coursework
- 3. A maximum of 6 hours of problems courses.
- 4. Six hours of Thesis (599) credit
- 5. Completion of a master's thesis.

M.A. Art History Course Requirements

Each student must first select a primary and secondary Concentration in either:

- I. Arts of the Americas
- OR-
- II. Arts of the Modern World

Within their primary concentration, students must select an Emphasis from the following options:

- I. **Arts of the Americas Emphases:**
 - Native American Art History
 - Pre-Columbian Art History
 - Spanish Colonial Art History

II. Arts of the Modern World Emphases:

History of Architecture
 History of the Graphic Arts
 History of Photography
 Modern American and European Art History
 Modern Latin American Art History

There is, of course, some overlap between many of these areas. For example, all four sub-headings in Area A., Arts of the Modern World, are concerned with issues of modernism, modernity, modernization, and post-modernism. In each case, the nature of these concerns will vary owing to the predominant body of monuments being analyzed and the specific media whereby these artworks are produced. Part of the Native American Art, while placed in category B, is then also considered Arts of the Modern World. Courses that cover more than one field can potentially be used flexibly in the Program of Studies. If you have taken seminars that cover more than one area of focus, you should discuss this use with your committee chair.

Course work:

M.A. students are required to complete 24 hours of course work, plus 6 hours of Art History 599 (Thesis), for a total of 30 hours.

All M.A. students must take Art History 500 (Philosophy and Methods of Art History), normally during their first semester.

The remaining 21 required hours are to be distributed according to the following:

- 9 hours of course work in the chosen Emphasis;
- AND-
- 3 hours of course work in another Emphasis within the primary Concentration;
- AND-
- 9 hours of coursework in the secondary Concentration.

For example, if a student selects an Emphasis in Pre-Columbian Art History, he or she must take:

- 9 hours of course work in Pre-Columbian Art History;
- AND-
- 3 hours of course work chosen from either Native American Art History, or Spanish Colonial Art History;
- AND-
- 9 hours of course work in Arts of the Modern World.

While Art History 550 and 551 (Graduate Tutorials) are available, **M.A. students will be limited to one 3-hour Graduate Tutorial**, as approved by her or his Committee on Studies. A student may also petition his or her Committee on Studies to approve a substitute course from another Department, if it is closely related to the student's specific Concentration or Emphasis.

Graduate courses available in each Concentration & Emphasis are as follows (courses marked with an asterisk are available for graduate credit):

I. Arts of the Americas:**A. Native American Art History****

502 Native American Art I
 506 Native American Art II
 515 Modern Native American Art
 516 Southwestern Native Ceramics
 517 Native American Tourist Arts
 529 Topics in Native American Art
 559 Seminar in Native American Art

B. Pre-Columbian Art & Architecture

*343 Pre-Columbian Architecture
 511 Pre-Columbian Art (Mesoamerica)
 512 Pre-Columbian Art (South America)
 529 Topics in Pre-Columbian Art
 560 Seminar in Pre-Columbian Art

C. Spanish Colonial Art

*330 Renaissance Art & Architecture
 *352 Renaissance Art in Northern Europe
 529 Topics in Spanish Colonial Art
 431 Byzantine Art and Architecture

432 Islamic Art and Architecture
 549 Art of Spain
 550 Spanish Colonial Art
 580 Seminar in Spanish Colonial Art

II. Arts of the Modern World**A. History of Architecture**

522 Contemporary Architecture
 523 Frank Lloyd Wright and American Architecture
 529 Topics Courses in History of Architecture
 567 World Architecture I
 568 World Architecture II
 581 Seminar in Early Modern Art 1750-1900 (as it relates to the History of Architecture)
 582 Seminar in Twentieth Century Art (as it relates to the History of Architecture)

B. History of Graphic Arts

520 History of Graphic Arts I
 521 History of Graphic Arts II
 529 Topics Courses in History of Graphic Arts
 581 Seminar in Early Modern Art 1750-1900 (as it relates to the History of Graphic Arts)
 582 Seminar in Twentieth Century Art (as it relates to the History of Graphic Arts)

C. History of Photography

525 19th-Century Photography
 526 20th-Century Photography
 527 Contemporary Photography
 529 Topics in History of Photography
 581 Seminar in Early Modern Art 1750-1900 (as it relates to the History of Photography)
 582 Seminar in Twentieth Century Art (as it relates to the History of Photography)

D. Modern American and European Art History

529 Topics in Modern Art of America and/or Europe
 553 African-American Art
 563 Modern Architecture
 564 European Art 1750-1848
 579 American Art 1876-1940
 581 Seminar in Early Modern Art 1750-1900
 582 Seminar in 20th-Century Art
 590 Muralism in the Americas 1920-1995
 591 Late 20th-Century Art
 595 European Art 1948-1900

E. Modern Latin-American Art

529 Topics in Modern Latin-American Art
 588 The Arts of Mexico 1810-1945 (will become 19th-c. Arts of Mexico)
 590 Muralism in the Americas 1920-1995
 593 The Art of Latin America 1820-1945
 594 The Art of Latin America 1945-1990

Graduate courses that are not necessarily specific to either concentration or emphasis but that can count toward both of them:

ARTH 504 Seminar in Minor Arts
 ARTH 533 Italian Mannerism
 ARTH 549 Art of Spain
 ARTH 571 Seminar in Renaissance and Baroque Art
 ARTH 581 Seminar in Early Modern Art 1750-1900

Committee on Studies

A student forms a Committee on Studies during the semester in which 12 semester graduate course hours are completed. This three-member committee is formed in consultation with the proposed chairperson of the Committee and the Department Director of Graduate Studies and with the approval of the Department Chairperson. Changes in membership are also made in this manner.

Filing Program of Studies

Students must file the Program of Studies form soon after completing 12 graduate hours. Before a student may file their Program of Studies and commencement of the thesis, a student must:

1. Successfully complete ARTH 500 (Philosophy and Methods of Art History) during the first year of residence.
2. Successfully participate in the Spring Symposium. The student presents a satisfactory 20-minute formal paper or research work in progress to peers and faculty during the 12th week of the second semester (Spring semester) in the program.
3. Provide evidence of proficiency in at least one foreign language appropriate to the student's area of concentration (see Department Graduate Advisor for methods of fulfilling this requirement).

Approval of the Program of Studies will be granted by the Dean of Graduate Studies only after the residency requirement is met and the Program of Studies has been approved by the Committee on Studies and the Department Director of Graduate Studies.

Approval of the Program of Studies in no way implies successful completion of the M.A. degree. The Program of Studies must be submitted to the Dean of Graduate Studies for approval by October 1st of the semester before the student intends to graduate at the latest.

Comprehensive Examination in Art History

Students must pass a written comprehensive examination covering the major areas of the history of art. The M.A. candidate should take this Comprehensive Examination, scheduled early in every Fall and Spring semester, in the semester after which 12 hours of course work has been completed.

M.A. Thesis and Defense

The thesis is an extended research paper that demonstrates a candidate's ability to perform research and analysis at the graduate level. The student defends the thesis in an oral examination administered by the Committee on Studies.

The student must notify the Office of Graduate Studies at least two weeks before the date of the thesis defense on the forms available. Results of the defense are recorded on the reverse side of the final examination announcement form. The student is responsible for initiating the procedure and making sure that the original notice is sent to the Office of Graduate Studies.

Time Limit to Complete Requirements

All work offered towards the M.A. degree must be accomplished within a five-year period from the time of admission, including transfer work from another institution.

Ph.D. Degree Requirements

Also see the Ph.D. Degree general requirements described in the catalog. Those admitted to the Ph.D. program without an M.A. in art history may be required to take additional graduate courses beyond the minimum Ph.D. requirement of 48 hours of course work; in all cases they must take and pass the M.A. Comprehensive Examination.

Course Work

- A. A minimum of 48 hours of course work beyond the bachelor's degree, exclusive of dissertation.

- A maximum of 30 hours from the M.A. degree, if approved, may be counted toward the 48-hour requirement. 30
 - ARTH graduate courses in the concentration and graduate courses in supporting fields 18
- | | |
|---------------------|-----------|
| Minimum course work | 48 |
| ARTH Dissertation | 18 |
| Total | 66 |
- B. Within the context of courses listed above:
 - A minimum of 18 hours of 500-level courses or above completed at the University of New Mexico.
 - At least 18 hours completed in residence at the University.

Because of the specialized nature of the Doctoral degree in Art History, emphases at the Master's level are concentrations at this level.

Ph.D. Concentrations:

Pre-Columbian Art History
 Native American Art History
 Spanish Colonial Art History
 Art of Colonial America – Art of the United States
 Modern Latin America / Latino Art History
 History of Architecture
 History of Photography
 History of Graphic Arts
 19th and 20th Century Western Art History

The 18 credit hours in Art History graduate courses in the concentration and graduate course in supporting fields can be taken from the course listing under the Master's section.

Time Limit to Complete Requirement

A doctoral candidate will have five years for completion of all degree requirements from the date the student is formally Advanced to Candidacy by the Dean of the Office of Graduate Studies.

Students seeking the Ph.D. degree must demonstrate, beyond a general mastery of the discipline, comprehensive knowledge of their fields of study and the ability to conduct original research. Required course work outside the Department of Art and Art History will be determined by the student's particular needs and shall be undertaken only with the advice and approval of his/her Committee on Studies.

Committee on Studies

The doctoral program is governed by a system of mentorship. Students seeking the Ph.D. must form a Committee on Studies, in consultation with the proposed Chairperson of the Committee and the Department Director of Graduate Studies, and with the approval of the Department Chairperson, during their first semester in residency. Changes in membership are also made in this manner. Dissertation committees will consist of at least four members approved for graduate instruction (normally regular, full-time University of New Mexico faculty appointments). The external committee member, must hold a regular, full-time faculty appointment outside the student's unit/department at the University of New Mexico or another accredited institution. The fourth committee member may be a regular University of New Mexico faculty member or non-faculty expert in the student's major research areas. The chairperson must be a regular University of New Mexico faculty member from the department, and the dissertation committee must be approved by the Department.

Advancement to Candidacy

Students admitted to the doctoral program with an M.A. from another institution must meet the following general requirements before advancing to candidacy: ARTH 500, and Spring Symposium (Spring semester) (see M.A. Degree Requirements). Doctoral students admitted with an M.A. in a field other than Art History must also pass the Department M.A. Comprehensive Examination. Advancement to Candidacy

usually takes place during the semester in which the student completes the minimum of 18 hours of course work (500-level and above) beyond the M.A. In addition to those listed in the Graduate Program section of this catalog, the requirements for advancement to candidacy for the Ph.D. are:

1. Evidence of proficiency in at least two foreign languages appropriate to the student's area of concentration (see Department Graduate Advisor for methods of fulfilling this requirement).
2. Successful completion of the Doctoral Comprehensive Examination, administered by the student's Committee on Studies; this written examination tests the student's comprehensive knowledge of the field of specialization.
3. Fulfillment of residency requirements.
4. Acceptance of dissertation proposal. A preliminary outline of the proposed dissertation subject and research must be approved by the student's Committee on Studies prior to beginning enrollment in Dissertation.

Dissertation and Defense

The dissertation demonstrates the student's ability to undertake original research and to write a readable, scholarly argument of book length. The student is expected to have complete knowledge of the historical, critical, theoretical, and methodological issues raised by the subject. The student defends the dissertation in an oral examination administered by the Committee on Studies.

The student must notify the Office of Graduate Studies at least two weeks before the date of the dissertation defense on the forms available. Results of the defense are recorded on the reverse side of the final examination announcement form. The student is responsible for initiating the procedure and making sure that the original notice is sent to the Office of Graduate Studies.

Art History (ARTH)

The following courses, 101, 251, 201, 202 and 250, are strongly recommended to all students in the study of art history and related studio areas.

101. Introduction to Art. (3)

A beginning course in the fundamental concepts of the visual arts; the language of form and the media of artistic expression. Readings and slide lectures supplemented by museum exhibition attendance. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1013). {Fall, Spring}

201. History of Art I. (3)

Prehistoric, Near Eastern, Egyptian, Greek, Roman, Early Christian, Byzantine, Romanesque and Gothic Art. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 2113). {Fall}

202. History of Art II. (3)

Western Art from the Early Renaissance to Impressionism. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 2123). {Spring}

204. Greek Civilization. (3)

(Also offered as HIST, PHIL 204.) An interdisciplinary introduction to the ancient world as the foundation of modern civilization. Lectures on classical art, history, literature and philosophy.

205. Roman Civilization. (3)

(Also offered as CLST, HIST, PHIL 205.) An interdisciplinary introduction to ancient Rome. Lectures on Roman literature, history, art and philosophy.

210. History of Photography. (3)

A survey tracing the historical and cultural impact of photography, including artistic, scientific, documentary, commercial, and vernacular images. {Offered upon demand}

250. Modern Art. (3) Craven

Major stylistic developments of European and American painting and sculpture from Impressionism to approximately World War II. {Fall, Summer}

251. Artistic Traditions of the Southwest. (3)

Interrelationships of Native American, Hispanic and Anglo cultures from prehistoric times to the present, emphasizing the major forms of expression—pottery, textiles, jewelry, architecture, painting and photography. Slide lectures supplemented by museum exhibits. {Offered upon demand}

252. Contemporary Art and New Media. (3)

This course surveys the roots and evolution of what is now regarded as New Media and Contemporary Art, those pioneering new forms and technologies that often blur the boundaries between art, science, and technology.

303. Asian Art. (3)

An introduction of prominent visual forms in Asia known over time (Neolithic to modern period). The slide lectures survey different artistic media according to region in historical and cultural contexts. {Offered upon demand}

315. Ancient Art. (3)

Architecture, painting, and sculpture from 1800 B.C. to 6th century A.D.

321. Early Medieval Art, 500–1000 C.E. (3)

Survey of the visual cultures (architecture, luxury objects, book illumination and illustration) of the Medieval World, including northern and Mediterranean Europe and the Islamic World, from 500 to 1000 C.E. {Offered upon demand.}

322. High Medieval Art, 1000–1200 C.E. (3)

Survey of the visual cultures (architecture, luxury objects, book illumination and illustration) of the Medieval World, including northern and Mediterranean Europe and the Islamic World, from 1000 to 1200 C.E. {Offered upon demand.}

323./567. [261./567.] World Architecture I: History of the Built Environment from Pre-History to 1400 CE. (3)

(Also offered as ARCH 321./523.) Lecture survey of the architectural and urban traditions of ancient and indigenous cultures from prehistory to the late middle ages. Restriction: enrolled in B.A.A. or B.F.A. ARTH.

324./568. [262./568.] World Architecture II: History of the Built Environment From 1400 CE to the Present. (3) Mead

(Also offered as ARCH 322./524.) Survey of the architectural and urban traditions of the modern world from the renaissance to the present. Prerequisite: 323. {Spring}

*330. Renaissance Art and Architecture. (3)

Survey of visual culture of the thirteenth through sixteenth-centuries in Italy, as well as Northern Europe. Interactions with Byzantium, the Islamic world, and Spain will also be considered.

*340. Baroque Art. (3)

Painting, sculpture and architecture of the 17th-century European masters, such as Bernini, Rubens, Velasquez, Poussin and Rembrandt, are examined against their background of religious and political conflict, theoretical dispute and the rise of modern science.

*343. Pre-Columbian Architecture. (3)

(Also offered as ARCH 363.) North, South and Mesoamerican pre-Columbian architecture, with emphasis on the cultural background of ancient civilization. {Offered upon demand}

*352. Renaissance Art in Northern Europe. (3)

Northern European art from the late 14th century through the 16th century.

402./502. Native American Art I. (3) Szabo

(Also offered as ANTH 401.) Archaeological and historic art forms of the Arctic Northwest coast and the eastern woodlands of North America. {Fall}

478 FINE ARTS

405/505. Pre-Historic Art. (3)

Prehistoric art and architecture of the Mediterranean Basin from the Paleolithic Period to the Bronze age.

406/506. Native American Art II. (3) Szabo

(Also offered as ANTH 403.) Archaeological and historic art forms of the Plains, Southwest and western regions of North America. (Spring)

407/507. Museum Practices. (3 to a maximum of 6) Δ

(Also offered as ANTH 402, MSST 407.) History, philosophy and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation and public relations. (Offered upon demand)

411/511. Pre-Columbian Art: Mesoamerica. (3)

The art of Mexico and Central America prior to the 16th century. (Fall)

412/512. Pre-Columbian Art: South America. (3)

Arts of the Andean region prior to the 16th century. (Spring)

415/515. Modern Native American Art. (3) Szabo

Late 19th century through the present, includes painting and photography as well as media more often termed traditional. Examines historical background and current critical issues including the impact of stereotypes and the marketplace. (Offered periodically)

416. Southwestern Native Ceramics. (3) Szabo

This course examines Native Southwestern ceramics from the archaeological past to the present. Regional developments, changes in ceramics made for internal use and for outside sale, as well as issues of the contemporary market are investigated. (Offered periodically)

417/517. Seminar in Native American Tourists Arts. (3) Szabo

Long undervalued, Native arts made for outside sale provide multi-voiced narratives. Seminar-format will examine the intrinsic, aesthetic value of these complex arts, their roles and their importance to creators, purchasers and various audiences.

420/520. History of Graphic Arts I. (3)

Printmaking, printing and book illustration from Gutenberg to Goya, presenting the graphic arts as an expression of intellectual history and the precursor of photography. Provides an introduction to the curatorship of prints and books.

421/521. History of the Graphic Arts II. (3)

Printmaking, printing and artists' books from Goya to present. Including the graphic arts and photography, the rise of the ideas of the original print, 20th-century mixed media and the relationship between words and images. (Spring)

422/522. Contemporary Architecture. (3) Mead

(Also offered as ARCH 425/525.) This experimental seminar provides a forum in which to discuss the theoretical issues and critical diversity of contemporary architecture of the last 30 years.

Restriction: enrolled in B.F.A. ARTH or B.A.A. ARCH. (Offered upon demand)

423/523. Frank Lloyd Wright and American Architecture. (3) Mead

(Also offered as ARCH 423.) This seminar examines the origins, principles, practitioners, consequences of an American tradition of architecture that Frank Lloyd Wright called organic.

Restriction: permission of instructor. (Offered upon demand)

425/525. 19th-Century Photography. (3)

An in-depth study of historical, critical, and theoretical issues in American and European photographic visual culture from its inception to approximately 1914. (Offered upon demand)

426/526. 20th-Century Photography. (3)

An in-depth study of historical, critical, and theoretical issues in American and European photographic visual culture from 1914 to approximately 1980. (Offered upon demand)

427/527. Contemporary Photography. (3)

An in-depth study of recent photographic visual culture, from approximately 1980 to the present. Emphasis on how images are deployed and understood as efforts to explore artistic, cultural, political, social, and theoretical issues. (Offered upon demand)

429. Topics in Art History. (1-3, no limit) Δ

Course work determined by specific students' request or by the professor's current research. (Offered upon demand)

431/531. Byzantine Art and Architecture. (3)

This course will explore the worship and display of art and architecture from the Byzantine Empire with a specific emphasis on the cross-cultural connections among Byzantium, Medieval Europe, the Islamic world, and the Armenian Kingdom.

432/532. Islamic Art and Architecture. (3)

An introduction to the visual culture of the Islamic world from its foundations in the seventh century on the Arabian Peninsula to its flowering under Ottoman and Mughal rule in the seventeenth century.

449/549. Art of Spain. (3)

Survey of Spanish art and civilization. (Offered upon demand)

450/550. Spanish Colonial Art. (3)

Architecture, sculpture and painting in the period of Spanish colonization and the relation of these art forms to both the Spanish and the native Indian traditions. (Offered upon demand)

453/553. African American Art. (3) Buick

(Also offered as AFST 453.) This class provides an overview of African American artists and contextualizes their creativity within the wider framework of U.S. art. What, for example, are the benefits and pitfalls of assigning race to any creative practice?

463/563. Modern and Contemporary Architecture. (3)

Mead

(Also offered as ARCH 422./522.) Survey of modern architecture since the late 19th century, primarily in Europe and the Americas.

Prerequisite: 323 or 324. Restriction: enrolled in M.F.A. ARTH or M. ARCH. (Spring)

464/564. European Art 1750-1830. [European Art 1750-1848.] (3)

Painting, sculpture and architecture in France, England, Spain and Germany from the twilight of Absolutism through the Industrial and French Revolutions.

472/572. American Art: 1675-1875. (3) Buick

Visual culture from colonial times through the Civil War including works by West, Greenough, Duncanson and Homer. Topics include various genres, artistic training and the market and art's relationship to ethnic, gender and national identity.

476/576. Chicano Art: A History of an American Art Movement 1965 to Present. [Chicano Art: A History of an American Art Movement 1965-1995.] (3) Barnett

Chicano art began in Mexican American communities in support of the civil rights movement, becoming a national art movement with international scope. Discourses of form, content, institutional practice, tradition, innovation, mythic constructs, political/cultural engagement. (Offered upon demand)

479/579. American Art: 1876-1940. (3) Buick

Visual culture from Reconstruction to World War II including works by Eakins, Stieglitz, Douglas and O'Keeffe. Traces the emergence of American Impressionism, early Modernism and Regionalism and explores their engagement with political, cultural and social debates.

481./595. European Art 1830-1900. [European Art 1848-1900.] (3)

Painting and sculpture in France, England and Germany from Courbet's Realism and the Victorian Pre-Raphaelites through Impressionism and the late works of Cezanne and Monet.

***484. Evaluating the Arts.** (3)

(Also offered as DANC, MUS, MA, THEA 484.) Examines the practice of criticism, with emphasis on critical processes that penetrate a variety of art forms. Also explores aesthetic theories and cultural outlooks that underpin practical criticism. Restriction: permission of instructor.

485./585. Seminar in Museum Methods. (3 to a maximum of 6) Δ

(Also offered as MSST, ANTH 485.) Theoretical and practical work in specific museum problems. Prerequisite: 407 or ANTH 402. (Offered upon demand)

486./586. Practicum: Museum Methods. (3)

(Also offered as MSST, ANTH 486.) Practicum in museum methods and management. Prerequisite: ARTH 407 or ANTH 402. Restriction: permission of instructor. (Offered upon demand)

487./587. Contemporary Interdisciplinary Topics. (3 to a maximum of 6). Δ

(Also offered as DANC, MA, MUS, THEA 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day. Restriction: permission of instructor.

488./588. The Arts of Mexico, 1810-1945. (3) Barnett Art movements, themes, mediums, institutions and individual artists who were influential in the formation of modern Mexico's complex artistic identity between its War of Independence and the end of World War II. (Alternate Falls)

489./589. The Arts of Mexico, 1945-1990. (3) Barnett Post-war developments in modernism and post-modernism. Established and innovative artistic practices, organizations and movements. (Alternate Springs)

490./590. Muralism in the Americas, 1920-Present.

[Muralism in the Americas, 1920-1995.] (3) Barnett History of muralism from the Mexican mural movement to the depression-era United States, the emergence of U.S. civil rights muralism in the 1960s and parallel developments in the Caribbean, Central and South America. (Offered upon demand)

491./591. Late 20th-Century Art. (3) Craven Painting and sculpture, 1940 to the present.

Prerequisite: 250.

492./592. American Landscapes. (3) Buick

The class provides an examination of how densely populated American environments were reinterpreted by Europeans upon contact in the process of designing and implementing various systems for their habitation, exploitation, and consumption.

493./593. The Art of Latin America, 1820-1945. (3)

Barnet

Central and South American art from independence to the end of World War II. Chronological, thematic and institutional developments from national and regional perspectives in addition to themes, styles, movements and other issues of continental significance. (Alternate Falls)

494./594. The Art of Latin America, 1945-1990. (3)

Barnet

Central and South American post-war modernism and post-modernity examined through issues of theme, style and medium, including contemporary artistic practices such as conceptual and installation art. (Alternate Springs)

496. Undergraduate Tutorial. (3, no limit) Δ

Individual investigation or reading under faculty direction. Restriction: permission of instructor. (Fall, Spring)

499. Honors Thesis. (3-6)

Directed independent study in a field of special interest culminating in a written thesis. Open only by invitation to departmental honors candidates. (Fall, Spring)

500. Philosophy and Methods of Art History. (3)

A seminar for graduate students in art history stressing the history of the discipline and the methodology of research. Open to graduate students in art history. Prerequisite for others: permission of instructor. (Fall)

502./402. Native American Art I. (3) Szabo

(Also offered as ANTH 501.) Archaeological and historic art forms of the Arctic Northwest coast and the eastern woodlands of North America. (Fall)

503. Introduction to Graduate Studies. (3)

Introduction to methodologies, research tools, bibliographies, standard reference works and critical writings about recent art for the studio student. Open only to studio graduate students in the Department of Art and Art History.

505./405. Pre-Historic Art. (3)

Prehistoric art and architecture of the Mediterranean Basin from the Paleolithic Period to the Bronze age.

506./406. Native American Art II. (3) Szabo

(Also offered as ANTH 503.) Archaeological and historic art forms of the Plains, Southwest and western regions of North America. (Spring)

507./407. Museum Practices. (3 to a maximum of 6) Δ

(Also offered as ANTH 582, MSST 507.) History, philosophy and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation and public relations. (Offered upon demand)

511./411. Pre-Columbian Art: Mesoamerica. (3)

The art of Mexico and Central America prior to the 16th century. (Fall)

512./412. Pre-Columbian Art: South America. (3)

Arts of the Andean region prior to the 16th century. (Spring)

515./415. Modern Native American Art. (3) Szabo

Late 19th century through the present, includes painting and photography as well as media more often termed traditional. Examines historical background and current critical issues including the impact of stereotypes and the marketplace. (Offered periodically)

516./416. Southwestern Native Ceramics. (3) Szabo

This course examines Native Southwestern ceramics from the archaeological past to the present. Regional developments, changes in ceramics made for internal use and for outside sale, as well as issues of the contemporary market are investigated. (Offered periodically)

517./417. Seminar in Native American Tourists Arts.

(3) Szabo

Long undervalued, Native arts made for outside sale provide multi-voiced narratives. Seminar-format will examine the intrinsic, aesthetic value of these complex arts, their roles and their importance to creators, purchasers and various audiences.

520./420. History of Graphic Arts I. (3)

Printmaking, printing and book illustration from Gutenberg to Goya, presenting the graphic arts as an expression of intellectual history and the precursor of photography. Provides an introduction to the curatorship of prints and books.

521./421. History of the Graphic Arts II. (3)

Printmaking, printing and artists' books from Goya to present. Including the graphic arts and photography, the rise of the ideas of the original print, 20th-century mixed media and the relationship between words and images. (Spring)

- 522./422. Contemporary Architecture. (3)** Mead (Also offered as ARCH 525./425.) This experimental seminar provides a forum in which to discuss the theoretical issues and critical diversity of contemporary architecture of the last 30 years.
Restriction: enrolled in M.F.A. ARTH or M. Arch. {Offered upon demand}
- 523./423. Frank Lloyd Wright and American Architecture. (3)** Mead (Also offered as ARCH 529.) This seminar examines the origins, principles, practitioners, consequences of an American tradition of architecture that Frank Lloyd Wright called organic.
Restriction: permission of instructor. {Offered upon demand}
- 525./425. 19th-Century Photography. (3)**
An in-depth study of historical, critical, and theoretical issues in American and European photographic visual culture from its inception to approximately 1914. {Offered upon demand}
- 526./426. 20th-Century Photography. (3)**
An in-depth study of historical, critical, and theoretical issues in American and European photographic visual culture from 1914 to approximately 1980. {Offered upon demand}
- 527./427. Contemporary Photography. (3)**
An in-depth study of recent photographic visual culture, from approximately 1980 to the present. Emphasis on how images are deployed and understood as efforts to explore artistic, cultural, political, social, and theoretical issues. {Offered upon demand}
- 529. Topics in Art History. (1-3, no limit) Δ**
{Offered upon demand}
- 531./431. Byzantine Art and Architecture. (3)**
This course will explore the worship and display of art and architecture from the Byzantine Empire with a specific emphasis on the cross-cultural connections among Byzantium, Medieval Europe, the Islamic world, and the Armenian Kingdom.
- 532./432. Islamic Art and Architecture. (3)**
An introduction to the visual culture of the Islamic world from its foundations in the seventh century on the Arabian Peninsula to its flowering under Ottoman and Mughal rule in the seventeenth century.
- 549./449. Art of Spain. (3)**
Survey of Spanish art and civilization. {Offered upon demand}
- 550./450. Spanish Colonial Art. (3)**
Architecture, sculpture and painting in the period of Spanish colonization and the relation of these art forms to both the Spanish and the native Indian traditions. {Offered upon demand}
- 551–552. Problems. (2-3 to a maximum of 6 hours) Δ**
{Fall, Spring}
- 553./453. African American Art. (3)** Buick
This class provides an overview of African American artists and contextualizes their creativity within the wider framework of U.S. art. What, for example, are the benefits and pitfalls of assigning race to any creative practice?
- 558. Seminar in Pre-Historic Art. (3)**
The seminar concentrates on the theoretical questions engendered by the earliest prehistoric cultures; the origin and generation of meaning; the primacy of language; the affinities between language and image; the politics of the Great Goddess and reception theory; and modern uses of prehistory and ethnography.
- 559. Seminar in Native American Art. (3, no limit) Δ**
Szabo
(Also offered as ANTH 509.)
Restriction: permission of instructor. {Offered upon demand}
- 560. Seminar in Pre-Columbian Art. (3 to a maximum of 15) Δ**
Aspects of Pre-Columbian art, architecture, and culture in Mesoamerica and South America are examined in depth.
Prerequisite: 511 and 512. {Offered upon demand.}
- 563./463. Modern and Contemporary Architecture. (3)**
Mead
(Also offered as ARCH 522./422.) Survey of modern architecture since the late 19th century, primarily in Europe and the Americas.
Restriction: enrolled in M.F.A. ARTH or M.Arch. {Offered upon demand}
- 564./464. European Art 1750-1830. [European Art 1750–1848.] (3)**
Painting, sculpture and architecture in France, England, Spain and Germany from the twilight of Absolutism through the Industrial and French Revolutions.
- 567./323. World Architecture I: History of the Built Environment From Prehistory to 1400 CE. (3)**
(Also offered as ARCH 523./321.) Survey of the architectural and urban traditions of ancient and indigenous cultures from prehistory to the late middle ages.
Restriction: enrolled in M.F.A. {Fall}
- 568./324. [568./262.] World Architecture II: History of the Built Environment From 1400 CE to the Present. (3)** Mead
(Also offered as ARCH 524./322.) Survey of the architectural and urban traditions of the modern world from the renaissance to the present.
Prerequisite: 323. {Spring}
- 572./472. American Art: 1675–1875. (3)** Buick
Visual culture from colonial times through the Civil War including works by West, Greenough, Duncanson and Homer. Topics include various genres, artistic training and the market and art's relationship to ethnic, gender and national identity.
- 576./476. Chicano Art: A History of an American Art Movement 1965 to Present.** [Chicano Art: A History of an American Art Movement 1965–1995.] (3) Barnet
Chicano art began in Mexican American communities in support of the civil rights movement, becoming a national art movement with international scope. Discourses of form, content, institutional practice, tradition, innovation, mythic constructs, political/cultural engagement.
Suggested prerequisite: 479. {Offered upon demand}
- 579./479. American Art: 1876–1940. (3)** Buick
Visual culture from Reconstruction to World War II including works by Eakins, Stieglitz, Douglas and O'Keeffe. Traces the emergence of American Impressionism, early Modernism and Regionalism and explores their engagement with political, cultural and social debates.
- 580. Seminar in Spanish Colonial Art. (3, no limit) Δ**
Prerequisite: 450. {Offered upon demand.}
- 581. Seminar in Early Modern Art 1750–1900. (3 to a maximum of 12) Δ**
Prerequisite: 481. {Offered upon demand.}
- 582. Seminar in 20th-Century Art. (3, no limit) Δ**
Prerequisite: 491. {Offered upon demand}
- 583. Seminar in Modern/Contemporary Latin American Art History. (3, no limit) Δ** Barnet
Restriction: permission of instructor. {Offered upon demand}
- 584. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ**
(Also offered as MUS, THEA 584 and MA *485.) An independent study in either critical studies or studio, beyond the scope of the Fine Arts interdisciplinary courses, which may occur within or outside the College of Fine Arts.
Restriction: permission of instructor. {Fall, Spring}

585/485. Seminar in Museum Methods. (3 to a maximum of 6) Δ

(Also offered as MSST, ANTH 585.)

Prerequisite: 407 or ANTH 402. (Offered upon demand)

586/486. Practicum: Museum Methods. (3 to a maximum of 6) Δ

(Also offered as MSST, ANTH 586.) Practicum in museum methods and management.

Prerequisite: 585 or ANTH 585. Restriction: permission of instructor. (Offered upon demand)

587/487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as DANC, MUS, THEA 587 and MA *487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day. (Spring)

588/488. The Arts of Mexico, 1810–1945. (3) Barnet

Art movements, themes, mediums, institutions and individual artists who were influential in the formation of modern Mexico's complex artistic identity between its War of Independence and the end of World War II. (Alternate Falls)

589/489. The Arts of Mexico, 1945–1990. (3) Barnet

Post-war developments in modernism and post-modernism. Established and innovative artistic practices, organizations and movements. (Alternate Springs)

590/490. Muralism in the Americas, 1920–Present.

[Muralism in the Americas, 1920–1995.] (3) Barnet History of muralism from the Mexican mural movement to the depression-era United States, the emergence of U.S. civil rights muralism in the 1960s and parallel developments in the Caribbean, Central and South America. (Offered upon demand)

591/491. Late 20th-Century Art. (3) Craven

Painting and sculpture, 1940 to the present.

Prerequisite: 250.

592/492. American Landscapes. (3) Buick

The class provides an examination of how densely populated American environments were reinterpreted by Europeans upon contact in the process of designing and implementing various systems for their habitation, exploitation, and consumption.

593/493. The Art of Latin America, 1820–1945. (3) Barnet

Central and South American art from independence to the end of World War II. Chronological, thematic and institutional developments from national and regional perspectives in addition to themes, styles, movements and other issues of continental significance. (Alternate Falls)

594/494. The Art of Latin America, 1945–1990. (3) Barnet

Central and South American post-war modernism and post-modernity examined through issues of theme, style and medium, including contemporary artistic practices such as conceptual and installation art. (Alternate Springs)

595/481. European Art 1830-1900. [European Art 1848–1900.] (3)

Painting and sculpture in France, England and Germany from Courbet's Realism and the Victorian Pre-Raphaelites through Impressionism and the late works of Cezanne and Monet.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only. (Fall, Spring)

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only. (Fall, Spring)

Art Studio (ARTS)**Major Courses**

All 100-level studio courses, with the exception of 188, carry no prerequisites and are designed for both students who have a general interest in art as well as students who plan on majoring or minoring in art.

106. Drawing I. (3)

Basic drawing concepts, including the expressive use of contour, value, perspective and composition while exploring both dry and wet media. Assigned problems may include still life, landscape, portraiture or the figure. (Fall, Spring)

121. Two-dimensional Design. (3)

Emphasis on elements of line, form, value, color theory, painting principles and visual vocabulary. Particular attention will be placed on a disciplined approach toward design and development of perceptual skills. (Fall, Spring)

123. Shop Foundations. (2)Familiarizes the art student with the safe practice and maintenance of wood and metal shop tools and machinery. **Offered on a CR/NC basis only.** (Fall, Spring)**125. Art Practices I. (3)**

This is an interdisciplinary course, exploring the thematic concepts and diverse media that are central to the nature of art making today. Art Practices I will investigate issues of LIGHT, FRAME, and MARK. (Fall, Spring)

126. Art Practices II. (3)

This is an interdisciplinary course, exploring the thematic concepts and diverse media that are central to the nature of art making today. Art Practices II will investigate issues of MOTIVE and CHANGE. (Fall, Spring)

130. Introduction to Electronic Art. (3)

Introduction to the computer as a medium and fine art tool. Course will explore history, theory and contemporary art issues associated with computer-based art practice, as well as introducing students to basic tools and technologies. (Fall, Spring)

141. Introduction to Art and Ecology. (3)

This course introduces the student to three basic skills of an ecological art practice: research, making, and an immersion in ecological systems through poetic thinking, subversive action, and creative fabrication. (Fall, Spring)

157. Small Scale Metal Construction I. (3 to a maximum of 6) Δ

Introduction to basic fabrication methods as they relate to object-making and small-scale sculpture. (Fall, Spring)

168. Introduction to Ceramics. (3)

Comprehensive introduction to the terms, concepts, historical, and technical information that support creative development. Includes hand building and throwing, basic clay bodies, slip and glaze, oxidation, reduction, and atmospheric firing. (Fall, Spring)

187. Introduction to Photography. (3)

This is a hands-on course introducing contemporary techniques, technologies, underlying concepts, and practitioners of fine art photography. ARTS 187 is a foundation course designed to prepare students for ARTS 188. (Fall, Spring)

188. Visualizing Ideas Using Photography. (3)

This course will help students use photography to develop their ideas conceptually. Students will work in both a traditional and an experimental manner with a variety of photographic processes and technologies to advance the visual presentation of their ideas. Prerequisite: 187.

205. Drawing II. (3)

Further concentration on basic drawing concepts with a greater emphasis on descriptive and perceptual drawing skills using both dry and wet media. Assigned problems explore aspects of still life, landscape, portraiture and/or the figure. Prerequisite: 106 and 121. (Fall, Spring)

207. Painting I. (3)

Painting materials and techniques, integrating basic drawing concepts with color theory and composition. Emphasis on descriptive and perceptual skills through assigned problems which explore aspects of still life, landscape, portraiture and/or the figure.
Prerequisite: 106 and 121. (Fall, Spring)

208. Painting II. (3 to a maximum of 6) Δ

Continued exploration of the painting concepts and techniques, presented in 207. Working from imagination as well as observation, emphasizing the expressive potential of the medium.
Prerequisite: 207. Corequisite: 305. (Fall, Spring)

213. Sculpture I. (3)

A further exploration into the concepts presented in Three-dimensional Design. Will investigate, through specific assignments, issues that are central to producing sculpture.
Pre- or Corequisite: 123. (Fall, Spring)

231. Video Art I. (3)

An investigation of video as a medium within a fine art context. Course will explore history, theory, and contemporary art issues associated with video art practice as well as develop student's mastery of technical skills.
Prerequisite: 130.

240. Inside the Outside: A Contemporary Survey of Ecological, Public, and Activist Art. (3)

This course will knit together land art from the 1960s with the present ecological practice of art with lectures and readings.
(Fall, Spring)

241. Social and Public Ecological Art. (3)

This course builds on the ecological practice of art, adding in public interaction, presentation, and social practice.
Prerequisite: 141 and 240. (Fall, Spring)

232. Sound Art I. (3)

An investigation of sound as a medium within a fine art context. Course will explore history, theory, and contemporary art issues associated with sound art and develop student's skills in sound editing/recording technology.
Prerequisite: 130.

257. Small Scale Metal Construction II. (3 to a maximum of 6) Δ

A continuation of 157. Fabrication skills are further developed and refined. Emphasis is on developing a deeper understanding of form/content as it relates to intimate scale.
Prerequisite: 157. (Fall, Spring)

268. Ceramics: Materials and Aesthetics. (3 to a maximum of 6) Δ

Continuation of 168 with emphasis placed on the mastery of forming, surfacing, and firing processes, expanded critical awareness, and the development of a personal aesthetic. Open-ended and self-selected projects. Individual and group critiques.
Prerequisite: 168. (Fall, Spring)

274. Introduction to Printmaking. (3)

Fundamental techniques, methods and expressive potentials of the major printmaking processes, including monotype, etching, lithography, woodcut and xerography. Instruction includes lecture, demonstrations, practice and critique.
Prerequisite: 106 and 121. (Fall, Spring)

287. Black & White Photography. (3)

Concentrates on black and white photographic techniques: film processing and fine black and white printing.
(Offered upon demand)

288. Color Techniques in Photography. (3)

The techniques and aesthetics of color photographic imaging.
Prerequisite: 188. (Offered upon demand)

289. Digital Imaging Techniques. (3)

Techniques and aesthetics of digital imaging using a variety of software programs and hardware.
Prerequisite: 188. (Offered upon demand)

305. Drawing III. (3 to a maximum of 6) Δ

Continued exploration of drawing concepts and techniques presented in 205. Emphasis on expressive drawing, working from imagination as well as from observation.
Prerequisite: 205. (Fall, Spring)

308. Painting III. (3 to a maximum of 6) Δ

Extension of the concepts presented in 207, emphasizing experimentation with materials and techniques. Individual in-depth projects are assigned to encourage independent thinking with regard to contemporary painting issues.
Prerequisite: 208. (Fall, Spring)

310. Figure Drawing. (3 to a maximum of 6) Δ

Study of the human figure as the primary vehicle for addressing formal and conceptual drawing problems.
Prerequisite: 205.

313. Intermediate Sculpture. (3 to a maximum of 6) Δ

This class encourages the student to develop personal direction with an emphasis on expanding sculptural possibilities. Typically appropriate assignments will be given according to the instructor's individual expertise as well as the current theoretical discourse.
Prerequisite: 123. (Fall, Spring)

320. The Phenomena of Color. (3 to a maximum of 6) Δ

An intensive study of color through assigned problems designed to develop greater awareness of and sensitivity to the use and function of color in the arts.

330. Intermediate Electronic Art. (3 to a maximum of 9) Δ

Course emphasizes art making using evolving computer based tools. Class draws on current work and theory, combined with classroom critique. Students must have a basic understanding of video and digital imaging techniques to take course. (Fall, Spring)

335. Intaglio Printmaking I. (3 to a maximum of 6) Δ

Madrid
Exploration of intaglio processes. Includes lecture, demonstration, studio practice and critique. Emphasis on technical considerations and the development of a personal aesthetic.
Prerequisite: 274. (Fall, Spring)

336. Intaglio Printmaking II. (3 to a maximum of 6) Δ

Madrid
A continuation of 335 with the exploration of multiple plate and color printing processes. Greater emphasis is given to technical considerations and the development of a personal aesthetic.
Prerequisite: 335. (Spring)

345. Serigraphy. (3 to a maximum of 6) Δ

Introduction to techniques, history, aesthetics and creative aspects of screen printing.
Prerequisite: 274. (Offered upon demand.)

357. Small Scale Casting. (3 to a maximum of 6) Δ

De Jong
Introduction to the fundamentals of small scale metal casting in bronze and silver through the lost wax process. Additional metal related techniques such as soldering and patination will be explored.
Prerequisite: 157.

358./458./558. Nature & Technology. (3 to a maximum of 6) Δ

Cook
This course addresses what constitutes authentic experience in an era profoundly shaped by electronic media. Travel to locations in New Mexico where work is produced on site with digital video and other imaging tools.
Restriction: permission of instructor. (Offered upon demand)

368. Porcelain Vessels. (1-3)

(Also offered as ARTE 368.) History, design, processes, tools, materials and terminology of the Oriental-Japanese method of wheel-thrown porcelain ceramic vessels. (Summer, Fall, Spring)

369. Ceramics: Spatial Situations. (3 to a maximum of 6) ¹ Δ

Continued investigation of technical, conceptual, historical and contemporary issues while emphasizing the development of a personal artistic vision. Prerequisite: 268. Restriction: permission of instructor. (Fall, Spring)

374. Lithography I. (3 to a maximum of 6) Δ Shimano
Fundamental techniques of drawing and painting on and from lithographic stones and metal plates, primarily in black and white. Includes lectures, demonstrations, critiques and practical experience. Prerequisite: 274. (Fall, Spring)

375. Lithography II. (3 to a maximum of 6) Δ Shimano
Continuation of 374 with particular emphasis on color printing and special processes, including photo reproduction. Emphasis on personal aesthetic and technical concepts. Prerequisite: 374. (Fall, Spring)

385. Non-Silver Photographic Process. (3)

The techniques and processes of non-silver photography such as cyanotypes, gum bichromate. Prerequisite: 187. (Offered upon demand)

387. Intermediate Photography. (3 to a maximum of 9)

[3 to a maximum of 6] Δ Salinger, Stone
Students will begin to develop their own work based on individual interests and contemporary issues, in-class critiques, and readings. Prerequisite: 187 and 188 and (ARTH 210 or ARTH 425 or ARTH 426 or ARTH 427). (Offered upon demand)

389. Topics in Studio Art. (1-3, no limit) Δ¹

Concentrated practical and historical study of specified concerns in studio art. Restriction: Permission of instructor. (Offered upon demand)

394. Computer Generated Imagery and Animation. (3)

(Also offered as CS 394 and MA 394.) Introduction to story boarding, modeling, rendering, animation and dynamics. Class uses high-level commercial animation software. Course emphasizes both the development of technical skills and the aesthetic aspects of computer imagery. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.

405. Advanced Drawing. (3 to a maximum of 9) Δ¹

Emphasis on contemporary drawing issues. Students are encouraged to initiate their own projects and to develop a personal direction. Individual and group critiques. Prerequisite: 305. (Fall, Spring)

407. Advanced Painting. (3 to a maximum of 9) Δ¹

Emphasizes contemporary painting issues. Students are encouraged to initiate their own projects and to develop a personal direction. Individual and group critiques. Prerequisite: 308. (Fall, Spring)

408. Outdoor Studio. (1-3, may be repeated twice) Δ¹

This is a nature based, field study class. Sites are visited which inspire artists to develop projects with an interrelated media approach. Formal and conceptual issues regarding several environments will be addressed. Restriction: permission of instructor. (Fall)

409/509. Advanced Video Art. (3 to a maximum of 6) Δ

(Also offered as MA 409.) This class helps students to develop more complex artistic statements on video. Critiques of student work, plus readings and discussions about various arts and media. Prerequisite: MA 111. (Spring)

413. Advanced Sculpture. (3 to a maximum of 12) Δ¹

Allows students to pursue their own individual concepts and techniques. Emphasis will be on independent projects. Prerequisite: 123. (Fall, Spring)

429. Undergraduate Topics in Studio Art. (1-6 to a maximum of 15) Δ¹

Course work determined by specific student need or by the professor's current research. Restriction: Permission of instructor. (Fall, Spring)

432./532. Special Projects in Electronic Art I. (3 to a maximum of 12) Δ

Course is based on the integration nascent technologies in electronic / digital media art practice. Works will be created in conjunction with concurrent investigation of digital media art history and contemporary theoretical discourses. Part I. Restriction: permission of instructor.

433./533. Special Projects in Electronic Art II. (3 to a maximum of 12) Δ

Course is based on integration nascent technologies in electronic / digital media art practice. Works will be created in conjunction with concurrent investigation of digital media, art history, and contemporary theoretical discourses. Part II. Restriction: permission of instructor.

457. Advanced Casting and Construction. (3 to a maximum of 12) Δ¹ DeJong

Students must develop an individual program of studies in consultation with the instructor. Group critiques are scheduled regularly. Prerequisite: 357. (Spring)

458./358./558. Nature & Technology. (3 to a maximum of 6) Δ Cook

This course addresses what constitutes authentic experience in an era profoundly shaped by electronic media. Travel to locations in New Mexico where work is produced on site with digital video and other imaging tools. Restriction: permission of instructor. (Offered upon demand)

461./561. Artifacts: Production, Use, Apprehension. (3 to a maximum of 6) Δ¹ Gilbert

This course will investigate our relation to artifacts through an examination of production (intent, craft, realization), use (literal + conceptual), and apprehension (material + immaterial). Corequisite: 462 and 463 and 464. Restriction: permission of instructor. (Offered upon demand.)

462./562. Mapping: Body, Landscape, Memory. (3 to a maximum of 6) Δ¹ Gilbert

This course will investigate the specific nature of the way the American West has been mapped, and divided as a point of departure for the creation of a set of documents. Corequisite: 461 and 463 and 464. Restriction: permission of instructor. (Offered upon demand.)

463./563. Place: Land, Civilization, Persona. (3 to a maximum of 6) Δ¹ Gilbert

This course will address the process of making space into place through occupation of and intervention in the land through an investigation of place as a continuum across time and cultures. Corequisite: 461 and 462 and 464. Restriction: permission of instructor. (Offered upon demand.)

464./564. Space: Expanse, Thresholds, Limits. (3 to a maximum of 6) Δ¹ Gilbert

This course will investigate our relation to space through an examination of edges, limits, and thresholds. We will look at the way space is defined, marked and measured. Corequisite: 461 and 462 and 463. Restriction: permission of instructor. (Offered upon demand.)

467./567. Art and Ecology. (3)

This class investigates the interrelationship of art and ecology through field trips, guest speakers, readings, and non-lab based hands-on research projects. We will study ways artists work to constructively transform ecologies.

- 468. Ceramics: Professional Practices. (3 to a maximum of 12)** Δ^1 Gilbert, Bobrowski
Emphasizes contemporary ceramic issues. Students are encouraged to initiate their own projects and to develop a personal direction. Individual and group critiques.
Prerequisite: 369. {Fall, Spring}
- 469/569. Pueblo Pottery. (3)** 1
A cross-cultural class designed to expose students to the Puebloan pottery tradition. The course combines a hands-on approach to pottery making with an analytical investigation of material culture and ethnoaesthetics.
Restriction: permission of instructor. {Fall}
- 474. Advanced Printmaking. (3 to a maximum of 15)** Δ^1 Madrid, Shimano
Concentrated exploration of various concepts and methods of printmaking including multiple processes. Course content varies but emphasizes the development of personalized direction and the establishment of high professional standards. Individual and group critiques.
Prerequisite: 336 or 374.
- 487. Advanced Interdisciplinary Portfolio. (3 to a maximum of 12)** Δ^1 Salinger, Stone
Emphasis on photo-based media, but open to advanced students in all areas of studio art. Will encourage cross-media critique and help students prepare for the professional world upon graduation.
Restriction: permission of instructor. {Fall, Spring}
- 493. Seminar in Studio Art. (3 to a maximum of 6)** Δ^1 {Fall, Spring}
- 494./594. Advanced Topics in Computer Generated Imaging. (3 to a maximum of 6)** Δ
(Also offered as MA 494 and CS 494.) A continuation of Computer Science 394. Students are expected to research and make presentations on advanced topics in CGI. Significant term project required. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.
- 495. Independent Study. (3 to a maximum of 6)** Δ^1
Advanced, individually directed study in areas of special interest not normally covered in advanced level courses.
Restriction: permission of department.
- 499. Honors Thesis. (3-6)**
Directed independent study in a field of special interest, culminating in an exhibition and written thesis. Open only by invitation to departmental honors candidates. May be repeated for credit towards degree to a maximum of 6 hours. {Fall, Spring}
- 502. Interdisciplinary Seminar. (3)**
Study of relationships between theory and practice. Course examines contemporary theories of art as viewed in the context of the student's own work. Open only to studio graduate students in the Department of Art & Art History. {Fall}
- 505. Graduate Drawing and Painting. (3 to a maximum of 9)** Δ
Restriction: permission of instructor. {Fall, Spring}
- 508. Graduate Outdoor Studio. (1-3, may be repeated twice)**
This is a nature based, field study class. Sites are visited which inspire artists to develop projects with an interrelated media approach. Formal and conceptual issues regarding several environments will be addressed. {Fall}
- 509./409. Advanced Video Art. (3 to a maximum of 6)** Δ
(Also offered as MA 409.) This class helps students to develop more complex artistic statements on video. Critiques of student work, plus readings and discussions about various arts and media. Course fee required.
Restriction: permission of instructor. {Spring}
- 513. Graduate Sculpture. (3 to a maximum of 12)** Δ
Student is required to produce four projects, an artist's statement, a portfolio of the semester's work and give a slide lecture on a contemporary topic. {Fall, Spring}
- 520. Graduate Phenomena of Color. (3)**
Production of finished works based upon current research and studio practice incorporating concepts such as one color as two, two color as one, transparency/illusion, saturation/shadow, descriptive/local color, optical mixtures, unity, anomaly, psychological color, electronic color.
- 529. Graduate Topics in Studio Art. (1-6 to a maximum of 12)** Δ
Course work determined by specific student need or by the professor's current research. {Fall, Spring}
- 532./432. Special Projects in Electronic Art I. (3 to a maximum of 12)** Δ
Course is based on the integration nascent technologies in electronic / digital media art practice. Works will be created in conjunction with concurrent investigation of digital media art history and contemporary theoretical discourses. Part I.
Restriction: permission of instructor.
- 533./433. Special Projects in Electronic Art II. (3 to a maximum of 12)** Δ
Course is based on integration nascent technologies in electronic / digital media art practice. Works will be created in conjunction with concurrent investigation of digital media, art history, and contemporary theoretical discourses. Part II.
Restriction: permission of instructor.
- 557. Graduate Casting and Construction. (3 to a maximum of 12)** Δ DeJong
Small scale metal casting in bronze and silver through the lost wax process. Included are additional metal related techniques such as soldering and patination.
Restriction: permission of instructor. {Fall, Spring}
- 558./458./358. Nature & Technology. (3 to a maximum of 6)** Δ Cook
This course addresses what constitutes authentic experience in an era profoundly shaped by electronic media. Travel to locations in New Mexico where work is produced on site with digital video and other imaging tools.
Restriction: permission of instructor. {Offered upon demand}
- 561./461. Artifacts: Production, Use, Apprehension. (3 to a maximum of 6)** Δ Gilbert
This course will investigate our relation to artifacts through an examination of production (intent, craft, realization), use (literal + conceptual), and apprehension (material + immaterial).
Corequisite: 562 and 563 and 564. Restriction: permission of instructor. {Offered upon demand}
- 562./462. Mapping: Body, Landscape, Memory. (3 to a maximum of 6)** Δ Gilbert
This course will investigate the specific nature of the way the American West has been mapped, and divided as a point of departure for the creation of a set of documents.
Corequisite: 561 and 563 and 564. Restriction: permission of instructor. {Offered upon demand}
- 563./463. Place: Land, Civilization, Persona. (3 to a maximum of 6)** Δ Gilbert
This course will address the process of making space into place through occupation of and intervention in the land through an investigation of place as a continuum across time and cultures.
Corequisite: 561 and 562 and 564. Restriction: permission of instructor. {Offered upon demand}
- 564./464. Space: Expanse, Thresholds, Limits. (3 to a maximum of 6)** Δ Gilbert
This course will investigate our relation to space through an examination of edges, limits, and thresholds. We will look at the way space is defined, marked, and measured.
Corequisite: 561 and 562 and 563. Restriction: permission of instructor. {Offered upon demand}

567/467. Art and Ecology. (3)

This class investigates the interrelationship of art and ecology through field trips, guest speakers, readings, and non-lab based hands-on research projects. We will study ways artists work to constructively transform ecologies.

569/469. Pueblo Pottery. (3)

Pueblo pottery investigates the dominant ceramic tradition of the Southwest. Students work with Professor Gilbert and a Native American artist to learn traditional processes, forms and designs.

Restriction: permission of instructor. {Fall}

574. Graduate Printmaking. (3 to a maximum of 15) Δ**587. Graduate Visual Art Seminar. (3 to a maximum of 15) Δ**

Concentration on student's individual art production in any area of studio art, with special attention given to developing critical acuity toward photo-based media.

Restriction: permission of instructor. {Fall, Spring}

593. Seminar in Studio Art. (3 to a maximum of 6) Δ

Consideration of theoretical, critical and historical issues in the context of studio disciplines. Course content determined by student request or professor's current research. {Fall, Spring}

594/494. Advanced Topics in Computer Generated Imaging. (3 to a maximum of 6) Δ

(Also offered as MA 494 and CS 494.) A continuation of Computer Science 394. Students are expected to research and make presentations on advanced topics in CGI. Significant term project required. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.

595. Graduate Tutorial. (1-9 to a maximum of 21) Δ

Advanced, individually directed study. Open to graduate students only. {Fall, Spring}

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only. {Fall, Spring}

Footnotes

¹ Open only to undergraduates enrolled in the Pre-professional curricula of the College of Fine Arts. Students in Art Education curricula and majors in Art enrolled in the College of Arts & Sciences may enroll with permission of the department chairperson.

Museum Studies (MSST)**311/511. Material Culture in America. (3)**

(Also offered as AMST 311/511.) This course covers the theory and practice of material culture study as it has been used to define American culture. Course content includes architecture, technology, religious art and artifacts, literary, folk and "fine" arts.

407/507. Museum Practices. (3 to a maximum of 6) Δ

(Also offered as ANTH 402, ARTH 407.) History, philosophy and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation and public relations. {Offered upon demand}

485/585. Seminar in Museum Methods. (3 to a maximum of 6) Δ

(Also offered as ARTH, ANTH 485.) Theoretical and practical work in specific museum problems.

Prerequisite: 407 or ANTH 402. Restriction: permission of instructor. {Offered upon demand}

486/586. Practicum: Museum Methods. (3)

(Also offered as ARTH, ANTH 486.) Practicum in museum methods and management.

Prerequisite: ARTH 407 or ANTH 402. Restriction: permission of instructor. {Offered upon demand}

507/407. Museum Practices. (3 to a maximum of 6) Δ

(Also offered as ANTH 582, ARTH 507.) History, philosophy and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation and public relations. {Offered upon demand}

511/311. Material Culture in America. (3)

(Also offered as AMST 311/511.) This course covers the theory and practice of material culture study as it has been used to define American culture. Course content includes architecture, technology, religious art and artifacts, literary, folk and "fine" arts.

585/485. Seminar in Museum Methods. (3 to a maximum of 6) Δ

(Also offered as ARTH, ANTH 585.) Theoretical and practical work in specific museum problems.

Prerequisite: 407 or ANTH 402. {Offered upon demand}

586/486. Practicum: Museum Methods. (3 to a maximum of 6) Δ

(Also offered as ARTH, ANTH 586.) Practicum in museum methods and management.

Prerequisite: ARTH 407 or ANTH 402. Restriction: permission of instructor. {Offered upon demand}

CINEMATIC ARTS

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Mary Tsiongas, M.F.A., California College of Arts

Professors Emeriti

Ed Angel, Ph.D., University of Southern California
Ira Jaffe, Ph.D., University of Southern California
Ernest Rose, Ph.D., Stanford University

Lecturer

Bryan Konefsky, M.F.A., University of New Mexico

Fees

Department fees support film and video rentals and purchases in history and criticism courses, plus the purchase, maintenance, and replacement of equipment used in the film and video production courses.

Introduction

The College of Fine Arts' Department of Cinematic Arts is dedicated to the study and practice of film and video as art. In the hope of understanding and enhancing moving image productions, the curriculum offers students a broad foundation in sound and visual culture. Although one may approach film and video for commercial purposes, our Department emphasizes the value of the aesthetic achievements and cultural contexts of the works we make and critique.

Cinematic Arts students establish ties to the intellectual and creative pursuits of the College of Arts and Sciences as well as to parallel efforts in our own school. Transdisciplinary in nature, our offerings resonate with current practices in history, cultural studies, literary theory, visual and performing arts studies, anthropology, psychology, sociology, political theory, women and gender studies, and science studies. Through these lenses we encourage analysis and thoughtful representation of the way "race," gender, class, sexuality, age, ability, and other elements of our identities intersect in cinema and video.

Given the global nature of moving images, we also offer students an outlook that is international as well as interdisciplinary. To learn about world cinema is to explore diverse cultures. The Media Arts curriculum includes courses devoted to various national and regional cinemas; students interested in Latino, Hispanic, Chicano, and Latin American cinemas, for instance, can focus their investigations on local cultures vis-à-vis global concerns. In these and in other courses, our department seeks to collaborate with a variety of academic departments such as Spanish and Portuguese or American Studies, where transcultural work is similarly promoted.

Students who major (or minor) in Media Arts are expected to maintain a grade point average in the major (or minor) of 3.0. More details about the major in Media Arts follow.

Major Study Requirements

Bachelor of Arts in Media Arts

1. Courses outside the major: **(80 hours)**
 - a. 49 hours selected from courses offered by departments of the College of Arts and Sciences, including Core Curriculum requirements. (See Fine Arts Graduation Requirements 6.) These 49 hours include English 220 and as many hours in one foreign language as are necessary to complete the fourth semester course in that language. **49**
 - and–
 - b. 18 hours selected from at least two other disciplines in the College of Fine Arts (Art History, Art Studio, Fine Arts, Music, Theatre, Dance; up to 6 hours from the School of Architecture and Planning may be included).
Of the total of 67 hours in a. and b., at least 15 will focus on a cultural, psychological, or political perspective particularly significant in the history, criticism, and theory of the media arts; these hours must be approved by the Cinematic Arts advisor. Possible focus areas include Latin American history, cultural studies, political theory, psychoanalytical criticism, and avant-garde movements in the arts. Various departments offer courses relevant to these focus areas. For example, students may combine courses from American Studies, Anthropology, Art and Art History, English, Foreign Languages and Literatures, History, Philosophy, and Psychology. **18**
 - and–
 - c. 13 additional hours selected from courses outside Media Arts, offered by any college, including Fine Arts. **13**
 2. Courses in Media Arts **(48 hours)**
 - a. 15 hours in history, criticism, and theory: 210, 212, 326, 327 and 431. **15**
 - and–
 - b. 9 to 15 hours in production courses from 111, 216, 324, 390, 391, 394, 409, 429, 494 and 496. **9–15**
 - and–
 - c. 15 to 21 hours in history, criticism, and theory electives from 110, 310, 330, 332, 333, 334, 335, 336, 337, 412, 430 and 497. **15–21**
 - and–
 - d. 3 hours of any 400-level elective. **3**
- Total** **128**

Minor in Media Arts

In addition to the major, Media Arts offers a minor. The requirements are as follows:

- a. 6 hours in history, criticism, and theory: 210 and 326 or 327 **6**
 - and–
 - b. 9–12 hours in history, criticism and theory from 110, 212, 310, 330, 332, 333, 334, 335, 336, 337, 412, 430, 431 and 497 **9–12**
 - and–
 - c. 6–9 hours in production courses from 111, 216, 324, 390, 391, 394, 409, 429, 494 and 496. **6–9**
- Total** **24 hours**

Media Arts (MA)

110. Introduction to Mass Communication. (3)

(Also offered as CJ 110.) Study of the development of the mass media with emphasis on television in the areas of programming, policy, regulations, economics, and technology. Examination of the social, cultural, and political impact of the mass media on contemporary society.

111. Technical Introduction to Video Production. (3)

For the student who has no practical knowledge of video technology. Students learn about the camera and lens, sound recording, lighting, editing, and other elements of production. Special fee required.

210. Introduction to Film Studies. (3)

Analysis of film as a unique art, and a survey of main trends in film history. Screenings and critical study of major films. Special fee required. 210 is a prerequisite to 300 and 400 level Media Arts courses.

212. Beyond Hollywood. (3)

An introduction to marginalized cinemas with screenings of major works. Special fee required.

216. Topics in Video Making. (3 to a maximum of 6) Δ

These courses strengthen students' skills in video technology while helping them write, direct, and edit video projects that begin to reflect a personal, artistic vision. Special fee required.
Prerequisite: 111.

310/*410. Latin American Film. (3)

This course surveys key moments in Latin American cinema including Mexico's influential "Golden Age" of the 1940s and various "new cinemas" of the '60s and '70s. Also considered are Hollywood films about Latin America. Special fee required.

324. Introduction to Screenwriting. (3 to a maximum of 6) Δ

(Also offered as ENGL 324.) Writing workshop on basics of character structure, scenes, visualization, and good old story telling as it applies to the screenplay. Students read scripts, watch film clips, and begin writing an original screenplay.
Prerequisite: ENGL 224.

326/*426. History of Film I: Silent. (3)

History of the motion picture from its beginnings to the era of sound. Screening and analysis of major films. Special fee required.
Prerequisite: 210.

327/*427. History of Film II: Sound. (3)

History of the motion picture from the advent of sound to the present day. Screening and analysis of major films. Special fee required.
Prerequisite: 210.

330. Studies in Film. (3 to a maximum of 24) Δ

Studies in film and video genres, regional and national cinemas, and the work of individual artists. Special fee required. May be repeated if subject matter varies.

331. Film Theory. (3)

A lecture survey of major currents in film theory from film's beginnings to the present. Screening and analysis of major films. Special fee required.
Prerequisite: 210.

332./432. Documentary Film History. (3)

History and theory of documentary, with emphasis on how this knowledge is applied in the making of a documentary. Screenings of work by Robert Flaherty, Trinh T. Minh-ha, and others. Special fee required.

333./433. Film Noir. (3)

An examination of a distinct type of American film prominent in the 1940s and early '50s that often deals with crime, corruption, and disillusionment in the city. Special fee required.
Prerequisite: 210.

334./434. Teen Rebels. (3)

An examination of Hollywood films of the 1950s, '60s and '70s, whose youthful main characters challenge convention and authority. Special fee required.

335./435. International Horror Film. (3)

A study of major horror films from various countries, with related readings in fiction, philosophy, psychology, and film studies. Classics such as *Nosferatu* and *Frankenstein* are screened. Special fee required.

336./436. Images of (Wo)men. (3)

Our study will regard films about women, men, and everybody else. With feminism, queer theory, critical race studies, and transgender film theory, we'll consider cinema from "women's pictures" to films about the permutations of gender. Special fee required.
Restriction: junior or standing.

337./437. Alfred Hitchcock. (3)

An exploration of cinematic suspense, surprise, and shock in relation to Hitchcock's cinema. Special fee required.

339. Russian Culture and History through Film. (3)

(Also offered as HIST 335 and RUSS 339.) In this course we study films and read secondary sources from the Soviet and post-Soviet eras (with English subtitles) and examine how they comment on current Russian social and cultural issues. Taught in English. Special fee required.

390. Topics in the Elements of Filmmaking. (3 to a maximum of 9) Δ

Practicum in basic conceptual aspects of independent filmmaking. Each student creates cinematic work in this course. Special fee required.

391. 16mm Filmmaking. (3 to a maximum of 6) Δ

This course provides an introduction to basic 16mm filmmaking techniques, with an emphasis on film as a creative art form. Students take up all aspects of filmmaking, from pre-production planning through the final edit. Special fee required.

394. Computer Generated Imagery and Animation. (3)

(Also offered as ARTS 394 and CS 394.) Introduction to story boarding, modeling, rendering, animation, and dynamics. Class uses high-level commercial animation software. Course emphasizes both the development of technical skills and the aesthetic aspects of computer imagery. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.

***409. Advanced Video Art. (3 to a maximum of 6) Δ**

(Also offered as ARTS 409./509.) This class helps students to develop more complex artistic statements on video. Critiques of student work, plus readings and discussions about various arts and media. Special fee required.
Prerequisite: 111.

***410./310. Latin American Film. (3)**

This course surveys key moments in Latin American cinema including Mexico's influential "Golden Age" of the 1940s and various "new cinemas" of the '60s and '70s. Also considered are Hollywood films about Latin America. Special fee required.

***412. "Third World" Cinemas: Cultures in Contact. (3)**

Considering cultures in (uneasy) contact, this course examines "Third World" cinematic representations of political, economic, or social subordination and resistance to domination. Special fee required.

***426./326. History of Film I: Silent. (3)**

History of the motion picture from its beginnings to the era of sound. Screenings and analysis of major films. Special fee required.
Prerequisite: 210.

***427./327. History of Film II: Sound. (3)**

History of the motion picture from the advent of sound to the present day. Screenings and analysis of major films. Special fee required.
Prerequisite: 210.

***429. Topics in Production. (1-3 to a maximum of 6) Δ**

Workshops in specific production topics conducted by guest artists in film and video as their schedules permit. Special fee required. May be repeated if subject matter varies.
Restriction: permission of instructor.

***430. Topics in Film History. (3 to a maximum of 24) Δ**

Studies in film and video genres, regional and national cinemas, and the work of individual artists. Special fee required. May be repeated if subject matter varies.

***431. Film Theory. (3)**

A lecture survey of major currents in film theory from film's beginnings to the present. Screening and analysis of major films. Special fee required.
Prerequisite: 210.

***432./332. Documentary Film History. (3)**

History and theory of documentary, with emphasis on how this knowledge is applied in the making of a documentary. Screenings of work by Robert Flaherty, Trinh T. Minh-ha, and others. Special fee required.

***433./333. Film Noir. (3)**

An examination of a distinct type of American film prominent in the 1940s and early '50s that often deals with crime, corruption, and disillusionment in the city. Special fee required.
Prerequisite: 210.

***434./334. Teen Rebels. (3)**

An examination of Hollywood films of the 1950s, '60s and '70s, whose youthful main characters challenge convention and authority. Special fee required.

***435./335. International Horror Film. (3)**

A study of major horror films from various countries, with related readings in fiction, philosophy, psychology, and film studies. Classics such as *Nosferatu* and *Frankenstein* are screened. Special fee required.

***436./336. Images of (Wo)men. (3)**

Our study will regard films about women, men, and everybody else. With feminism, queer theory, critical race studies, and transgender film theory, we'll consider cinema from "women's pictures" to films about the permutations of gender. Special fee required.
Restriction: junior or senior standing.

***437. Alfred Hitchcock. (3)**

An exploration of cinematic suspense, surprise, and shock in relation to Hitchcock's cinema. Special fee required.

***484. Evaluating the Arts. (3)**

(Also offered as ARTH, DANC, MUS, THEA 484.) Examines the practice of criticism, with emphasis on critical processes that penetrate a variety of art forms. Also explores aesthetic theories and cultural outlooks that underpin practical criticism. Special fee required.

Restriction: permission of instructor.

***485. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ**

(Also offered as ARTH, MUS, THEA 584.) An independent study in either critical studies or studio, beyond the scope of the Fine Arts interdisciplinary courses, which may occur within or outside the College of Fine Arts. Special fee required.

Restriction: permission of instructor.

***487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ**

(Also offered as ARTH, DANC, MUS, THEA 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day. Special fee required.

Restriction: permission of instructor.

***494. Advanced Computer Generated Imaging and Animation. (3 to a maximum of 6) Δ**

(Also offered as CS 494 and ARTS 494./594.) A continuation of Computer Science 394. Students are expected to research and make presentations on advanced topics in CGI. Significant term project required. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors. Special fee required.

Prerequisite: CS 394.

496/596. Undergraduate Production Project. (1-3 to a maximum of 24) Δ

Media Arts majors undertake individual projects and internships that arise outside the boundaries of other Media Arts production courses. In order to sign up, the student enlists the support of a Cinematic Arts faculty member. Special fee required.

Restriction: permission of instructor.

497/597. Undergraduate Independent Study. (2-3 to a maximum of 24) Δ

Individual investigation or reading, plus the writing of an essay, under faculty direction. Special fee required.

Restriction: permission of instructor.

499. Honors Thesis. (3-6 to a maximum of 6) Δ

Directed independent study in a field of special interest, culminating in a written thesis and, if appropriate, a film or video project. Open only by invitation to department honors candidates. Special fee required.

596/496. Graduate Production Project. (1-3 to a maximum of 24) Δ

Media Arts majors undertake individual projects and internships that arise outside the boundaries of other Media Arts production courses. In order to sign up, the student enlists the support of a Cinematic Arts faculty member. Special fee required.

Restriction: permission of instructor.

597/497. Graduate Independent Study. (2-3 to a maximum of 24) Δ

Individual investigation or reading, plus the writing of an essay, under faculty direction. Special fee required.

Restriction: permission of instructor.

MUSIC

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Steven Feld, Ph.D., Indiana University
Richard Hermann, Ph.D., Eastman School of Music
Karl Hinterbichler, D.M.A., North Texas State University
Keith M. Lemmons, M.M., Michigan State University
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Jeffrey Piper, M.M., University of Michigan
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Christopher L. Shultis, Ph.D., The University of New Mexico
Marilyn Tyler, M.M., Manhattan School of Music

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Patricia Ann Repar, D.M.A., University of Illinois (Urbana-Champaign)
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Paul Lombardi, Ph.D., University of Oregon
Sam Shepperson, B.M., The University of New Mexico

Part-time Faculty

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Michael Anthony, A.A., Valley College
Carla Barlow, M.M., The University of New Mexico
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 William F. Wood, D.M.A., Eastman School of Music
 * Member of the New Mexico Symphony Orchestra

Introduction

The University of New Mexico is a member of the National Association of Schools of Music (NASM). Requirements for entrance and graduation as set forth in this catalog are in accordance with published regulations of NASM.

Admission from Other University of New Mexico Units. In addition to the admission requirements stated under the College of Fine Arts section of this catalog, music students must also have approval for an emphasis in an instrument or voice for the degrees Bachelor of Music and Bachelor of Music Education.

Degree plans are described below. In addition to stated course requirements, students must satisfy general college and University requirements for graduation.

Major Study Requirements

Bachelor of Music

Concentrations in **Performance, Theory and Composition, String Pedagogy and Jazz Studies** are available in the curriculum leading to the Bachelor of Music Degree and comprising a total of 128 hours (134 hours for performance with emphasis in voice). If you enroll in any one of these programs, read the paragraph under *Scholastic Standards*, which permits the faculty to exclude from the program any student whose grade point average in his or her major field falls substantially below 3.00. Furthermore, the faculty reserves the right to disqualify from further enrollment or participation in departmental programs:

1. students who fail to demonstrate reasonable progress in their professional development in music,
—or—
2. students whose conduct reveals a persistent inability to work effectively with others or an unwillingness to adhere to generally recognized standards of professional behavior,
—or—
3. students who do not consult their assigned advisor prior to registering each semester.

Specific departmental requirements relating to recitals, special examinations, auditions and similar matters are described in the *Department of Music Undergraduate Handbook*, available online at <http://music.unm.edu>.

All transfer students will be given a theory, ear-training and sight-singing proficiency examination for the purpose of determining competency in these areas. If test results reveal deficiencies, transfer students will be required to remove such by enrolling in and successfully completing one or more semesters of the theory curriculum.

All students in any program leading to the Bachelor of Music degree must complete the following curriculum:

1. Core Curriculum (37 hours):

All students pursuing the Bachelor of Music degree must fulfill the College of Fine Arts requirements detailed under Graduation Requirements. Section 6 lists the core curriculum, including specific course requirements. Exceptions and restrictions applying to the Bachelor of Music are as follows:

- a. All Bachelor of Music majors must complete ENGL 220 *Expository Writing* as part of the requirements

listed under Writing and Speaking. Courses chosen to fulfill the Fine Arts requirement must be selected from courses outside Music, Applied Music or Music Education.

- b. Students pursuing the String Pedagogy concentration must complete PSY 105 *General Psychology* as part of the requirements under Social and Behavioral Sciences.
- c. Students pursuing the Vocal Emphasis in the Performance Concentration must complete 3 hours of either German, Italian or French to fulfill the Second Language requirement.

Subtotal	37
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2. Concentration Curriculum as follows (91–97 hours):

Performance Concentration

- a. six semesters of MUS 101 *Concert Music* with a grade of CR;
- b. 22 hours of applied music in the principal instrument, including APMS 391 *Junior Recital* and APMS 491 *Senior Recital*;
- c. 20 hours in music theory, including 150, 150L, 152, 152L, 250, 250L, 252, 252L, 453 and 2 hours chosen from 309, 405, 406, 325 or 439;
- d. 9 hours in music history, including 361, 362 and 3 hours chosen from 413, 414, 415, 416 or 437;
- e. 2 hours in conducting (363);
- f. 8 hours in ensemble (see Ensemble Requirements for specific requirements);
- g. 2 hours in technology, chosen from 311, 380, 412 or 481;
- h. 3 hours selected from any courses listed under Contemporary World Music, or MUSE 293;
- i. 3 hours of electives, chosen from courses in the College of Fine Arts, and not including courses in Music, Applied Music or Music Education; and
- j. additional hours as follows:

Keyboard Emphasis with piano as principal instrument:

- 4 additional hours in music theory, including 406 and 2 hours chosen from 309, 325, 405 or 439;
- 4 hours of MUS 449 Music Repertory in piano;
- 2 hours of keyboard pedagogy, chosen from 388 or 389;
- 8 hours of music electives;
- 4 hours of electives, not including courses in Music, Applied Music or Music Education.

Keyboard Emphasis with organ or harpsichord as principal instrument:

- 4 additional hours in music theory, including 406 and 2 hours chosen from 309, 325, 405 or 439;
- 2 hours of MUS 449 Music Repertory in the appropriate instrument;
- 2 hours of keyboard pedagogy, chosen from 388 or 389;
- 8 hours of music electives;
- 6 hours of electives, not including courses in Music, Applied Music or Music Education.

Instrumental Emphasis:

- 2 additional hours in music theory chosen from 309, 325, 405, 406 or 439;
- 4 hours of Group Piano (if the proficiency is satisfied, music electives may be substituted);
- 2 additional hours in ensemble (see Ensemble Requirements for specific requirements);
- 8 hours of music electives;
- 6 hours of electives, not including courses in Music, Applied Music or Music Education.

Vocal Emphasis:
 2 hours of vocal repertory (449);
 2 hours of vocal pedagogy (388);
 4 hours of Diction for Singers (209 and 210);
 4 hours of Opera Studio;
 4 hours of Group Piano (if the proficiency is satisfied, music electives may be substituted);
 12 hours in foreign language (these 12 hours and the 3 hours listed above under Core Curriculum must be selected from Italian, French and German and must include at least 3 hours in each of these languages).

Subtotal for Instrumental or Keyboard Emphasis 91
Subtotal for Vocal Emphasis 97

Total for Instrumental or Keyboard Emphasis 128
Total for Vocal Emphasis 134

Theory and Composition Concentration

- a. six semesters of MUS 101 *Concert Music* with a grade of CR;
- b. 4 hours of applied music in Composition, including APMS 491 *Senior Recital*;
- c. 5 hours of applied music in the principal instrument;
- d. 38 hours in music theory, including 150, 150L, 152, 152L, 250, 250L, 252, 252L, 254, 305, 306, 409, 410, 453 either 405 or 406, and 8 hours chosen from 309, 325, 405, 406 or up to 6 hours of 439;
- e. 12 hours in music history, including 361, 362, 416 and 3 hours chosen from 413, 414, 415, or 437;
- f. 4 hours in conducting, including 363 and 365;
- g. 6 hours in ensemble (see Ensemble Requirements for specific requirements);
- h. 2 hours in technology, chosen from 311, 380, 412 or 481;
- i. 3 hours selected from any courses listed under Contemporary World Music, or MUSE 293;
- j. 6 hours of electives in Music;
- k. 3 hours of PHYC 108 *Introduction to Musical Acoustics*;
- l. 8 hours of electives, including 3 hours in the College of Fine Arts, and not including courses in Music, Applied Music or Music Education.

Subtotal 91
Total 128

String Pedagogy Concentration

- a. six semesters of MUS 101 *Concert Music* with a grade of CR;
- b. 26 hours of string pedagogy, including 4 hours of 170, 2 hours of 170L, 4 hours of 270, 2 hours of 270L, 4 hours of 370, 2 hours of 370L, 4 hours of 470, 2 hours of 470L, and 2 hours of 472;
- c. 16 hours of applied music in the principal instrument;
- d. 18 hours in music theory, including 150, 150L, 152, 152L, 250, 250L, 252, 252L and 453;
- e. 6 hours in music history, including 361 and 362;
- f. 9 hours in ensemble (see Ensemble Requirements for specific requirements);
- g. 2 hours of MUSE 155 (Strings);
- h. 2 hours in conducting (363);
- i. 2 hours in technology, chosen from 311, 380, 412 or 481;
- j. 3 hours selected from any courses listed under Contemporary World Music, or MUSE 293;
- k. 4 hours of Group Piano;
- l. 3 hours of electives chosen from courses in the College of Fine Arts, and not including courses in Music, Applied Music or Music Education.

Subtotal 91
Total 128

Jazz Studies Concentration

- a. six semesters of MUS 101 *Concert Music* with a grade of CR;
- b. 16 hours of applied music in the principal instrument, including APMS 391 *Junior Recital* and APMS 491 *Senior Recital*;

- c. 20 hours in music theory, including 150, 150L, 152, 152L, 250, 250L, 252, 252L and 4 hours chosen from 309, 325, 405, 406, 439 or 453;
- d. 9 hours in music history, including 172, 361 and 362;
- e. 4 hours in major ensemble (see Ensemble Requirements for specific requirements);
- f. 10 hours in jazz ensemble, including 4 hours of 231 in Jazz Combo and 6 hours of 234;
- g. 11 hours in jazz studies, including 236, 237, 238, 336, 337, 338 and 343;
- h. 1 hour of MUSE 317;
- i. 4 hours of Group Piano;
- j. 2 hours in technology, chosen from 311, 380, 412 or 481;
- k. 3 hours selected from any courses listed under Contemporary World Music, or MUSE 293;
- l. 11 hours of electives, including 3 hours in the College of Fine Arts, and not including courses in Music, Applied Music or Music Education.

Subtotal 91
Total 128

Bachelor of Arts in Music

The Bachelor of Arts with a major in Music is designed for the study of music within a liberal arts curriculum. For the student who is not seeking a professional music degree but who desires a solid foundation in the study of music, the areas of musicianship, performance and history provide the core of courses toward a basic intellectual grasp of the art. Students who additionally seek to major in other areas (double major) or to take a large number of courses in a pre-professional program (pre-law, pre-medical, etc.) are encouraged to enroll in the Bachelor of Arts in Music.

1. Courses outside the major:

- a. 40 hours selected from courses offered by the departments of the College of Arts and Sciences, including Core Curriculum requirements (see Fine Arts Graduation Requirements 6). Specific requirements include ENGL 220.
- b. 6 hours selected from Fine Arts outside the major, including 3 hours chosen from Art History 101, 201, 202, Dance 105, Media Arts 210, Theatre 122 or one 3-credit studio course offered by the Departments of Art and Art History, Theatre and Dance or Media Arts.
- c. 20 additional hours selected from courses offered by any college, including Fine Arts, but not including courses in Music or Music Education.

Subtotal 66

2. Courses within the major:

- a. six semesters of MUS 101 *Concert Music* with a grade of CR;
- b. 16 hours in music theory: 150, 150L, 152, 152L, 250, 250L, 252, 252L;
- c. 6 hours in music history: 361 and 362
- d. 4 hours in ensemble (See Ensemble Requirements, for specific requirements);
- e. 4 hours of applied music in the principal instrument or voice;
- f. 18 hours of music electives (not including courses for non-majors) selected with advisement of appropriate music faculty. No more than an additional 4 hours of ensemble credit nor an additional 12 hours of applied music can be applied toward the degree.

Subtotal 48

3. Additional courses in any field, including music (but not including courses for non-majors), selected with advisement of appropriate faculty, 14 hours.

Subtotal 14
Total 128 hours

Bachelor of Music Education

Students completing the requirements and curriculum stated below will receive the Bachelor of Music Education degree and will be eligible to apply for Level 1 Licensure in Music, K–12, in the State of New Mexico.

Official acceptance to the degree program is granted upon admission to the College of Fine Arts as a Music Education Major (see College of Fine Arts *Admission*). Satisfactory completion of MUSE 194 *Introduction to Music Education* and MUSE 195 *Introductory Teaching Practicum* is necessary for official acceptance to the Music Education degree program. Students may be eligible for acceptance upon completion of two semesters; early application is advised. Students seeking only endorsement for music teacher certification must be admitted to a Teacher Education Program (see *Admission to College of Education Programs*). Students pursuing teacher licensure are considered de facto Music Education majors, even though their enrollment status may be non-degree, and will be required to complete all Music and Music Education course work required for the Bachelor of Music Education if this course work does not appear on their transcripts.

Students will have a period of one year to remove any deficiencies revealed during the admission process. Students already enrolled at the University of New Mexico will not be eligible to transfer to the College of Fine Arts or to take 300 and 400 level professional courses until this admission process is completed. Exception will be made for students with earned baccalaureate degrees upon recommendation of the department and for students transferring from other institutions. Transfer students may be enrolled in the College of Fine Arts on a provisional basis for a maximum of two semesters, during which time they must complete the admission process.

All transfer students will be given a theory, ear-training and sight-singing proficiency examination for the purpose of determining competency in these areas. If test results reveal deficiencies, transfer students will be required to remove such by enrolling and successfully completing one or more semesters of the theory curriculum.

Students must pass the Music Education Advisory Review (MEAR) before enrolling in 300-level music education courses. The purpose of the MEAR is to assess the music education candidate's suitability for a music teaching career. Candidates appear for an interview with music education faculty that includes evaluations of musicianship, communication skills, and personal dispositions. Prerequisites for the MEAR are 1) admission to the College of Fine Arts and 2) successful completion (grade of C or better) of MUSE 194, MUSE 195, MUS 150, and MUS 150L. For complete details, consult your advisor.

The faculty reserves the right to disqualify from further enrollment or participation in the music education program:

1. students who fail to demonstrate reasonable progress in their professional development in music,
–or–
2. students whose conduct reveals a persistent inability to work effectively with others or an unwillingness to adhere to generally recognized standards of professional behavior,
–or–
3. students who do not consult their assigned advisor prior to registering each semester.

Level 1 Licensure in Music, K–12, in New Mexico allows one to teach any music class at any level of instruction. Where two or more music educators are employed by a single school district, however, a division of responsibilities between instrumental music and vocal/general music commonly exists. The Department of Music, therefore, offers two planned programs in music education, an Instrumental Concentration and a Vocal Concentration.

Refer to the College of Fine Arts Graduation Requirements for the core curriculum guidelines. CJ 220 *Communication for Teachers* and PSY 220 *Developmental Psychology* are accepted to meet core curriculum.

Prior to student teaching, students must fulfill the following requirements:

1. Admittance to the College of Fine Arts.
2. Completion of all prerequisite courses for student teaching. Consult your advisor for further information.
3. A 2.50 GPA in music and music education courses and a 2.0 GPA overall.
4. Satisfactory completion of the piano proficiency examination. Consult the *Department of Music Undergraduate Student Handbook* for further information.
5. Satisfactory completion of the Music Education Advisory Review (MEAR).
6. Application for admission to a Teacher Education Program in the College of Education. This process includes passing two parts of the New Mexico Teacher Assessment Tests: Basic Skills and General Knowledge, and a screening interview with the Music Education Committee. It is suggested that you initiate this process at least one year before the beginning of the semester in which you plan to student teach. Consult your assigned advisor for details.
7. Other requirements, including evidence of liability insurance and evidence of a completed tuberculosis skin test or chest X-ray. Consult your advisor for additional information.

The required recital will normally be given during the last semester in residence.

Vocal Concentration

Includes emphases in piano, voice or guitar.

1. General Education

- a. 12 hours of English, including 3 hours of English literature elective and the following courses:
ENGL 101 *Composition I: Exposition*
ENGL 102 *Composition II: Analysis and Argument*
and one of the following:
CJ 130 *Public Speaking*
CJ 220 *Communication for Teachers*
- b. 6 hours of electives in mathematics, to be selected from the list of courses under College of Fine Arts Graduation Requirements and from MATH 111 *Mathematics for Elementary and Middle School Teachers*. Note: Math 100 and 120 cannot fulfill this requirement.
- c. 12 hours in science, including PHYC 108 *Introduction to Musical Acoustics*, PHYC 108L *Musical Acoustics Laboratory* and 8 hours of electives, to be selected from Astronomy, Biology, Chemistry, Physics or Earth and Planetary Sciences.
- d. 6 hours in Social and Behavioral Sciences, including PSY 105 *General Psychology* and PSY 220 *Developmental Psychology*.
- e. 12 hours in general history, including:
HIST 101L *Western Civilization*
HIST 102L *Western Civilization*
HIST 161L *History of the United States to 1877*
HIST 162L *History of the United States Since 1877*
- f. 6 hours of electives in Fine Arts, to be selected from Art History, Art Studio, Theatre, Dance or Media Arts.
- g. 3 hours in foreign language (see CFA Graduation Requirements).

Subtotal **57**

2. Teaching Field: Music

- a. four semesters of MUS 101 *Concert Music* with a grade of CR;
- b. 8 hours of applied music in the principal instrument (voice, piano or guitar), including APMS 119, 120, 219, 220, 319, 320, 419, 420 and 491;

- c. 18 hours in music theory, including MUS 150, 150L, 152, 152L, 250, 250L, 252, 252L and 453;
 - d. 6 hours in music history (MUS 361 and 362)
 - e. 2 hours in conducting (MUSE 363);
 - f. 1 hour in improvisation (MUS 236);
 - g. 3 hours selected from any courses listed under Contemporary World Music, or MUSE 293;
 - h. 2 to 4 hours in applied music in secondary instruments, as follows:
Piano Emphasis: 2 hours of 119 and 120 in voice
Voice Emphasis: 2 hours of 119 and 120 in piano
Guitar Emphasis: 2 hours of 119 and 120 in voice and 2 hours of 119 and 120 in piano;
 - i. 4 hours of Diction for Singers (MUS 209 and 210).
- | | |
|---|-----------|
| Subtotal for Piano or Voice Emphasis | 44 |
| Subtotal for Guitar Emphasis | 46 |

3. Professional Education: Music Education

- a. 8 hours in ensemble, specifically MUSE 243 *Concert Choir* (see Ensemble Requirements for specific requirements);
 - b. 4 to 5 hours in MUSE 155 *Orchestral Instruments*, as follows:
Piano and Voice Emphasis: 5 hours, including guitar and four selected from brass, woodwinds or strings
Guitar Emphasis: 4 hours, selected from brass, woodwinds or strings;
 - c. 16 hours in music education methods, including:

MUSE 195 <i>Introductory Teaching Practicum</i>	1
MUSE 213 <i>Choral Lab</i> (2 semesters with a grade of CR)	
MUSE 313 <i>Choral Music Methods</i>	3
MUSE 346 <i>Teaching Music in the Elementary Schools</i>	3
MUS 388 <i>Music Pedagogy</i> (in vocal pedagogy)	2
MUS 437 <i>Introduction to Early Childhood Music Education</i>	1
MUSE 446 <i>Secondary School Music</i> ;	3
MUSE 455 <i>Teaching Reading in the Music Classroom</i>	3
 - d. 4 hours in foundations, including:

MUSE 194 <i>Introduction to Music Education</i>	1
MUSE 457 <i>Foundations of Musical Behavior</i> ;	3
 - e. 6 hours in student teaching, including:

MUSE 400 <i>Student Teaching in the Elementary School</i>	3
MUSE 461 <i>Student Teaching in the Secondary Schools</i>	3
- | | |
|---|------------|
| Subtotal for Piano or Voice Emphasis | 39 |
| Subtotal for Guitar Emphasis | 38 |
| Total for Piano or Voice Emphasis | 140 |
| Total for Guitar Emphasis | 141 |

Instrumental Concentration

Includes emphases in strings, winds, percussion, piano or guitar.

1. General Education

- a. 12 hours of English, including 3 hours of English literature elective and the following courses:
ENGL 101 *Composition I: Exposition*
ENGL 102 *Composition II: Analysis and Argument* and one of the following:
CJ 130 *Public Speaking*
CJ 220 *Communication for Teachers*
- b. 6 hours of electives in mathematics, to be selected from the list of courses under College of Fine Arts Graduation Requirements and from MATH 111 *Mathematics for Elementary and Middle School Teachers*. Note: Math 100 and 120 cannot fulfill this requirement.
- c. 12 hours in science, including PHYC 108 *Introduction to Musical Acoustics*, PHYC 108L *Musical Acoustics Laboratory* and 8 hours of electives, to be selected from Astronomy, Biology, Chemistry, Physics or Earth and Planetary Sciences.

- d. 6 hours in Social and Behavioral Sciences, including PSY 105 *General Psychology* and PSY 220 *Developmental Psychology*.
 - e. 12 hours in general history, including:
HIST 101L *Western Civilization*
HIST 102L *Western Civilization*
HIST 161L *History of the United States to 1877*
HIST 162L *History of the United States Since 1877*
 - f. 6 hours of electives in Fine Arts, to be selected from Art History, Art Studio, Theatre, Dance or Media Arts.
 - g. 3 hours in foreign language (see CFA Graduation Requirements).
 - h. 2 hours of electives in any area, including music (for strings emphasis only).
- | | |
|---|-----------|
| Subtotal for Strings Emphasis | 59 |
| Subtotal for Winds, Percussion, Piano or Guitar Emphasis | 57 |

2. Teaching Field: Music

- a. four semesters of MUS 101 *Concert Music* with a grade of CR;
 - b. 8 hours of applied music in the principal instrument, including APMS 119, 120, 219, 220, 319, 320, 419, 420 and 491;
 - c. 18 hours in music theory, including 150, 150L, 152, 152L, 250, 250L, 252, 252L and 453;
 - d. 6 hours in music history (MUS 361 and 362)
 - e. 2 hours in conducting (MUSE 363);
 - f. 1 hour in improvisation (MUS 236);
 - g. 3 hours selected from any courses listed under Contemporary World Music, or MUSE 293;
 - h. 2 hours vocal study, including 1 hour in either MUS 109 or APMS 119 (Voice) and 1 hour of either MUS 143 or MUSE 243.
- | | |
|-----------------|-----------|
| Subtotal | 40 |
|-----------------|-----------|

3. Professional Education: Music Education

- a. 8 hours in ensemble (see Ensemble Requirements for specific requirements);
 - b. 8 hours in MUSE 155 *Orchestral Instruments*;
 - c. 14 to 17 hours in music education methods, including:

MUSE 195 <i>Introductory Teaching Practicum</i>	3
MUSE 215 <i>Instrumental Lab</i> (2 semesters with a grade of CR),	
MUSE 315 <i>Instrumental Music Methods</i>	3
MUSE 317 <i>Jazz Methods</i> (not required for strings emphasis)	1
MUSE 441 <i>Marching Band Methods</i> (not required for strings emphasis)	2
MUSE 346 <i>Teaching Music in the Elementary Schools</i>	3
MUSE 415 <i>Instrumental Repertory</i>	1
MUSE 446 <i>Secondary School Music</i>	3
MUSE 455 <i>Teaching Reading in the Music Classroom</i>	3
 - d. 4 hours in foundations, including:

MUSE 194 <i>Introduction to Music Education</i>	1
MUSE 457 <i>Foundations of Musical Behavior</i>	3
 - e. 6 hours in student teaching, including:

MUSE 400 <i>Student Teaching in the Elementary School</i>	3
MUSE 461 <i>Student Teaching in the Secondary Schools</i>	3
- | | |
|---|------------|
| Subtotal for Strings Emphasis | 40 |
| Subtotal for Winds, Percussion, Piano or Guitar Emphasis | 43 |
| Total for Strings Emphasis | 139 |
| Total for Winds, Percussion, Piano or Guitar Emphasis | 140 |

Music Minor Requirements

Students seeking a minor in music must complete the following curriculum:

- a. 8 hours in music theory, including 150, 150L, 152, 152L;
- b. 3 hours selected from 139, 142, 172 or 271;
- c. 3 hours selected from 371, 373, 374, 375 MUSE 293 or any courses listed under Contemporary World Music;
- d. 4 hours in applied music (group classes will apply);
- e. 2 hours electives in music.

Total **20**

Music Education Minor Requirements

This program is open to College of Fine Arts students in the Bachelor of Music and Bachelor of Arts in Music degree programs, and to College of Education students seeking a music endorsement. Students electing this program must pass the piano proficiency examination (consult the *Department of Music Undergraduate Student Handbook* for details) and complete the following curriculum:

Non-Music Majors:

- a. 4 hours in music theory (MUS 150, 150L)
- b. 2 hours in applied music (APMS 107 and 108)
- c. 2 hours in ensemble* (see Ensemble Requirements for specific requirements)
- d. 7 hours in music education (MUSE 194, 346, 457)
- e. 3 hours in music history (MUS 371);
- f. 3 hours free electives in music education
- g. 3 hours free electives in music or music education

Total **24**

*Must be taken concurrently with applied music

Music Majors (Students pursuing the Bachelor of Music or Bachelor of Arts in Music):

- a. 1 hour MUS 236 *Introduction to Improvisation*
- b. 4 hours in MUSE 155 *Orchestral Instruments*
- c. 10 hours in music education (446, 194, 346, 457)
- d. 3 hours in either MUSE 313 *Choral Music Methods* or MUSE 315 *Instrumental Music Methods*
- e. 3 hours free electives in music education
- f. 3 hours free electives in music or music education

Total **24**

Ensemble Requirements: All Undergraduate Music Degree Programs

Ensemble performance is a vital part of every music student's experience. All undergraduate music majors (except those pursuing the Bachelor of Music Theory and Composition Concentration, the Bachelor of Music Performance Concentration Keyboard Emphasis and the Bachelor of Music Performance Concentration Instrumental Emphasis in guitar) will participate in a major ensemble each semester of their residence, beginning with their first semester of matriculation, until the minimum requirements listed below are fulfilled. Transfer students will be credited with a maximum of one semester of ensemble participation at the University of New Mexico for each semester they participated in a major ensemble at their former institution(s). No more than four such semesters may be counted.

No student may enroll in more than three ensembles per semester while in residence without approval of the department chairperson. Students pursuing the Bachelor of Music Performance Concentration Vocal Emphasis are normally allowed to participate in only one choral ensemble each semester of residence. Participation in other choral ensembles must be approved by the student's applied voice instructor.

Course numbers of ensembles are found in the course listings under Music in the catalog. One credit hour of

ensemble represents from two to six hours of rehearsal per week. Ensembles designated as "major ensembles" are the Symphony Orchestra, Wind Symphony, Symphonic Band, Marching Band, Concert Choir and Dolce Suono. Las Cantantes (Women's Chorus) may satisfy a maximum of four semesters of major ensemble credit. With permission of the Director of Choral Activities, University Chorus may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras, a maximum of four semesters of Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

Bachelor of Music Ensemble Requirements:

Performance Concentration:

Keyboard Emphasis with organ as the principal instrument: 8 hours total

Six semesters in an appropriate major ensemble.

(The appropriate major ensemble for the Keyboard Emphasis in organ is choral ensemble; students must audition for MUS 243 *Concert Choir* and participate in the choral ensemble to which they are assigned; no more than four semesters of Las Cantantes may count toward the major ensemble requirement).

Two semesters of accompanying

Keyboard Emphasis with piano as the principal instrument: 8 hours total

Two to four semesters in an appropriate major ensemble (The appropriate major ensemble for the Keyboard Emphasis in piano is generally choral ensemble; students must audition for MUS 243 *Concert Choir* and participate in the choral ensemble to which they are assigned; no more than four semesters of Las Cantantes may count toward the major choral ensemble requirement).

Four to six semesters in accompanying and/or chamber music. NOTE: As part of their essential experiences, all keyboard emphasis piano students above the freshman level are required to do a certain amount of accompanying as determined by the keyboard area faculty.

Instrumental Emphasis with principal instrument other than organ, piano or guitar: 10 hours total

Eight semesters in a major instrumental ensemble
NOTE: String students must audition for MUS 233 *Symphony Orchestra* and participate in the orchestral ensemble to which they are assigned. With permission of the Director of Orchestras, a maximum of four semesters of Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

Two semesters in chamber music

Instrumental Emphasis with guitar as the principal instrument: 10 hours total

Six semesters in an appropriate instrumental ensemble (The appropriate ensemble for the Instrumental Emphasis in guitar is, generally, Guitar Ensemble).

Vocal Emphasis: 8 hours total

Eight semesters in a major choral ensemble (students must audition for MUS 243 *Concert Choir* and participate in the choral ensemble to which they are assigned; no more than four semesters of Las Cantantes may count toward the major choral ensemble requirement). See note above regarding the number of ensembles in which a vocal student may participate per semester.

Theory and Composition Concentration

Six semesters in an appropriate major ensemble, of which two semesters must be in a major choral ensemble. To satisfy the major choral ensemble requirement, students must audition for MUS 243 *Concert Choir* and participate in the choral ensemble to which they are assigned; no more than four semesters of Las Cantantes may count toward the major ensemble requirement.

NOTE: String students must audition for MUS 233 *Symphony Orchestra* and participate in the orchestral ensemble to which they are assigned. With permission of the Director of Orchestras, a maximum of four semesters of Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

String Pedagogy Concentration

Eight semesters in Symphony Orchestra; plus

One semester in chamber music

NOTE: String students must audition for MUS 233 *Symphony Orchestra* and participate in the orchestral ensemble to which they are assigned. With permission of the Director of Orchestras, a maximum of four semesters of Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

One semester in chamber music

Jazz Studies Concentration

Four semesters in a major ensemble **NOTE:** These are in addition to the four hours of MUS 231 *Chamber Music* in Jazz Combo and the six hours of MUS 234 *Jazz Band* that are already required for the degree.

String students must audition for MUS 233 *Symphony Orchestra* and participate in the orchestral ensemble to which they are assigned. With permission of the Director of Orchestras, a maximum of four semesters of Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

Bachelor of Arts in Music Ensemble Requirements

Four semesters in an appropriate major ensemble.

For participation in a choral ensemble, students must audition for MUS 243 *Concert Choir* and participate in the choral ensemble to which they are assigned. String students must audition for MUS 233 *Symphony Orchestra* and participate in the orchestral ensemble to which they are assigned. With permission of the Director of Orchestras, Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

Bachelor of Music Education Ensemble Requirements

Eight semesters in a major ensemble as follows:

Instrumental Concentration:

Winds and Percussion Emphases: Students must audition for Wind Symphony, Marching Band, or Symphony Orchestra and participate in the ensemble to which they are assigned. Two of the required eight semesters must be in Marching Band. No more than four semesters of Marching Band may be counted toward the degree. With permission of the Director of Orchestras, a maximum of four semesters of Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

Strings Emphasis: Students must audition for Symphony Orchestra. String students must audition for MUS 233

Symphony Orchestra and participate in the orchestral ensemble to which they are assigned. With permission of the Director of Orchestras, a maximum of four semesters of Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

Piano and Guitar Emphases: Students must participate in the ensemble appropriate for Winds and Percussion Emphases. Two of the required eight semesters must be in Marching Band. No more than four semesters of Marching Band may be counted toward the degree. With permission of the Director of Orchestras, a maximum of four semesters of Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

Vocal Concentration:

Voice Emphasis: Students must audition for MUS 243 *Concert Choir* and participate in the choral ensemble to which they are assigned. No more than four semesters of Las Cantantes may count toward the major choral ensemble requirement.

Piano and Guitar Emphases: Students must participate in the ensemble appropriate for Voice Emphasis.

Music Education Minor Ensemble Requirements

For non-music majors:

Two semesters in a major ensemble. If a choral ensemble is desired, the student must audition for MUS 243 *Concert Choir* and participate in the choral ensemble to which he or she is assigned. String students must audition for MUS 233 *Symphony Orchestra* and participate in the orchestral ensemble to which they are assigned. With permission of the Director of Orchestras, Sinfonia may be allowed to satisfy the major ensemble requirement. With permission of the Director of Orchestras and the string area faculty, bassists may fulfill their ensemble requirement in Jazz Ensemble.

Departmental Honors

A student pursuing the Bachelor of Music, Bachelor of Arts in Music or Bachelor of Music Education may work toward departmental honors provided he or she meets the College of Fine Arts requirements listed under the Departmental Honors heading in the College of Fine Arts section of this catalog. The requirement for departmental honors is successful completion of six hours of MUS 499 *Topics*. The honors project is beyond normal degree and graduation requirements, and may consist of a written thesis, a theoretical document, an original composition or a special recital. Further information regarding departmental honors in Music can be obtained from the College of Fine Arts Advisement Center, Center for the Arts 1103.

Fees

Special Course Fees. Special course fees (charges for classroom supplies and services) in certain music courses must be paid to the University of New Mexico Cashier during the first three weeks of each semester. Refunds will be given according to the refund schedule in the Fees section of this catalog. All special course fees are subject to change and are charged in addition to tuition.

Applied Music Fee. All students enrolled in Applied Music must pay an applied music charge of \$75.00 for 1 semester credit hour or \$150 for 2 or more semester credit hours. This fee is subject to change and is charged in addition to tuition. All students enrolling in Applied Music for vocal instruction will also be expected to pay for the services of an accompanist at lessons and weekly rehearsals. Instrumentalists may also need to pay accompanying fees as dictated by the needs of their instrument and as required by the instructor.

Music Department Course Fees. All courses in the Department of Music are subject to a Music Course Fee and a Piano Maintenance and Replacement Fee. Each of these fees is currently charged at the rate of \$5.00 per credit hour. These fees are subject to change and are charged in addition to any other special course fees such as those described above.

Fine Arts Technology Fee. All courses in the College of Fine Arts are subject to a Fine Arts Technology Fee, which is currently charged at the rate of \$6.00 per credit hour. This fee is subject to change and is charged in addition to any other special course fees such as those described above.

Graduate Program

Graduate Coordinator

Colleen Sheinberg, 277-8401, colleens@unm.edu

Application Information

Applications are reviewed as they are received, but a prospective student should submit all materials by:

Fall semester:	May 1
Spring semester:	October 1
Summer session:	March

For international students, deadlines for submission of all materials are as follows:

Fall semester:	March 1
Spring semester:	November 1
Summer session:	April 24

NOTE: Early application is recommended.

For consideration for financial aid, all application materials must be received by the dates listed below.

Assistantships and Scholarships

The Department of Music has a number of graduate assistantships and teaching assistantships available. Scholarships are also available for graduate students. To be eligible for consideration, the student must submit all application materials by March 1. Students applying for brass assistantships must submit all application materials by February 15. To be eligible for a teaching assistantship an international student must demonstrate proficiency in English as determined by the TOEFL: A minimum score of 250 on the computerized version for the test will be required (equivalent to 600 for the paper-based or 100 for the internet version).

Degrees Offered

Master of Music

Concentrations: Music History and Literature, Theory and Composition, Performance, Conducting, Collaborative Piano, Music Education.

General Requirements

Before admission, a prospective student should send materials pertinent to his or her particular program (see "special prerequisites" below). A candidate for the Master of Music degree must have an undergraduate degree in music from an accredited college or equivalent proficiency. An applicant without a music degree will be required to take a proctored test before being admitted; he or she may have to do undergraduate work before becoming a graduate student.

Placement Exams. All entering graduate students in music (with the exception of those pursuing the Concentration in Music Education) must take the appropriate placement tests in music history and music theory before their first classes begin. If the graduate placement tests reveal deficiencies, appropriate course work will be required. Consult the *Department of Music Graduate Student Handbook* for specific requirements. Before completion of the first semester of coursework, students pursuing the Master of Music Concentration in Music Education

must take a written guidance examination in relevant contemporary topics and issues in music education. Consult the *Department of Music Graduate Student Handbook* for a description of this exam.

Piano Proficiencies. A piano proficiency exam is required of graduate students pursuing the following concentrations: Conducting (Choral or Orchestral focus), Performance (Voice), Music history and Literature, and Theory and Composition (Theory focus). This exam must be passed by the end of the semester preceding the semester of graduation. Consult the *Department of Music Graduate Student Handbook* for specific requirements.

Final Comprehensive Examinations. All students will be required to pass a final written and/or oral comprehensive examination.

Ensemble Participation. Graduate students may be required to participate in a major ensemble. Consult the *Department of Music Graduate Student Handbook* and the degree requirements for each concentration described below.

Workshops. Unless otherwise stipulated, the maximum workshop credit allowed under Plan I is 5 hours; under Plan II, 8 hours.

Problem Courses. The maximum credit allowed for Graduate Problems is 6 hours. Enrollment in Graduate Problems requires the approval of both the Department Chair and the Department Graduate Committee. Consult the *Department of Music Graduate Student Handbook* regarding procedures in requesting approval for Graduate Problems enrollment.

Instructors. No more than half of the degree program's minimum required course work hours, exclusive of Thesis or Project, may be taken with a single faculty member.

Fees. Graduate students must pay all course fees as described above.

Graduate Recital Requirements

No graduate student may enroll for APMS 591 *Studio Instruction and Graduate Recital* prior to submission of the Program of Studies form to the Office of Graduate Studies. Exceptions may be made for students working toward a Master of Music Concentration in Collaborative Piano. Prior to submission of the Program of Studies form, the student must have completed MUS 531 *Bibliography and Research*, must have a cumulative grade point average of at least 3.0, and must have satisfied any requirements specific to his or her degree program (e.g., foreign language, diction, piano proficiency). See the *Department of Music Graduate Student Handbook* for further information.

Recital requirements:

1. **Recital Preview.** A student pursuing the Concentration in Performance must give a preview performance of the recital program for the approval of the appropriate area faculty not less than two weeks before the proposed recital date. A student pursuing the Concentration in Conducting must give a preview performance of the recital program for the approval of the appropriate area faculty not less than one week before the proposed recital date.
2. **Program Notes.** A student pursuing the Master of Music Concentration in Performance or Conducting must write program notes on all the pieces to be performed on his or her graduate recital. The program notes must indicate substantial investigation, must be well written, and must include a correctly written bibliography. (Note: with faculty approval, conducting students may substitute a research paper for program notes—see degree requirements for details).

The student must submit program notes, program, and bibliography to the Graduate Coordinator **no later than two months** before the recital (not counting intersession time). See the *Department of Music*

Graduate Student Handbook for details regarding style, format and submission requirements. The Graduate Coordinator may examine the notes, program page and/or bibliography as an outside reader and make comments or suggestions for the student's advisory committee to consider, and will submit these together with the student's materials to his or her advisory committee members.

The advisory committee members will read all materials and may request corrections by the student. The student will make all corrections as requested and resubmit the final copy of the notes to the chair of the advisory committee **no later than two weeks** before the recital. The student may not perform his or her graduate recital until the notes have been approved by the advisory committee and are ready to be duplicated for the audience. Should the student fail to submit the notes in a timely manner, he or she will be required to reschedule the recital for a later date. Refer to the *Department of Music Graduate Student Handbook* for further information on requirements and the approval process.

3. **Recital Recording.** The Graduate Recital must be recorded by the Department of Music Recording Engineer and a copy of the recital recording must be deposited with the Department of Music. Arrangements for the recording of the Graduate Recital must be made at least two months days in advance of the recital date. Refer to the *Department of Music Graduate Student Handbook* for further information and requirements.

Master of Music Concentration in Music History and Literature (Plan I—with thesis)

Special Prerequisite. A student emphasizing music history and literature must submit, with the application, a research paper that shows a knowledge of research techniques and satisfactory ability in written English.

Program of Study (26 hrs. plus thesis)

Required Courses (9 hrs.)

MUS 531	Bibliography and Research	3
MUS 599	Master's Thesis	6

Music History Electives (9 hrs.)

Must be chosen from among the following courses:

MUS 513	Medieval and Renaissance Music	3
MUS 514	Studies in Baroque Music	3
MUS 515	Studies in Classic and Romantic Music	3
MUS 516	Studies in Twentieth-Century Music	3
MUS 537	Selected Topics in Music Literature	3

Other Music Electives (6 hrs.)

Must be chosen from among the following courses or from the music history courses above:

MUS 525	Post-Tonal Theory	3
MUS 527	Theory Pedagogy	3
MUS 528	Music Styles Before 1750	3
MUS 529	Techniques of Twentieth-Century Composition	3
MUS 539	Selected Topics in Music Theory	3
MUS 551	Graduate Problems	1-3

Free Electives (8 hrs.)

Up to 6 hours may be taken outside of Music. May include up to 2 hours of applied instrument or voice. May include up to 2 hours of MUS 560 *Ensemble Performance*.

Additional requirement: reading ability in one foreign language, preferably German or French. To meet the foreign language requirement, one of the following must be accomplished:

1. With a grade of 3.0 (B) or better, pass as many undergraduate semesters of one language as are equivalent to completion of the fourth-semester course in that language; preferably, the language should be German or French.

2. Pass two semesters of one foreign language course designed especially to meet the needs of graduate students.
3. For a student already fluent in a foreign language, preferably German or French, who lacks the appropriate undergraduate course work, the Music Graduate Committee will recommend the method by which he or she can satisfy the foreign language requirement.

Master of Music Concentration in Theory and Composition (Plan I—with thesis)

Special Prerequisites. A student applying for the Master of Music Concentration in Theory and Composition must submit, with the application, a portfolio consisting of the following:

For a composition focus, the portfolio should consist of several compositions. If these are for conventional acoustic media (string quartet, voice and piano, orchestra, band, chorus, solo piano, etc.), scores and recordings, if available, should be submitted. If the medium is in digital form, a copy of the work and a short essay explaining your creative process for the piece should be submitted.

For a theory focus, the portfolio should consist of two essays in academic format. At least one of the two should be on a theory or analysis topic, while the other may be historical in nature.

If you are undecided whether your focus will be in theory or composition, then your portfolio should contain at least one composition/creative work and one essay (theory or analysis only).

Program of Study (26 hrs. plus thesis)

Required Courses (17 hrs.)

APMS 501	Studio Instruction in the Principal Area of Concentration—Composition	2
MUS 525	Post-Tonal Theory*	3
MUS 527	Theory Pedagogy	3
MUS 531	Bibliography and Research	3
MUS 599	Master's Thesis	6

Music Electives (9 hrs.)

Must be chosen from among the following courses:

MUS 513	Medieval and Renaissance Music	3
MUS 514	Studies in Baroque Music	3
MUS 515	Studies in Classic and Romantic Music	3
MUS 516	Studies in Twentieth-Century Music	3
MUS 528	Music Styles Before 1750	3
MUS 529	Techniques of Twentieth-Century Composition* (elective only for music theory focus)	3
MUS 537	Selected Topics in Music Literature	3
MUS 539	Selected Topics in Music Theory* (may be required for music theory focus)	3

* Asterisked courses above fulfill elective/required course requirements pending advisement and approval by the theory and composition faculty.

Electives (6 hrs.)

Electives must be in Music, and it is recommended that these include 2 hours of applied piano. Graduate students are encouraged to enroll in MUS 560 *Ensemble Performance*; 2 hours of ensemble credit will apply toward the degree. Two hours from MUS 505 or 506 are required unless the student has taken counterpoint as an undergraduate.

As a culmination to study in Theory and Composition, the student must submit either a theoretical document or an original composition as a thesis (i.e., an original composition in any of the larger forms, such as a cantata, symphony or string quartet). The thesis shall be in addition to work done in Applied MUS 501.

Master of Music Concentration in Performance (Plan II—without thesis)

Special Prerequisites. At the time of application, a student must audition for an appropriate faculty jury or submit a recent tape or cassette. For singers, this must include four vocal selections, memorized and representative of Italian, French, German and English. One of the selections must be an aria from opera or oratorio; the others preferably should be drawn from the art song repertory. The student should also submit copies of programs from any solo voice recitals that were performed as part of undergraduate degree work. (Note: In some cases, vocal faculty may request a live audition in addition to the audition tape). Please contact the Graduate Coordinator of the Music Department for audition appointments; early auditions are encouraged.

Special Prerequisites—Voice. Students in the area of voice must demonstrate good diction in Italian, French and German and adequate vocal quality. If diction for singers and two years of foreign language (any combination of two from the following: Italian, French or German) do not appear on transcripts submitted, the Voice Faculty may declare the student deficient in these areas; the student may be required to make up these deficiencies.

Program of Study (32 hrs.)

Required Courses (15–19 hrs.)

APMS 501	Studio Instruction in the Principal Area of Concentration	4
APMS 502	Studio Instruction in the Principal Area of Concentration	4
APMS 591	Studio Instruction and Graduate Recital**	4
MUS 531	Bibliography and Research	3
MUS 549	Music Repertory—Voice (M.M. in Voice Performance only)*	2
MUS 588	Music Pedagogy—Voice (M.M. in Voice Performance only)*	2

* Voice students may substitute electives for the above only with the approval of the Voice Faculty.

** See above under "Graduate Recital Requirements" for specific requirements.

Music Electives (9 hrs.)

Must be chosen from among the following courses:

MUS 513	Medieval and Renaissance Music	3
MUS 514	Studies in Baroque Music	3
MUS 515	Studies in Classic and Romantic Music	3
MUS 516	Studies in Twentieth-Century Music	3
MUS 525	Post-Tonal Theory	3
MUS 527	Theory Pedagogy	3
MUS 528	Music Styles Before 1750	3
MUS 529	Techniques of Twentieth-Century Composition	3
MUS 537	Selected Topics in Music Literature	3
MUS 539	Selected Topics in Music Theory	3

Free Electives (8 hrs; 4 hrs for Voice Performance.)

May be taken in areas outside of music and may include 2 hours of applied instrument or voice other than concentrate. Graduate students are encouraged to enroll in MUS 560 *Ensemble Performance*; four hours of ensemble credit will count toward the degree.

The Master of Music Concentration in Conducting (Plan II—without thesis)

Special prerequisite: At the time of application, a student emphasizing conducting must audition for an appropriate faculty jury or submit a video and/or audio tape of a recent program. If a tape is submitted, it should contain approximately 20 minutes of conducting, which can include rehearsal and/or concert performance; if possible, two pieces of contrasting styles should be represented. For a specialization in band conducting, please contact the Director of Bands before submitting a tape.

Special Prerequisites— Choral Focus: If diction for singers and two years of foreign language (any combination of two from the following: Italian, French or German) do not appear on transcripts submitted, the student may be required to make up these deficiencies as a graduate student.

Program of Study (32 hrs.)

Required Courses (17 hrs.)

MUS 531	Bibliography and Research	3
MUS 560	Ensemble Performance	1+1
MUS 571	Conducting Seminar— in area of focus*	2+2
MUS 571	Conducting Seminar— in area other than focus*	2+2
MUS 572	Advanced Conducting Seminar— in area of focus*	2+2
APMS 591	Studio Instruction and Graduate Recital	2

* The Concentration in Conducting is intended to prepare the student in the techniques of choral, instrumental (winds) and Instrumental (orchestral) conducting, and instrumental conducting. It is expected that a student will focus on one of these areas in his or her studies. However, he or she will be expected to take at least one semester of MUS 571 *Conducting Seminar* in one of the other areas.

Music Electives (9 hrs.)

Must be chosen from among the following courses:

MUS 513	Medieval and Renaissance Music	3
MUS 514	Studies in Baroque Music	3
MUS 515	Studies in Classic and Romantic Music	3
MUS 516	Studies in Twentieth-Century Music	3
MUS 525	Post-Tonal Theory	3
MUS 527	Theory Pedagogy	3
MUS 528	Music Styles Before 1750	3
MUS 529	Techniques of Twentieth-Century Composition	3
MUS 537	Selected Topics in Music Literature	3
MUS 539	Selected Topics in Music Theory	3

Electives (4 hrs.)

The Graduate Coordinator and the major professor will recommend courses appropriate to the student's degree focus (choral or instrumental).

Additional requirements

Conducting majors are expected to assist, as needed, with various ensembles throughout their residency.

****Graduate Recital**

See above under "Graduate Recital Requirements" for specific requirements.

The master's recital is a conducting performance of major proportions. A conducting practicum is required for the recital. The student may be responsible for developing such a group. The recital shall be a demonstration of the candidate's ability to program effectively, interpret the various styles and forms, understand acceptable conducting techniques and work effectively with the ensemble. Either 1) a short research document relating to the music and a review of the practicum experience prior to and including the performance; or 2) program notes are required. Substitution of the research document for program notes must be made after consultation with, and with approval of, the conducting faculty, who will determine the format and requirements for the document.

The Master of Music Concentration in Collaborative Piano (Plan II—without thesis)

Special Prerequisites. A student who wishes to pursue the Concentration in Collaborative Piano must audition for an appropriate faculty jury or submit a recent tape or cassette. Prerequisites include diction for singers in German, French, Italian, English and Latin, and at least one year of language

study in German, French or Italian. If these have not been included in the undergraduate program, the student will be required to fulfill these prerequisites as a graduate student.

Program of Study (32 hrs.)

Required Courses (17 hrs.)

APMS 501	Studio Instruction in the Principal Area of Concentration—Collaborative Piano	4
APMS 502	Studio Instruction in the Principal Area of Concentration—Collaborative Piano	4
APMS 591	Studio Instruction and Graduate Recital—Collaborative Piano*	4
MUS 531	Bibliography and Research	3
MUS 595	Accompanying (two semesters)	1+1

* Four accompanying recitals are required, two vocal and two instrumental, as approved by the major professor. See above under "Graduate Recital Requirements" for specific requirements.

Music Electives (9 hrs.)

Must be chosen from among the following courses:

MUS 513	Medieval and Renaissance Music	3
MUS 514	Studies in Baroque Music	3
MUS 515	Studies in Classic and Romantic Music	3
MUS 516	Studies in Twentieth-Century Music	3
MUS 525	Post-Tonal Theory	3
MUS 527	Theory Pedagogy	3
MUS 528	Music Styles Before 1750	3
MUS 529	Techniques of Twentieth-Century Composition	3
MUS 537	Selected Topics in Music Literature	3
MUS 539	Selected Topics in Music Theory	3

Electives (6 hrs.)

May be taken in areas outside Music, Music Education or Applied Music. Graduate students are encouraged to enroll in MUS 560 *Ensemble Performance*. Graduate students in the Collaborative Piano Concentration are encouraged to take at least one semester of Applied Music in harpsichord.

The Master of Music Concentration in Music Education (Plan I—with thesis; Plan II—with project)

The Master of Music degree with a concentration in Music Education is offered under both Plan I (with thesis) and Plan II (with project). Plan I is recommended for students anticipating doctoral study. Plan II is recommended for students who do not plan to pursue doctoral study.

Special Prerequisites. A graduate student seeking the Master of Music degree with a Concentration in Music Education should possess an undergraduate degree in music education, with evidence that the undergraduate degree included a practicum (practice teaching).

Program of Study (Plan I: 26 hrs. plus thesis; Plan II: 32 hrs.)

Required Courses (Plan I: 15 hrs.; Plan II: 13 hrs.)

MUSE 532	Introduction to Research in Music Education	3
MUSE 534	Seminar in Music Education	3
MUSE 550	Philosophy of Music Education	3
For Plan I:		
MUSE 599	Master's Thesis	6
For Plan II:		
MUSE 598	Music Education Project	4

Electives in Music (12 hrs.)

Any courses offering graduate credit in Applied Music, Conducting, Contemporary World Music, History and Literature, Pedagogy, Technology in Music, Theory and Composition, Interdisciplinary Studies, or Music Education. At least three hours must be in Contemporary World Music, History and Literature, Theory and Composition or

Interdisciplinary Studies. A maximum of six hours may be earned in Applied Music and Conducting.

Free Electives (Plan I: 5 hrs.; Plan II: 7 hrs.)

Any courses offering graduate credit in music or areas outside of music.

NOTE: A maximum of 22 hours in Music Education, eight hours in Applied Music and Conducting, five hours of workshops, and two hours of MUS 560 *Ensemble Performance* will apply toward the degree.

Music (MUS)

Courses for Non-Majors

Unless specifically allowed in the degree plan, these courses cannot be applied toward degree requirements for the Bachelor of Music, Bachelor of Arts in Music, or Bachelor of Music Education.

102. Music Theory for the Non-Major. (3) Thévenot
Students will develop awareness of basic elements of melody, rhythm, harmony, form and expression through involvement as singers, players, creators, movers, listeners and readers of music. Designed for students with little or no musical training. {Fall, Spring}

113. Mexican Guitar. (1)
Group instruction.

114. Mexican Guitar. (1)
Continuation of 113.

116. Group Guitar I. (2) Uilbarri
Students will learn to read music and play melodies, chords and simple songs. Emphasis on classical curriculum, supplemented with instruction in other styles, including rock, blues and jazz. Student must supply instrument (classical, nylon-string guitar). {Fall, Spring}

117. Group Guitar II. (2) Uilbarri
For students who have completed 116 or have some basic guitar skills. Emphasis on classical curriculum, supplemented with instruction in other styles, including folk, rock, blues and jazz. Student must supply instrument (classical, nylon-string guitar). {Fall, Spring}

139. Music Appreciation. (3) J. Lau, Thévenot, Chambers, Otero, Davis, Shultis
Designed to expand the student's ability to listen actively to Western classical art music; a survey of the various genres, including chamber music, symphonic and vocal repertoire. Includes live guest performances. Attendance at several on-campus concerts required. No musical background necessary. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113). {Summer, Fall, Spring}

142. Rock Music Appreciation. J. Lau
An introduction to the fundamentals of music and the development of listening skills through the examination of rock music, including its history, styles and significance in the realm of popular music. No musical background necessary. {Summer, Fall, Spring}

172. Jazz History. (3) Tatum, E. Lau
A study of the evolution of jazz in the United States from its beginnings to the present. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts. {Summer, Fall, Spring}

271. Music Today. (3) Davis
A survey of how Western art music and popular music developed during the 20th century, especially with regard to the effect that social and economic forces had upon the art. Attendance at several on-campus concerts is required; discussion and live performances by guest musicians are included. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts. {Fall, Spring}

371. Music History for Non-Majors. (3) Vigneau, Piper
A survey of Western music history and musical styles in art music from about 800 A.D. to the present. Music reading ability not required. {Summer, Fall}

373. Folk Music of North America. (3) Klemenc
A survey of important types of folk music in North America (Canada, Mexico and the United States). Music reading ability not required.

375. The Beatles' Musical Revolution. (3) Piper
Examines the development of the historical and musical artistry of the Beatles presented within the framework of aesthetic and social/cultural movement 1957-1970 and their individual contributions. {Spring}

Conducting

363. Conducting. (2) Pérez-Gómez, Rombach-Kendall
Basic theory and techniques of conducting. Open only to students pursuing the Bachelor of Music or Bachelor of Arts in Music; exceptions may be made with permission of department chair.

365. Instrumental Conducting. (2) Pérez-Gómez
Instrumental conducting techniques, score reading, interpretation.
Prerequisite: 363. {Spring}

565. Advanced Instrumental Conducting. (2) Pérez-Gómez, Rombach-Kendall
Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Spring}

571. Conducting Seminar. (2 to a maximum of 12) Δ Ellingboe, Perez-Gomez, Rombach
The development of skills and knowledge required to lead large ensembles. Score study, aural skills, rehearsal and pedagogical strategies, conducting technique, study of repertoire, and discussion of educational and artistic philosophies. For students enrolled in the Master of Music Conducting Concentration only. {Fall, Spring}

572. Advanced Conducting Seminar. (2 to a maximum of 8) Δ Ellingboe, Pérez-Gómez, Rombach
Continuation of MUS 571. Advanced study in technique of conducting large ensembles. Open only to students enrolled in the Master of Music Conducting Concentration. Prerequisite: four hours of MUS 571. {Fall, Spring}

Contemporary World Music

417/517. Native American Music. (3) M. Williams
(Also offered as NATV 417.) Survey course on the music of Native North American Indians, covering traditional repertoires, cultural context of musical performances, musical styles and relationship to dance. {Fall}

418/518. Alaska Native Music and Culture. (3) M. Williams
(Also offered as NATV 418.) Study of traditional Alaska Native music by region and culture group. Use of interdisciplinary methods to examine the historical and social dynamics behind changing musical traditions. Fundamentals of contemporary world music theory and research methods. {Spring, alternate years}

422/522. Indigenous World Music. (3) M. Williams
(Also offered as NATV 422.) An introduction to the indigenous music of the Americas, Europe, Africa, Middle East and Asia, including issues of change, adaptation and contemporary cultural influences on music traditions. {Spring, alternate years}

436/536. Selected Topics in Contemporary World Music. (3, no limit) Δ
This course allows permanent or visiting faculty to develop a course based on a topic related to the field of contemporary world music. Enrollment requires instructor's approval. May be repeated for credit, no limit as long as topic varies. {Offered upon demand}

444/544. Anthropology of World Beat. (3) Feld
(Also offered as ANTH 444.) The study of musical globalization, concentrating on the 100 year background of indigenous and ethnic sound recordings that led to the creation of the "World Music" genre in the late 20th Century.

448/548. The Anthropology of Music and Sound. (3) Feld
(Also offered as ANTH 448./548.) The cultural study of music and sound. Course materials are drawn from written and audio music ethnographies of contemporary indigenous, diasporic, refugee, exile, and industrial communities.

517/417. Native American Music. (3) M. Williams
Survey course on the music of Native North American Indians, covering traditional repertoires, cultural context of musical performances, musical styles and relationship to dance. {Fall}

518/418. Alaska Native Music and Culture. (3) M. Williams
Study of traditional Alaska Native music by region and culture group. Use of interdisciplinary methods to examine the historical and social dynamics behind changing musical traditions. Fundamentals of contemporary world music theory and research methods. {Spring, alternate years}

522/422. Indigenous World Music. (3) M. Williams
An introduction to the indigenous music of the Americas, Europe, Africa, Middle East and Asia, including issues of change, adaptation and contemporary cultural influences on music traditions. {Spring, alternate years}

536/436. Selected Topics in Contemporary World Music. (3, no limit) Δ
This course allows permanent or visiting faculty to develop a course based on a topic related to the field of contemporary world music. May be repeated for credit, no limit as long as topic varies. Enrollment requires instructor's approval. {Offered upon demand}

544/444. Anthropology of World Beat. (3) Feld
(Also offered as ANTH 544.) The study of musical globalization, concentrating on the 100 year background of indigenous and ethnic sound recordings that led to the creation of the "World Music" genre in the late 20th Century.

548/448. The Anthropology of Music and Sound. (3) Feld
(Also offered as ANTH 548./448.) The cultural study of music and sound. Course materials are drawn from written and audio music ethnographies of contemporary indigenous, diasporic, refugee, exile, and industrial communities.

Ensemble

143. University Chorus. (1, no limit) Δ Ellingboe
Large mixed chorus. Open to all University students; no audition required. Maximum of 8 hours credit allowed toward degrees in the BUS, in the College of Fine Arts or in the College of Education; 4 hours in other colleges. {Fall, Spring}

230. Opera Studio. (1, no limit) Δ Tyler, Umphrey
Basic training in music theatre. Open by audition to singers, conductors, pianists, stage directors and producers. {Fall, Spring}

231. Chamber Music. (1, no limit) Δ
Practice, performance and study of chamber music. Includes various combinations of strings, brasses, woodwinds, percussion, guitars, piano and voices. Specific ensemble offerings are announced each semester in the *Schedule of Classes*. Preference given to music majors. {Fall, Spring}

232. Early Music Ensemble. (1, no limit) Δ Sheinberg
A vocal and instrumental ensemble specializing in the performance of music of the Middle Ages, Renaissance and early Baroque. Open to all students, but enrollment requires instructor's approval. {Fall, Spring}

500 FINE ARTS

233. Symphony Orchestra. (1, no limit) Δ Pérez-Gómez (Also offered as MUSE 233.) Study and public performance of symphonic literature. Auditions required. Maximum of 8 hours credit allowed toward degrees in the BUS, in the College of Fine Arts or in the College of Education; 4 hours in other colleges. {Fall, Spring}

234. Jazz Band. (1, no limit) Δ Dalby, Kostur Modern jazz ensemble of 20 or more that performs music representing various styles of big band jazz, rock and pop. Auditions required. {Fall, Spring}

241. University Band. (1, no limit) Δ Rombach, Simons (Includes Wind Symphony, Symphonic Band, Campus Band, Marching Band, Basketball Band.) (Also offered as MUSE 241.) Study and performance of concert band literature. Marching band required of wind and percussion concentrates in music education. Audition required, but open to all students. Maximum of 8 hours credit allowed toward degrees in the BUS, in the College of Fine Arts or in the College of Education; 4 hours in other colleges. {Fall, Spring}

243. Concert Choir. (1, no limit) Δ Ellingboe (Also offered as MUSE 243.) Select mixed-voice choral ensemble, 28–34 singers. Performs significant works of the Renaissance, Baroque, Classic, Romantic and Contemporary periods. Audition required, but open to all students. Maximum of 8 hours credit allowed toward degrees in the BUS, in the College of Fine Arts or in the College of Education; 4 hours in other colleges. {Fall, Spring}

395/595. Accompanying. (1, no limit) Δ Pyle Study and performance of accompaniment practice. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall, Spring}

430. [*430.] Advanced Opera Studio. (1, no limit) Δ Tyler Advanced performance in music theatre and opera, culminating in major performances. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music. Open by audition to singers, conductors, pianists, stage directors, and producers. Prerequisite: 230. {Fall, Spring}

560. Ensemble Performance. (1, no limit) Δ Training in ensemble performance in either chamber groups or larger ensembles (band, orchestra, chorus). Specific ensemble offerings are announced each semester in the *Schedule of Classes*. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall, Spring}

595/395. Accompanying. (1, no limit) Δ Pyle Study and performance of accompaniment practice. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall, Spring}

History and Literature

101. Concert Music. (0, no limit) Δ Students working toward the B.M., B.A. in Music or B.M.E. must attend 15 recitals in each of six semesters in order to gain these degrees. Transfer students with at least 60 hours of credit must attend 15 recitals in each of two semesters. **Offered on a CR/NC basis only.** {Fall, Spring}

361. History of Music I. (3) Hinterbichler Forms, styles, schools, principal composers and representative masterworks from antiquity through Baroque. Prerequisite: 152. {Fall}

362. History of Music II. (3) Hinterbichler Continuation of 361, from Pre-Classical to the present. Open to music majors only. MUS 361 is recommended, but not required, before enrolling in MUS 362. Prerequisite: 152. {Spring}

413/513. Studies in Medieval and Renaissance Music. (3) Music of Western Europe from the Christian Era to the close of the 16th century. Open to music majors only; non-majors must have instructor's approval to enroll. Prerequisite: 361 and 362. {Fall, alternate years}

414/514. Studies in Baroque Music. (3) Vigneau Music of Western Europe, 1600–1750, with emphasis on forms, styles, principal composers and performance practices. Open to music majors only; non-majors must have instructor's approval to enroll. Prerequisite: 361 and 362. {Spring, alternate years}

415/515. Studies in Classic and Romantic Music. (3) Music of Western Europe from 1750–1900. Open to music majors only; non-majors must have instructor's approval to enroll. Prerequisite: 361 and 362. {Spring, alternate years}

416/516. Studies in Twentieth-Century Music. (3) Shultis A survey of the chief musical developments in Western Europe and the Americas from 1900 with the emphasis on music composed since 1940. Open to music majors only; non-majors must have instructor's approval to enroll. Prerequisite: 361 and 362. {Fall, alternate years}

437/537. Selected Topics in Music Literature. (3, no limit) Δ Hinterbichler, Vigneau May be repeated for credit, no limit, as long as topic varies. If student has not completed MUS 361 and MUS 362, enrollment requires instructor's approval. Prerequisite: 361 and 362. {Offered upon demand}

449/549. Music Repertory. (2, no limit) Δ Comprehensive study of solo repertory for voice or individual instruments. Specific area is announced in the class schedule when the course is offered. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music. {Fall}

513/413. Studies in Medieval and Renaissance Music. (3) Music of Western Europe from the Christian Era to the close of the 16th century. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall, alternate years}

514/414. Studies in Baroque Music. (3) Vigneau Music of Western Europe, 1600–1750, with emphasis on forms, styles, principal composers and performance practices. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Spring, alternate years}

515/415. Studies in Classic and Romantic Music. (3) Music of Western Europe from 1750–1900. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Spring, alternate years}

516/416. Studies in Twentieth-Century Music. (3) Shultis A survey of the chief musical developments in Western Europe and the Americas from 1900, with the emphasis on music composed since 1940. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall, alternate years}

528. Music Styles Before 1750. (3) This course expects students to analyze the music of the eras being studied. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval.

531. Bibliography and Research. (3)

Course includes basic procedures used in research, library orientation, investigative methods and typical materials. The course aims to teach students that research is a logical process. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall}

537/437. Selected Topics in Music Literature. (3, no limit) Δ

Hinterbichler, Vigneau
May be repeated for credit, no limit, as long as topic varies. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Offered upon demand}

549/449. Music Repertory. (2, no limit) Δ

Comprehensive study of solo repertory for voice or individual instruments. Specific area is announced in the class schedule when the course is offered. May be repeated for credit, no limit, as long as subject matter varies. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall}

Jazz Studies**236. Introduction to Improvisation. (1 to a maximum of 3) Δ**

Dalby
An introductory course in musical improvisation. Activities include singing, playing familiar tunes by ear and learning of tonal functions. Basic aspects of jazz harmony, vocabulary and style are introduced during the latter part of the semester. May be repeated for credit with permission of department chairperson (or dean). {Fall}

237. Jazz Improvisation I. (1) Dalby

Continuation of 236. Course addresses forms of jazz tunes, idiomatic jazz vocabulary (patterns) associated with ii-V7-I chord progressions and jazz theory including chord/scale relationships.
Prerequisite: 236. {Spring}

238. Jazz Theory/Keyboard. (2) Kostur

Music theory as applied to jazz music. Introduction to chord/scale theory, chord nomenclature, common harmonic progressions and substitutions. Keyboard includes basic jazz chord voicings and progressions.
Prerequisite: 152. {Fall, alternate years}

336. Jazz Improvisation II. (1) Kostur

Continuation of 237, focusing on chromaticism, chord alterations (with associated chord/scale implications), execution of ii-V7-I patterns in all minor keys and analysis of transcribed solos of jazz masters.
Prerequisite: 237. {Fall, alternate years}

337. Jazz Improvisation III. (1) Kostur

Continuation of 336, introducing modern jazz compositions containing nonfunctional and polytonal harmony, with appropriate chord-scale implications and jazz vocabulary. Analysis of transcribed solos of modern jazz masters is also required.
Prerequisite: 336. {Spring, alternate years}

338. Jazz Arranging. (2) Kostur

Introduction to jazz arranging and scoring techniques for jazz small groups and big bands. Includes voicing for horns, writing for rhythm sections, reharmonization, standards for score and part preparation.
Prerequisite: 238. {Spring, alternate years}

343. Selected Topics in Jazz Studies. (3, no limit) Δ

Kostur
This course allows permanent or visiting faculty to develop a course based on a topic related to the field of jazz studies. May be repeated for credit, no limit as long as topic varies. Enrollment requires instructor's approval. {Offered upon demand}

Pedagogy**170. String Pedagogy Seminar I. (2 to a maximum of 4) Δ**

Kempler
Essentials for studio teachers, including studio accounts, establishing studio policies and parent education. Kinesthetic and physiologic considerations related to introducing students to the instrument. Suzuki Books 1 and 2 will be covered.
Corequisite: 170L. {Fall, Spring}

170L. String Pedagogy Lab I. (1 to a maximum of 2) Δ

Kempler
Students will spend a minimum of two hours per week observing and consulting with a professional string specialist from the community in order to compare and contrast teaching and pedagogical approaches. Course fee required.
Corequisite: 170. {Fall, Spring}

270. String Pedagogy Seminar II. (2 to a maximum of 4) Δ

Kempler
Development of elementary musical skills and techniques, including scales, shifting and vibrato. Approaches to teach children to read music will be covered. Suzuki Books 3 and 4 will be covered. Student must have completed 4 hours of MUS 170 and 2 hours of MUS 170L to enroll.
Restriction: permission of instructor. Corequisite: 270L. {Fall, Spring}

270L. String Pedagogy Lab II. (1 to a maximum of 2) Δ

Kempler
Students will teach private and homogeneous group lessons in the University of New Mexico Music Preparatory School. Supervision and guidance will be provided regularly via observation, videotaping, and discussion in the pedagogy seminar. Student must have completed 4 hours of MUS 170 and 2 hours of MUS 170L to enroll.
Corequisite: 270 Restriction: permission of instructor. {Fall, Spring}

370. String Pedagogy Seminar III. (2 to a maximum of 4) Δ

Kempler
Exploration of intermediate student skills and techniques, including three-octave scales, arpeggios, shifting, playing in the upper positions and double stops. Pedagogical approaches of Paul Rolland will be explored. Suzuki Books 5 and 6 will be covered. Course fee required. Student must have completed 4 hours of 270 and 2 hours of 270L to enroll.
Corequisite: 370L. Restriction: permission of instructor. {Fall, Spring}

370L. String Pedagogy Lab III. (1 to a maximum of 2) Δ

Kempler
Opportunity for the University of New Mexico student to teach more advanced students in the University of New Mexico Music Preparatory School and beginning orchestra classes. May also teach parent preparation classes. Student must have completed 4 hours of 270 and 2 hours of 270L to enroll.
Corequisite: 370. Restriction: permission of instructor. {Fall, Spring}

388/588. Music Pedagogy. (2, no limit) Δ

For the music student who plans to teach privately, especially beginners of various ages. Specific area is announced in class schedule when course is offered. May be repeated for credit, no limit, as long as subject matter varies, with permission of department chairperson (or dean). Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.
Restriction: junior or senior standing. {Fall}

389/589. Music Pedagogy. (2, no limit) Δ

Continuation of 388, treating problems in teaching intermediate and moderately advanced students. Specific area is announced in class schedule when course is offered. May be repeated for credit, no limit, as long as subject matter varies, with permission of department chairperson (or dean). Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.

Restriction: junior or senior standing. {Spring}

470. String Pedagogy Seminar IV. (2 to a maximum of 4) Δ Kempter

Continued exploration of pedagogical approaches; overview of literature and études; Suzuki Books 7 and 8. Student must have completed 4 hours of MUS 370 and 2 hours of MUS 370L to enroll. {Fall, Spring}

Corequisite: 470L. Restriction: permission of instructor.

470L. String Pedagogy Lab IV. (1 to a maximum of 2) Δ Kempter

Students will continue to teach individual lessons as well as homogeneous and heterogeneous groups. Advanced pedagogy students will lead the University of New Mexico Music Preparatory School students in their concerts and recitals and will help coordinate those events. Students must have completed 4 hours of 370 and 2 hours of 370L to enroll.

Corequisite: 470. Restriction: permission of instructor. {Fall, Spring}

472. String Pedagogy Recital. (2)

Kempter Students will perform a half-recital in the community and at UNM. In addition, an intermediate/advanced musical score will be analyzed and discussed for pedagogical points. Corequisite: 470.

527. Theory Pedagogy. (3) Staff

A survey of the materials, the methodology and the content that could be encompassed in courses that teach theory. Representative textbooks, including those that deal with 20th-century techniques, will be studied. {Spring}

Restriction: permission of instructor.

588/388. Music Pedagogy. (2, no limit) Δ

For the music student who plans to teach privately, especially beginners of various ages. Specific area is announced in class schedule when course is offered. May be repeated for credit, no limit, as long as subject matter varies, with permission of department chairperson (or dean). If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall}

589/389. Music Pedagogy. (2, no limit) Δ

Continuation of 588, treating problems in teaching intermediate and moderately advanced students. Specific area is announced in class schedule when course is offered. May be repeated for credit, no limit, as long as subject matter varies, with permission of department chairperson (or dean). Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval.

Prerequisite: 588. {Spring}

Piano**111. Group Piano I. (1, no limit) Δ Ward**

Beginning repertoire and sight-reading, basic scale and chord patterns in major keys. For the complete beginner. Not open to keyboard majors. Priority given to music majors and minors but open to all students. Enrollment requires instructor's approval. May be repeated for credit with permission of department chairperson (or dean) and instructor. {Fall, Spring}

112. Group Piano II. (1, no limit) Δ Ward

Late elementary repertoire, sight-reading moving out of the five-finger position, minor scale and chord patterns. Not open to keyboard majors. Priority given to music majors and minors

but open to all students. Enrollment requires instructor's approval. May be repeated for credit with permission of department chairperson (or dean) and instructor.

Prerequisite: 111. {Fall, Spring}

211. Group Piano III. (1, no limit) Δ Ward

Intermediate repertoire, reading skill, chord and scale patterns. Not open to keyboard majors. Priority given to music majors and minors but open to all students. Enrollment requires instructor's approval. May be repeated for credit with permission of department chairperson (or dean) and instructor.

Prerequisite: 112. {Fall, Spring}

212. Group Piano IV. (1, no limit) Δ Ward

Late intermediate to early advanced repertoire and sight-reading. Review of scales and chords. Not open to keyboard majors. Priority given to music majors and minors but open to all students. Enrollment requires instructor's approval. May be repeated for credit with permission of department chairperson (or dean) and instructor.

Prerequisite: 211. {Fall, Spring}

Technology in Music**311/511. Computer Applications I. (2) Barlow**

A hands-on introduction to various computer applications useful to musicians in all areas of specialization. Various computer programs aiding in music notation, arranging and MIDI composition will be presented and explored.

380/580. Recording Techniques I. (2) Geist

Introduction to modern studio recording techniques. {Fall}

412/512. Computer Applications II. (2) Barlow

An introductory examination of the process of gathering, processing and editing sound on a digital audio work station.

481/581. Recording Techniques II. (2) Geist

An introductory examination of the process of gathering, processing and editing sound on a digital audio work station.

Prerequisite: 380. {Spring}

511/311. Computer Applications I. (2) Barlow

A hands-on introduction to various computer applications useful to musicians in all areas of specialization. Various computer programs aiding in music notation, arranging and MIDI composition will be presented and explored. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval.

512/412. Computer Applications II. (2) Barlow

An introductory examination of the process of gathering, processing and editing sound on a digital audio work station.

580/380. Recording Techniques I. (2) Geist

Introduction to modern studio recording techniques. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall}

581/481. Recording Techniques II. (2) Geist

Continuation of 580. This course is task-based, with emphasis on individual projects and hands-on training. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval.

Prerequisite: 580. {Spring}

Theory and Composition**130. Music Fundamentals. (3) J. Lau**

Introduction to the elements of music, including basic notation, staves, clefs, major and minor scales and key signatures, time signatures, meter and rhythm, intervals and triad qualities. For music majors who do not possess sufficient background for enrollment in MUS 150. Credit not applicable to a degree in music. {Spring}

150. Music Theory I. (2) [4]

Fundamentals, part-writing and harmonic analysis: introduction to diatonic theory.
Corequisite: 150L. {Fall}

150L. Music Theory I Aural Lab. (2) [0]

Perception through sound of diatonic materials, with special emphasis on melodic, rhythmic and harmonic dictation and the singing of simple melodies, rhythms and intervals.
Corequisite: 150. {Fall}

152. Music Theory II. (2) [4]

Continuation of 150. Further part-writing using diatonic materials; modulation and tonicization.
Prerequisite: 150 and 150L. Corequisite: 152L. {Spring}

152L. Music Theory II Aural Lab. (2) [0]

Continuation of 150L. Development of accurate perception of diatonic materials through more dictation, sight-singing and rhythmic studies. Greater emphasis on musicianship.
Prerequisite: 150 and 150L. Corequisite: 152. {Spring}

250. Music Theory III. (2) [4] Hermann

Continuation of 152. Introduction to chromaticism and modulation to remote key areas.
Prerequisite: 152 and 152L. Corequisite: 250L. {Fall}

250L. Music Theory III Aural Lab. (2) [0]

Continuation of 152L. Advanced singing and dictation correlated with the materials in 250.
Prerequisite: 152 and 152L. Corequisite: 250. {Fall}

252. Music Theory IV. (2) [4] Hermann

Continuation of 250. Continuation of chromatic harmony and analysis.
Prerequisite: 250 and 250L. Corequisite: 252L. {Spring}

252L. Music Theory IV Aural Lab. (2) [0]

Continuation of 250L. Advanced ear-training, mastering chromatic melodies and clefs.
Prerequisite: 250 and 250L. Corequisite: 252. {Spring}

254. Introduction to Composition in the Western Tradition. (2) Block, Hermann

Includes model composition work in tonal and post-tonal idioms and readings in aesthetics, theory, notation and orchestration. Problems in vocal composition are considered.
Prerequisite: 250. {Spring}

305. Composition I. (2) Block, Shultis

Beginning compositional techniques, introducing 20th-century harmony.
Prerequisite: 254. {Fall}

306. Composition II. (2) Block, Shultis

Beginning compositional techniques, introducing 20th-century harmony. Continuation of 305.
Prerequisite: 305. {Spring}

309. Form and Analysis. (2) Block, Hermann

Introduction to structure and long-range harmonic analysis. Emphasis on common-practice music: binary and ternary, sonata-allegro, rondo, concerto, variation and contrapuntal forms. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.
Prerequisite: 252. {Fall, alternate years}

325./525. Post-Tonal Theory. (3) Block, Hermann

Twentieth-century theoretical techniques applied analytically to all music of the century. Scales, modes, set-theory, twelve-tone theory, minimalist techniques, timbral design and specific compositional methods (Messiaen, Cage, Carter, Stockhausen) will be discussed with some rudimentary ear-training.
Prerequisite: 250. {Spring, alternate years}

405./505. Sixteenth-Century Counterpoint. (2) Hermann

Analysis and writing in the style of the 16th century. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be

made with permission of the chairperson of the Department of Music.

Prerequisite: 152. {Fall, alternate years}

406./506. Eighteenth-Century Counterpoint. (2)

Hermann

Analysis and writing in the style of the 18th century. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.

Prerequisite: 250. {Fall, alternate years}

409. Composition III. (2) Staff

Techniques and procedures in the composition of music. Continuation of 306. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.
Prerequisite: 306 and 325. {Fall}

410. Composition IV. (2) Staff

Continuation of 409. Composition majors only. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.

Prerequisite: 409. {Spring}

439./539. Selected Topics in Music Theory. (3, no limit)

△ Block, Hermann

This course allows permanent or visiting faculty to develop a course based on a topic related to advanced research interests or expertise. May be repeated for credit, no limit, as long as topic varies. Enrollment requires instructor's approval.
Prerequisite: 252 {Offered upon demand}

453. Orchestration. (2) Chambers

Scoring for orchestra, including properties and limitations of string, wind and percussion instruments, notation, principles of combination and balance and characteristics of the various "schools" of orchestration. May be repeated for credit with permission of department chairperson (or dean). Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.

Prerequisite: 152. {Fall}

505./405. Sixteenth-Century Counterpoint. (2) Hermann

Analysis and writing in the style of the 16th century. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall, alternate years}

506./406. Eighteenth-Century Counterpoint. (2)

Hermann

Analysis and writing in the style of the 18th century. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall, alternate years}

525./325. Post-Tonal Theory. (3) Block, Hermann,

Lombardi

Twentieth-century theoretical techniques applied analytically to all music of the century. Scales, modes, set-theory, twelve-tone theory, minimalist techniques, timbral design and specific compositional methods will be discussed. Numerous readings and projects will be included. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Spring, alternate years}

529. Techniques of Twentieth-Century Composition.

(3) Staff

Devoted to the music of the 20th century, the course spans the gulf between traditional academic training (i.e., common practice harmony) and current practice. Students survey techniques of 20th-century composition and then imitate these in composed works of their own. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Summer}

539/439. Selected Topics in Music Theory. (3, no limit)

△ Block, Hermann

This course allows permanent or visiting faculty to develop a course based on a topic related to advanced research interests or expertise. May be repeated for credit, no limit, as long as topic varies. Enrollment requires instructor's approval. Prerequisite: 252 {Offered upon demand}

Vocal Technique**109. Group Voice I. (1, no limit) △**

Open to beginners in voice except voice performance majors. May be repeated for credit with permission of department chairperson (or dean). {Fall, Spring}

110. Group Voice II. (1, no limit) △

May be repeated for credit with permission of department chairperson (or dean). Prerequisite: 109. {Fall, Spring}

209. Diction for Singers I. (2) Shepperson

The International Phonetic Alphabet and its application to singing in English, Italian and Latin. {Fall}

210. Diction for Singers II. (2) Shepperson

A continuation of 209. Pronunciation of German and French in singing. Prerequisite: 209. {Spring}

266. Singing for Actors. (2) Umphrey

Vocal technique for the actor who wants to gain confidence in singing, specifically for audition purposes. Students are assigned specific musical theater repertory and perform in an ongoing workshop environment. Open to all levels. {Spring}

Interdisciplinary Studies***484. Evaluating the Arts. (3)**

(Also offered as ARTH, DANC, MA, THEA 484.) Examines the practice of criticism, with emphasis on critical processes that penetrate a variety of art forms. Also explores aesthetic theories and cultural outlooks that underpin practical criticism. Undergraduates must have completed 6 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation.

Restriction: permission of instructor.

487/587. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) △

(Also offered as ARTH, DANC, MA, THEA 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.

Restriction: permission of instructor.

584. Problems in Interdisciplinary Studies. (3 to a maximum of 6) △

(Also offered as ARTH, THEA 584 and MA *485.) An independent study in either critical studies or studio, beyond the scope of the Fine Arts interdisciplinary courses, which may occur within or outside the College of Fine Arts.

587/487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) △

(Also offered as ARTH, DANC, THEA 587 and MA *487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day. {Spring}

Problems and Special Topics**351. Undergraduate Problems. (1-3 to a maximum of 12) △**

Restriction: junior or senior standing. {Fall, Spring, Summer}

435/535. Special Topics in Music. (1-3, no limit) △

May be repeated for credit, no limit as long as subject matter varies. Enrollment requires instructor's approval. {Offered upon demand}

535/435. Special Topics in Music. (1-3, no limit) △

May be repeated for credit, no limit as long as subject matter varies. Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Offered upon demand}

551. Graduate Problems. (1-3 to a maximum of 12) △

Enrollment in a graduate degree program in music is strongly recommended. If the student is not pursuing a graduate degree program in music, enrollment will require instructor's approval. {Fall, Spring, Summer}

Thesis Courses**499. Senior Thesis. (3-6 to a maximum of 6) △**

Open to seniors approved by the departmental honors committee. {Summer, Fall, Spring}

599. Master's Thesis. (1-6, no limit) △

Enrollment requires instructor's approval. **Offered on a CR/NC basis only.** {Summer, Fall, Spring}

Restriction: Enrollment in a graduate degree program in music.

Applied Music (APMS)**Applied Music Fee Policy**

In addition to tuition, all students enrolled in Applied Music must pay an applied music charge of \$75 for 1 semester credit hour, or \$150.00 for 2 or more semester credit hours. Other Department or College Fees, including the Fine Arts Technology Fee and Music Department Course Fee, will also apply. See *Fees* in this section of the catalog. All students enrolling in Applied Music for vocal instruction will also be expected to pay for the services of an accompanist at lessons and weekly rehearsals. Instrumentals may also need to pay accompanying fees as dictated by the needs of their instrument and as required by the instructor.

Class Instruction. Class instruction is available for students whose experience and background do not qualify them for studio instruction. The Applied Music fee is not charged for these courses. Course numbers are:

MUS 111, 112, 211, 212 *Group Piano I-IV*
MUS 109, 110 *Group Voice I-II*

Studio Instruction. An explanation of Applied Music course numbers is given below. Recital course numbers are described at the bottom of the list. Please refer to degree plan descriptions for specific requirements.

Bachelor of Music in Performance:

To study the principal instrument/voice, enroll in: 101, 102, 201, 202, 301, 302, 401, 402.

To study a secondary instrument/voice or conducting or composition, enroll in 119, 120, 219, 220, 319, 320, 419, 420 (all available for either 1 or 2 hours credit).

Bachelor of Music in Theory & Composition:

To study composition, enroll in 319, 320, 419, 420 (all available for either 1 or 2 hours credit).

To study the principal instrument/voice or a secondary instrument/voice or conducting, enroll in 119, 120, 219, 220, 319, 320, 419, 420 (all available for either 1 or 2 hours credit).

Bachelor of Music in Jazz Studies:

To study any instrument/voice (principal or secondary), composition or conducting, enroll in 119, 120, 219, 220, 319, 320, 419, 420 (all available for either 1 or 2 hours credit).

Bachelor of Music in String Pedagogy:

To study any instrument/voice (principal or secondary), composition or conducting, enroll in 119, 120, 219, 220, 319, 320, 419, 420 (all available for either 1 or 2 hours credit).

Bachelor of Arts:

To study any instrument/voice (principal or secondary), composition or conducting, enroll in 119, 120, 219, 220, 319, 320, 419, 420 (all available for either 1 or 2 hours credit).

Bachelor of Music Education:

To study any instrument/voice (principal or secondary), composition or conducting, enroll in 119, 120, 219, 220, 319, 320, 419, 420 (all available for either 1 or 2 hours credit).

Music Minor:

To study any instrument/voice, composition or conducting, enroll in 107, 108, 207, 208, 307, 308, 407, 408 (all available for 1 hour credit).

Music Education Minor:

To study any instrument/voice, composition or conducting, enroll in 107, 108, 207, 208, 307, 308, 407, 408 (all available for 1 hour credit).

Non-Music Major:

To study any instrument, composition or conducting, enroll in 107, 108, 207, 208, 307, 308, 407, 408 (all available for 1 hour credit).

APMS 118 Basic Applied Skills:

This course number is for applied music study by music majors whose skills have been determined to be not yet sufficient for study at the 119 level.

Master of Music in Performance:

To study the principal instrument/voice, enroll in 501, 502, 591 (available for either 2 or 4 hours credit).

To study a secondary instrument/voice or conducting or composition, enroll in 519, 520 (available for either 1 or 2 hours credit).

Master of Music in Conducting:

To study conducting, enroll in MUS 571, MUS 572; for your conducting recital, enroll in APMS 591 (available for either 2 or 4 hours credit).

To study any instrument/voice (principal or secondary) or composition, enroll in 519, 520 (available for either 1 or 2 hours credit).

Master of Music in Collaborative Piano:

To study collaborative piano, enroll in 501, 502, 591 (available for either 2 or 4 hours credit).

To study solo piano, a secondary instrument/voice, or composition or conducting, enroll in 519, 520 (available for either 1 or 2 hours credit).

Master of Music in Music History & Literature:

To study any instrument/voice or composition or conducting, enroll in 519, 520 (available for either 1 or 2 hours credit).

Master of Music in Theory & Composition:

To study composition, enroll in 501, 502, 591 (available for either 2 or 4 hours credit).

To study any instrument/voice, or conducting, enroll in 519, 520 (available for either 1 or 2 hours credit).

Master of Music in Music Education:

To study any instrument/voice (principal or secondary), or conducting or composition, enroll in 519, 520 (available for either 1 or 2 hours credit).

Recital Course Numbers:**391 Junior Recital; 491 Senior Recital**

If you will be performing a required junior or senior recital during the semester, you must sign up for either 391 or 491 in addition to your lessons. Undergraduate recital courses do not carry any credit, but they are required by the degree to show that you have performed the required recitals. These **must** be taken in conjunction with the appropriate level of Studio Instruction. Depending upon your degree plan, APMS 391 must be taken simultaneously with either 301, 302, 319 or 320; APMS 491 must be taken simultaneously with either 401, 402, 419 or 420.

591 Graduate Recital

This course includes both graduate recital credit and studio instruction. You do NOT have to sign up for an additional applied music course in order to receive lessons.

Lesson Length

A student who is enrolled for one hour of applied music credit is entitled to one "half-hour" lesson per week. A student who is enrolled for two or more hours of applied music credit is entitled to one "one-hour" lesson per week.

Note: "One-hour" lessons are actually 50 minutes long, to allow for the passing period between classes. "Half-hour" lessons are actually 25 minutes.

Priority for Studio Space. Studio space is limited; admission is by audition. Priority in the availability of applied music instruction is as follows:

- Students pursuing the M.M., B.M., B.M.E. or B.A. in Music, provided the instrument is the student's principal instrument.
- For applied piano, music majors who need piano to satisfy their degree requirements.
- Students pursuing the Music Minor or Music Education Minor, when required by the degree program.
- Graduate or undergraduate music majors who wish to study secondary instruments.
- Full-time undergraduate and graduate students pursuing non-music degrees. These students must apply piano, priority will be given to students enrolled in MUS 395/595 *Accompanying* or who are doing accompanying work within the Department of Music.

In all categories, where the instrument/voice is required by the degree plan, priority is given up to the number of hours required by the degree. If a student wishes to take more lessons than required by his or her degree program, he or she must be approved for study by the Department Chair.

For applied instruction in piano, if the degree requires the Piano Proficiency, the student must have passed all elements of the proficiency exam in order to qualify for consideration in applied piano. If the Piano Proficiency is not required by the degree plan, the student's level of performance must be at least as high as that required for completion of Group Piano IV. Students who do not meet the proficiency or level requirement for applied piano will be assigned to the appropriate level of Group Piano.

Juries

All students enrolled in Applied Music are required to perform a jury at the end of each semester for faculty in the appropriate area of specialization. Consult the *Department of Music Undergraduate Student Handbook* or the *Department of Music Graduate Student Handbook* for details.

Course Sequence and Repetition

A student is normally expected to proceed through his or her appropriate Applied Music course series sequentially. Course numbers may be repeated upon recommendation by the faculty. Students who wish to take more Applied Music than required by their degree program must be approved for study by the department chairperson.

Applied Music Ensemble Requirement

All undergraduate students who are enrolled in Applied Music must also participate in a major ensemble during the same semester of enrollment. See above under Ensemble Requirements for specific degree plan requirements. Students who do not participate in a major ensemble as required will be withdrawn from Applied Music.

The following exemptions will be made to the above policy:

- Students pursuing the Bachelor of Music Concentration in Theory and Composition will be exempt from concurrent major ensemble participation during enrollment in applied music credits required by the degree, but major ensemble requirements must be fulfilled for completion of the degree (see Ensemble Requirements). NOTE: If the student wishes to study applied music beyond the hours required by the degree, he or she must then also participate concurrently in a major ensemble.
- Students pursuing the Music Minor are exempt from concurrent major ensemble participation during the four semesters of applied music required by the degree. If the student continues to study applied music beyond the four semesters required by the degree, he or she must then also participate concurrently in a major ensemble.
- Students pursuing the Bachelor of Music Performance Concentration with Keyboard Emphasis in either piano or organ are exempt from concurrent major ensemble participation, but major ensemble requirements must be fulfilled for completion of the degree (see Ensemble Requirements). NOTE: If the student wishes to study applied music beyond the hours required by the degree, he or she must then participate concurrently in a major ensemble.
- Students pursuing the Bachelor of Music Performance Concentration with Instrumental Emphasis in guitar are exempt from concurrent major ensemble participation during enrollment in applied music credits required by the degree, but major ensemble requirements must be fulfilled for completion of the degree (see Ensemble Requirements). NOTE: If the student wishes to study applied music beyond the hours required by the degree, he or she must then participate concurrently in a major ensemble.

101. Studio Instruction for the Performance Concentration. (2 to a maximum of 6) Δ

Studio instruction in the principal instrument for the freshman Bachelor of Music Performance Concentration. Audition and instructor's approval required for enrollment. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music. (Fall, Spring)

102. Studio Instruction for the Performance Concentration. (2 to a maximum of 6) Δ

Studio instruction in the principal instrument for the freshman Bachelor of Music Performance Concentration. Enrollment requires instructor's approval. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music. Prerequisite: 101. (Fall, Spring)

107. Studio Instruction for the Non-Major. (1, no limit) Δ

Studio instruction for the non-music major, including the music minor and music education minor. Audition and instructor's approval required for enrollment. (Fall, Spring)

108. Studio Instruction for the Non-Major. (1, no limit) Δ

Studio instruction for the non-music major, including the music minor and music education minor. Enrollment requires instructor's approval. Prerequisite: 107. (Fall, Spring)

118. Basic Applied Skills. (2 to a maximum of 6) Δ

For music majors who do not yet possess sufficient skill to be admitted to APMS 119. Scales, arpeggios, études, technical drills. Credit not applicable to a degree in Music. Audition and instructor's approval required for enrollment. (Fall, Spring)

119. Studio Instruction for the Non-Performance**Concentration. (1 or 2 to a maximum of 16) Δ**

Studio instruction in the principal instrument for freshmen pursuing the Bachelor of Arts in Music, the Bachelor of Music Education, or the Bachelor of Music Concentration in Theory and Composition, String Pedagogy or Jazz Studies. Also for the study of secondary instruments by any undergraduate music major. Audition and instructor's approval required for enrollment. (Fall, Spring)

120. Studio Instruction for the Non-Performance**Concentration. (1 or 2 to a maximum of 16) Δ**

Studio instruction in the principal instrument for freshmen pursuing the Bachelor of Arts in Music, the Bachelor of Music Education, or the Bachelor of Music Concentration in Theory and Composition, String Pedagogy or Jazz Studies. Also for the study of secondary instruments by any undergraduate music major. Enrollment requires instructor's approval. Prerequisite: 119. (Fall, Spring)

201. Studio Instruction for the Performance**Concentration. (2 to a maximum of 6) Δ**

Studio instruction in the principal instrument for the sophomore Bachelor of Music Performance Concentration. Enrollment requires instructor's approval. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music. Prerequisite: 102. (Fall, Spring)

202. Studio Instruction for the Performance**Concentration. (2 to a maximum of 6) Δ**

Studio instruction in the principal instrument for the sophomore Bachelor of Music Performance Concentration. Enrollment requires instructor's approval. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music. Prerequisite: 201. (Fall, Spring)

207. Studio Instruction for the Non-Major. (1, no limit) Δ

Studio instruction for the non-music major, including the music minor and music education minor. Enrollment requires instructor's approval. Prerequisite: 108. (Fall, Spring)

208. Studio Instruction for the Non-Major. (1, no limit) Δ

Studio instruction for the non-music major, including the music minor and music education minor. Enrollment requires instructor's approval. Prerequisite: 207. (Fall, Spring)

219. Studio Instruction for the Non-Performance**Concentration. (1 or 2 to a maximum of 16) Δ**

Studio instruction in the principal instrument for sophomores pursuing the Bachelor of Arts in Music, the Bachelor of Music Education, or the Bachelor of Music Concentration in Theory and Composition, String Pedagogy or Jazz Studies. Also for the study of secondary instruments by any undergraduate music major. Enrollment requires instructor's approval. Prerequisite: 120. (Fall, Spring)

220. Studio Instruction for the Non-Performance**Concentration. (1 or 2 to a maximum of 16) Δ**

Studio instruction in the principal instrument for sophomores pursuing the Bachelor of Arts in Music, the Bachelor of Music Education, or the Bachelor of Music Concentration in Theory and Composition, String Pedagogy or Jazz Studies. Also for the study of secondary instruments by any undergraduate music major. Enrollment requires instructor's approval. Prerequisite: 219. (Fall, Spring)

301. Studio Instruction for the Performance**Concentration. (3 to a maximum of 9) Δ**

Studio instruction in the principal instrument for the junior Bachelor of Music Performance Concentration. Enrollment requires instructor's approval. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music. Prerequisite: 202. (Fall, Spring)

302. Studio Instruction for the Performance Concentration. (3 to a maximum of 9) Δ

Studio instruction in the principal instrument for the junior Bachelor of Music Performance Concentration. Enrollment requires instructor's approval. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.
Prerequisite: 301. {Fall, Spring}

307. Studio Instruction for the Non-Major. (1, no limit) Δ

Studio instruction for the non-music major, including the music minor and music education minor. Enrollment requires instructor's approval.
Prerequisite: 208. {Fall, Spring}

308. Studio Instruction for the Non-Major. (1, no limit) Δ

Studio instruction for the non-music major, including the music minor and music education minor. Enrollment requires instructor's approval.
Prerequisite: 307. {Fall, Spring}

319. Studio Instruction for the Non-Performance Concentration. (1 or 2 to a maximum of 16) Δ

Studio instruction in the principal instrument for juniors pursuing the Bachelor of Arts in Music, the Bachelor of Music Education, or the Bachelor of Music Concentration in Theory and Composition, String Pedagogy or Jazz Studies. Also for the study of secondary instruments by any undergraduate music major. Enrollment requires instructor's approval.
Prerequisite: 220. {Fall, Spring}

320. Studio Instruction for the Non-Performance Concentration. (1 or 2 to a maximum of 16) Δ

Studio instruction in the principal instrument for juniors pursuing the Bachelor of Arts in Music, the Bachelor of Music Education, or the Bachelor of Music Concentration in Theory and Composition, String Pedagogy or Jazz Studies. Also for the study of secondary instruments by any undergraduate music major. Enrollment requires instructor's approval.
Prerequisite: 319. {Fall, Spring}

391. Junior Recital. (0)

For the student pursuing the Bachelor of Music in Performance or Jazz Studies only. Must be taken in conjunction with the appropriate level of Studio Instruction: APMS 301 or 302 for the Performance Concentration; APMS 319 or 320 for the Jazz Studies Concentration. No extra lesson time is allotted for APMS 391. Enrollment requires instructor's approval. Consult the *Department of Music Undergraduate Student Handbook* for requirements associated with the junior recital.
Offered on a CR/NC basis only. {Fall, Spring}

401. Studio Instruction for the Performance Concentration. (4 to a maximum of 12) Δ

Studio instruction in the principal instrument for the senior Bachelor of Music Performance Concentration. Enrollment requires instructor's approval. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.
Prerequisite: 302. {Fall, Spring}

402. Studio Instruction for the Performance Concentration. (4 to a maximum of 12) Δ

Studio instruction in the principal instrument for the senior Bachelor of Music Performance Concentration. Enrollment requires instructor's approval. Open only to undergraduates enrolled in the music performance program leading to the Bachelor of Music; exceptions may be made with permission of the chairperson of the Department of Music.
Prerequisite: 401. {Fall, Spring}

407. Studio Instruction for the Non-Major. (1, no limit) Δ

Studio instruction for the non-music major, including the music minor and music education minor. Enrollment requires instructor's approval.
Prerequisite: 308. {Fall, Spring}

408. Studio Instruction for the Non-Major. (1, no limit) Δ

Studio instruction for the non-music major, including the music minor and music education minor. Enrollment requires instructor's approval.
Prerequisite: 407. {Fall, Spring}

419. Studio Instruction for the Non-Performance Concentration. (1 or 2 to a maximum of 16) Δ

Studio instruction in the principal instrument for seniors pursuing the Bachelor of Arts in Music, the Bachelor of Music Education, or the Bachelor of Music Concentration in Theory and Composition, String Pedagogy or Jazz Studies. Also for the study of secondary instruments by any undergraduate music major. Enrollment requires instructor's approval.
Prerequisite: 320. {Fall, Spring}

420. Studio Instruction for the Non-Performance Concentration. (1 or 2 to a maximum of 16) Δ

Studio instruction in the principal instrument for seniors pursuing the Bachelor of Arts in Music, the Bachelor of Music Education, or the Bachelor of Music Concentration in Theory and Composition, String Pedagogy or Jazz Studies. Also for the study of secondary instruments by any undergraduate music major. Enrollment requires instructor's approval.
Prerequisite: 419. {Fall, Spring}

491. Senior Recital. (0)

For the student pursuing the Bachelor of Music in Performance, String Pedagogy, Theory and Composition or Jazz Studies, or the Bachelor of Music Education only. Must be taken in conjunction with the appropriate level of Studio Instruction: APMS 401 or 402 for Performance Concentration, APMS 419 or 420 for String Pedagogy, Theory and Composition, Jazz Studies or B.M.E. No extra lesson time is allotted for APMS 491. Enrollment requires instructor's approval. Consult the *Department of Music Undergraduate Student Handbook* for requirements associated with the senior recital. **Offered on a CR/NC basis only.** {Fall, Spring}

501. Studio Instruction in the Principal Area of Concentration. (2 or 4 to a maximum of 8) Δ

Studio instruction in the principal instrument (including voice) for students pursuing the Master of Music Concentration in Performance or Collaborative Piano. Studio instruction in the principal area of concentration for students pursuing the Master of Music Concentration in Theory and Composition. Enrollment requires instructor's approval.
Restriction: enrolled in Music graduate degree program.
{Fall, Spring}

502. Studio Instruction in the Principal Area of Concentration. (2 or 4 to a maximum of 8) Δ

Studio instruction in the principal instrument (including voice) for students pursuing the Master of Music Concentration in Performance or Collaborative Piano. Studio instruction in the principal area of concentration for students pursuing the Master of Music Concentration in Theory and Composition. Enrollment requires instructor's approval.
Prerequisite: four hours of 501. Restriction: enrolled in Music graduate degree program. {Fall, Spring}

519. Studio Instruction Outside the Principal Area of Concentration. (1 or 2 to a maximum of 8) Δ

Studio instruction in instruments (including voice), conducting or composition. For the study of secondary instrument or area by any graduate student in Music, or for the study of the principal instrument by students pursuing the Master of Music Concentration in Conducting, Music Education, Theory and Composition, or Music History and Literature. Enrollment requires instructor's approval.
Restriction: enrolled in Music graduate degree program.
{Fall, Spring}

520. Studio Instruction Outside the Principal Area of Concentration. (1 or 2 to a maximum of 8) Δ

Studio instruction in instruments (including voice), conducting or composition. For the study of secondary instrument or area by any graduate student in Music, or for the study of the principal instrument by students pursuing the Master of Music Concentration in Conducting, Music Education, Theory and Composition, or Music History and Literature. Enrollment requires instructor's approval.

Restriction: enrolled in Music graduate degree program. {Fall, Spring}

591. Studio Instruction and Graduate Recital. (2 or 4 to a maximum of 8) Δ

Studio instruction in the principal instrument or area of concentration for students pursuing the Master of Music in Performance, Conducting or Collaborative Piano. Course requirements include successful completion of the graduate recital. Consult the University of New Mexico Catalog and the Department of Music Graduate Student Handbook for requirements associated with the graduate recital. Maximum 4 hours credit allowed in a given instrument (including voice) or area of concentration. Enrollment requires instructor's approval.

Prerequisite: APMS 502 or MUS 572. Restriction: enrolled in Music graduate degree program. {Fall, Spring}

Music Education (MUSE)**155. Orchestral Instruments. (1-2 to a maximum of 9) Δ**

Group instruction in orchestral instruments and guitar. Open only to students pursuing the Bachelor of Music Education or the Bachelor of Music String Pedagogy or Theory and Composition concentrations. Specific areas are announced in the class schedule each semester. {Fall, Spring}

194. Introduction to Music Education. (1) Dalby

Will assist the student in discovering personal strengths and weaknesses relative to a career as a professional music educator. {Fall}

195. Introductory Teaching Practicum. (1) Dalby, Carlow

Provides first-year music education majors with practical teaching experience in music classrooms. Assists in evaluating the music education candidate's suitability for a music teaching career in terms of musicianship, leadership, communication ability, and personal dispositions. Prerequisite: 194. {Spring}

213. Choral Lab. (0) Carlow

Designed to provide future choral teachers with experience conducting and rehearsing standard literature with a choral ensemble. Prerequisites: MUSE 194 and MUSE 195 and two semesters of MUS 101. Offered on a CR/NC basis only. Prerequisite: 194 and two semesters of MUS 101. **Offered on a CR/NC basis only.** {Fall, alternate years}

215. Instrumental Lab. (0) Dalby

Designed to provide future instrumental teachers with experience conducting and rehearsing standard literature with an instrumental ensemble. Students will also hone their performing skills on the various instruments of the band and orchestra.

Prerequisite: 194 and 195 and two semesters of MUS 101. **Offered on a CR/NC basis only.** {Spring, alternate years}

233. Symphony Orchestra. (1, no limit) Δ Pérez-Gómez (Also offered as MUS 233.) Study and public performance of symphonic literature. Auditions required. Maximum of 8 hours credit allowed toward degrees in the BUS, in the College of Fine Arts or in the College of Education; 4 hours in other colleges. {Fall, Spring}

241. University Band. (1, no limit) Δ Rombach, Simons (Also offered as MUS 241.) Study and performance of concert band literature. Marching band required for wind and percussion emphases in music education. Audition required but open to all students. Maximum of 8 hours credit allowed toward degrees in the BUS, in the College of Fine Arts or in the College of Education; 4 hours in other colleges. {Fall, Spring}

243. Concert Choir. (1, no limit) Δ Ellingboe

(Also offered as MUS 243.) Select mixed-voice choral ensemble, 28–34 singers. Performs significant works of the Renaissance, Baroque, Classic, Romantic and Contemporary periods. Audition required but open to all students. Maximum of 8 hours credit allowed toward degrees in the BUS, in the College of Fine Arts or in the College of Education; 4 hours in other colleges. {Fall, Spring}

292. Early Childhood Music for Classroom Teachers. (3)

Introductory course for teachers wanting to learn to use music in childcare, kindergarten and primary classrooms. Topics include: children's literature, the child voice, movement and instruments in early childhood settings. {Fall}

293. Multicultural Awareness Through Music Skills. (3)

Carlow

The music of global ethnic groups with emphasis on the musical skills needed to assist the elementary teacher toward relevant enrichment in teaching the humanities. {Spring, alternate years}

298. Music for the Elementary Teacher. (3) Otero

Will prepare elementary classroom teachers to teach music education in a self-contained classroom in traditional and open situations. {Fall, Spring}

313. Choral Music Methods. (3) [4] Carlow

Administration, organization, literature, teaching and conducting techniques appropriate for public school choral programs. Prerequisite: 346 and 363 and 446. {Spring, alternate years}

315. Instrumental Music Methods. (3) Dalby

Administration, organization, teaching and conducting techniques appropriate for public school instrumental programs. {Spring}

317. Jazz Methods. (1) Kostur

Teaching the jazz ensemble, including style and harmony, methods, literature, organization and administration appropriate for school jazz programs.

Prerequisite: 194. {Fall, alternate years}

346. Teaching Music in the Elementary Schools. (3)

Carlow

Designed for music education majors dealing with teaching music in grades K-6. Encompasses role of consultant, curriculum development and materials of instruction, includes supervised laboratory teaching experiences. Successful completion of Music Education screening is required for enrollment.

Prerequisites: 194 and 195. {Fall}

347. Introduction to Early Childhood Music Education. (1) Carlow

An introductory methods course focused on music education of infants, toddlers and pre-schoolers. Includes field experiences with the UNM Music Prep School early childhood classes.

Prerequisite: 346. {Spring, alternate years}

363. Conducting. (2) Rombach-Kendall

Basic conducting skills directed toward music education majors. Development of beat patterns, expressive gestures, score reading and score study. Lab experience with conducting class ensemble.

Prerequisite: MUS 252. Restriction: junior or senior standing; Bachelor of Music Education major. {Fall}

400. Student Teaching in the Elementary School. (3-6, no limit) Δ Carlow, Dalby

Student must have completed preliminary requirements as stated in the *Department of Music Undergraduate Student Handbook* in order to enroll. {Fall, Spring}

415. Instrumental Repertory. (1) Rombach

Selecting repertoire for middle school and high school bands and orchestras, with emphasis on criteria, resources, teaching of comprehensive musicianship through repertoire and programming.

Prerequisites: 194 and 195. {Fall, alternate years}

429/529. Workshop. (1-4, no limit) Δ
Intensive study of a particular topic related to the field of Music Education. {Summer}

438/538. Selected Topics in Music Education. (3, no limit) Δ Dalby, Carlow
This course allows permanent or visiting faculty to focus a course structured around their expertise or research activities. {Spring, alternate years}

441. Marching Band Methods. (2)
Methods of teaching, organizing and administering the marching band, including charting, arranging, movement, drill and dealing with percussion and support units (e.g., flags, twirlers). Current computer technology used in creating marching drill will be taught. {Spring, alternate years}

443/553. Music for the Pre-school Child. (3) Carlow
The teacher in private pre-school institutions, church schools, kindergarten; the role of the music consultant.
Restriction: junior or senior standing. {Fall, alternate years}

***446. Secondary School Music. (3)** Dalby
An examination of the role of music in secondary schools. Topics include curricula, teaching methodology, classroom management, measurement and evaluation, music technology and how these areas can be brought together for a successful teaching experience.
Prerequisite: 346. {Fall}

455. Teaching Reading in the Music Classroom. (3)
Carlow
Developing competencies in teaching strategies for music teachers; establishing a theoretical framework for exploring approaches to reading/language development in the music classroom. Emphasis on teaching activities, specialized skills, learning content through reading of primary/secondary sources. {Spring and Fall, even-numbered years}

457/557. Foundations of Musical Behavior. (3) Dalby
An in-depth study of the nature and development of aural musicianship. Topics include music aptitude, audition, and music learning theory and Kodály pedagogy. Class activities will help participants refine and broaden their own musical skills.
Restriction: junior or senior standing. {Fall}

461. Student Teaching in the Secondary Schools. (3-6, no limit) Δ Dalby, Carlow
Student must have completed preliminary requirements as stated in the *Department of Music Undergraduate Handbook* in order to enroll.
Prerequisite: 446. {Fall, Spring}

529/429. Workshop. (1-4, no limit) Δ
Intensive study of a particular topic related to the field of Music Education. See degree restrictions for the Master of Music Concentration in Music Education. Enrollment in a graduate degree program in Music Education is strongly recommended. If the student is not pursuing the Master of Music Concentration in Music Education, enrollment will require instructor's approval. {Summer}

532. Introduction to Research in Music Education. (3)
Dalby
Interpretation and critical analysis of recent research. Techniques and procedures for writing research proposals, reports and theses, along with instruction that will enable students to understand and evaluate research in music education. Enrollment in a graduate degree program in Music Education is strongly recommended. If the student is not pursuing the Master of Music Concentration in Music Education, enrollment will require instructor's approval. {Every third Summer and every third Spring}

534. Seminar in Music Education. (3) Dalby
An in-depth study of important issues facing contemporary music education. A variety of significant trends, methodologies and movements will be investigated. Enrollment in a graduate degree program in Music Education is strongly recommended. If the student is not pursuing the Master of Music Concentration in Music Education, enrollment will

require instructor's approval. (Every third Summer and every third Spring)

538/438. Selected Topics in Music Education. (3, no limit) Δ Dalby, Carlow
This course allows permanent or visiting faculty to focus a course structured around their expertise or research activities. Enrollment in a graduate degree program in Music Education is strongly recommended. If the student is not pursuing the Master of Music Concentration in Music Education, enrollment will require instructor's approval. {Offered upon demand}

543/453. Music for the Pre-school Child. (3) Carlow
The teacher in private pre-school institutions, church schools, kindergarten; the role of the music consultant. {Offered upon demand}

550. Philosophy of Music Education. (3) Dalby
An examination of relevant topics and issues in music education philosophy, aesthetics and history. Enrollment in a graduate degree program in Music Education is strongly recommended. If the student is not pursuing the Master of Music Concentration in Music Education, enrollment will require instructor's approval. (Every third Summer and every third Spring)

551. Graduate Problems. (1-3 to a maximum of 12) Δ
Dalby, Carlow
Enrollment in a graduate degree program in Music Education is strongly recommended. If the student is not pursuing the Master of Music Concentration in Music Education, enrollment will require instructor's approval. {Summer, Fall, Spring}

557/457. Foundations of Musical Behavior. (3) Dalby
An in-depth study of the nature and development of aural musicianship. Topics include music aptitude, audition, and music learning theory and Kodály pedagogy. Class activities will help participants refine and broaden their own musical skills. {Fall}

598. Music Education Project. (1-4) Carlow, Dalby
A substantial investigation of an appropriate music education topic, accomplished according to basic or applied research models, resulting in original research findings of music teaching materials and methodologies suitable for specific teaching settings. Open only to students pursuing the Master of Music Concentration in Music Education. {Summer, Fall, Spring}

599. Master's Thesis. (1-6, no limit) Δ Carlow, Dalby
An original, empirical or practical project carried out under faculty supervision. A substantial written report is expected, one copy of which must be bound for retention by the department. Consult the *Department of Music Graduate Student Handbook* for total credit requirements. Open only to students pursuing the Master of Music Concentration in Music Education. **Offered on a CR/NC basis only.** {Summer, Fall, Spring}

THEATRE AND DANCE

William Liotta, Chairperson
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Donna Jewell, Head of Dance, Associate Chair
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Professors

Dorothy Baca, M.F.A., University of California
(Los Angeles)
Eva Enciñas-Sandoval, Extensive Professional Experience

510 FINE ARTS

James Linnell, Ph.D., University of California (Berkeley)
Susan Pearson, M.F.A., Southern Methodist University,
Meadows School of the Arts
Jennifer Predock-Linnell, Ph.D., The University of New
Mexico

Associate Professors

Elaine Avila, M.F.A., California Institute of the Arts
Donna Jewell, M.F.A., New York University, Tisch School
of the Arts
Gordon Kennedy, M.F.A., University of California (Los
Angeles)
William Liotta, M.F.A., California Institute of the Arts
William Walters, M.F.A., Southern Methodist University,
Meadows School of the Arts

Assistant Professors

Brian Herrera, Ph.D., Yale University
Kristen Loree, M.F.A., New York University, Tisch School
of the Arts
Mary Anne Santos Newhall, Ph.D., University of New
Mexico
Vladimir Conde Reche, M.F.A., University of Iowa
Christopher Sousa-Wynn, M.F.A., University of California,
Irvine

Lecturers

Kathy Clawson (Theatre), M.M., University of New Mexico
Marisol Encinias (Dance), Professional Experience
Paul Ford (Theatre), Professional Experience
Richard Hess (Design), M.A., Kent State University
Karen Price (Dance), Professional Experience
Stacia Smith, (Design) M.A., University of New Mexico

Professors Emeritus

Judith Chazin-Bennahum (Dance), Ph.D., The University of
New Mexico
Brian Hansen (Theatre), Ph.D., University of Minnesota
Bill Evans (Dance), M.F.A., University of Utah
Clayton Karkosh (Theatre), M.F.A., Yale University
John Malolepsy (Design), M.F.A., University of Wisconsin
Denise Schulz (Theatre), M.F.A., University of Texas
Digby Wolfe (Theatre), Extensive Professional Experience

Introduction

The majors in Theatre, Design and Dance offered by the College of Fine Arts are described below. Check with the Advisor of the College of Fine Arts for further information and advisement. Additionally, to take full advantage of the areas of concentration, students must seek advisement from the Department of Theatre and Dance advisors their first semester. Students interested in teacher certification in theatre and dance are directed to information listed under the heading *Teacher Licensure in Fine Arts: Theatre and Dance*.

The programs of studies in Theatre, Design and Dance often include production work as an integral part of classroom instruction and students are expected to participate in all phases of such work that may occur in the required courses.

In the department, the progression of course levels from beginning to advanced is carefully structured. The faculty places each student at a level of instruction based on both the student's ability and achievement.

In addition to the course requirements listed for the majors, you must satisfy general College and University requirements for graduation. A minimum of 128 hours is required in all curricula. Of these, at least 40 hours must be completed in courses numbered 300 or above. Effective Fall 1993, courses in the Theatre and Dance Major must be completed with a C- or better to count toward the degree. Furthermore, the faculty reserves the right to disqualify from further enrollment or participation in departmental programs:

1. Students whose grade point average falls below 3.00 in their major;
2. Students who fail to demonstrate reasonable progress and development in their course work in Theatre and Dance, particularly by the end of their sophomore year of studies;

3. Students whose conduct reveals a persistent inability to work effectively with others or an unwillingness to adhere to generally recognized standards of professional behavior.

Degree Requirements

Theatre and Design

Bachelor of Arts in Theatre (B.A.)

The Bachelor of Arts in Theatre provides the student with the opportunity to obtain a comprehensive background in the discipline of theatre. It is intended for students who wish to pursue a generalized course of study or who wish to focus their higher studies in the areas of: Acting, Dramatic Writing, History and Criticism, or Theatre Education.

The Theatre BA is designed for students who may wish to pursue further studies of theatre at the graduate level or in a conservatory and for those who wish to use the study of theatre as a nexus for their general education in the liberal arts.

1. Courses outside the major:

- a. Thirty-seven hours from courses offered by departments of the College of Arts and Sciences including Core Curriculum requirements (see Fine Arts Graduation Requirements).
- b. Six hours selected from the College of Fine Arts (outside the major) chosen from ARTH 101, 201, 202, Cinematic Arts 210, MUS 139, or one three-credit studio course offered by the Departments of Art and Art History, Cinematic Arts, or Music.
- c. Fourteen hours of elective credits chosen from outside the major.

Total outside the major 57 hours

2. Courses in the major: Theatre

- a. Three hours: 105 Theatre Appreciation
- b. Twelve hours of history/ criticism:
335 Theatre History I
336 Theatre History II
six hours: 438 Topics in Theatre History/Criticism
439 Performance Theories of Theatre
- c. Three hours: 120 Acting I
- d. Three hours: 224 Voice and Movement I
- e. Three hours: 366 Stage Management
- f. Nine hours of Design and Production:
192 Stagecraft I
194 Introduction to Costuming
196 Introduction to Stage Lighting
- g. Three hours of dance technique chosen from: 110 Modern Dance I, 149 Ballet I, -or- 169 Flamenco I (advanced placement in one of the three styles is possible by permission based on previous experience)
- h. Three hours chosen from: 415 Theatre for Education and Social Change, 418 Creative Drama, 419 Children's Theatre, -or- 444 Outreach Company
- i. Twenty-one hours of Theatre electives, chosen with advisement.

Total within the Theatre Major 60 hours

3. Fifteen hours of free electives from any department, chosen with advisement. (May include Theatre and Dance).

Total Degree Hours 132 hours

Bachelor of Arts in Design for Performance (B.A.)

The B.A. in Design for Performance prepares students for careers or graduate study in designing and producing for the broad spectrum of performance venues, whether live, mediated, or electronic. The program of study and activities range from Theatre, Dance, and Opera, to Television and Film, Concerts and Special Events, and the new emerging digital, electronic, and interactive performing arts. Students can focus their studies in a number of areas, including- Scenic, Costume, Lighting, and Sound Design/Production, Computer-Based Design and Visualization, 3D Modeling and Animation, Interactive Technology, and similar high-tech

disciplines. Students are provided a wide range of practical and theoretical classes, hands-on production experiences, and actual design opportunities. Interdisciplinary programs of study and activities are highly encouraged. There are yearly portfolio reviews for continuation in the program of study. Seek advisement early.

1. Courses outside the major, University requirements:

- A. Thirty-seven hours from courses offered by Departments in the College of Arts and Sciences including the Core Curriculum (See Fine Arts graduation requirements).
 - 1. nine hours from Writing and Speaking
 - 2. three hours chosen from English 352 or 353
 - 3. three hours from mathematics
 - 4. seven hours from physical and natural sciences
 - 5. six hours from social and behavioral sciences
 - 6. six hours from humanities
 - 7. three hours from a foreign language
- B. Six hours selected from the College of Fine Arts (outside the major) offered by the Department of Art and Art History ARTH 101, 201, 202
- C. Seventeen hours of electives chosen from outside the major.

Total outside the major 60 hours

2. Courses in the B.A. Design for Performance major (66):

- A. **Eighteen** hours: Departmental Design B.A. requirements
 - THEA 105 Theatre Appreciation
 - THEA 120 Acting Fundamentals
 - THEA 403 Principles of Directing
 - THEA 335 Theatre History I
 - THEA 336 Theatre History II
 - DANC 464 Dance History III
- B. **Thirty-six** hours: Design requirements
 - THEA 192 Stagecraft I
 - THEA 194 Introduction to Costuming
 - THEA 196 Introduction to Stage Lighting
 - THEA 199 Production Lab (Three one unit classes)
 - THEA 292 Rendering for Stage, Screen, and New Media
 - THEA 366 Stage Management
 - THEA 392 Introduction to Scenic Design for Stage, Film, and New Media
 - THEA 394 Costume Design I
 - THEA 396 Lighting Design I
 - THEA 370 2-D CAD & 3-D Viz
 - THEA 387 Design History and Styles
 - THEA 498 Design Seminar
- C. **Twelve** hours from:
 - THEA 290 Stagecraft II
 - THEA 294 Make-up Design for Stage, Film and Television
 - THEA 296 Lighting Methods and Equipment
 - THEA 297 Sound for Performance
 - THEA 298 Pattern Development
 - THEA 334 The Decorated Body
 - THEA 371 Digital Imagery and Production
 - THEA 390 Scenic Painting
 - THEA 391 Advanced Scenic Techniques
 - THEA 398 Costume Techniques
 - THEA 399 Special Problems in Theatre and Production
 - THEA 470 Architectural Modeling, Visualization and Presentation for Designers
 - THEA 471 Video Content Production
 - THEA 473 Interactive Design and Technology
 - THEA 475 Special Topics in Computers for Design
 - THEA 483 Lighting Design II
 - THEA 491 Professional Apprenticeship
 - THEA 492 Advanced Scenic Design for Stage, Screen, and New Media
 - THEA 493 Art Direction for TV/Film
 - THEA 494 Costume Design II

Free electives (9)
Nine hours of upper-division free electives from any college (can include Theatre and Dance)

Total hours: 135

Bachelor of Arts in Dance

The Bachelor of Arts in Dance presents a broad perspective on dance training within a liberal arts context. Students completing the B.A. in Dance are well prepared to pursue both graduate work and professional careers in Dance Education, Dance History/Criticism and Dance Performance. The B.A. has two areas of concentration: Contemporary Dance and Flamenco. Ours is the only program in the United States to offer a fully developed curriculum in Flamenco technique and choreography. Students who choose the Flamenco concentration will be advised to participate for two summers in the annual Flamenco Festival held on the University of New Mexico campus each June. Auditions to be accepted as a Dance major are the last Saturday of September and January. Faculty dance concert and guest artist auditions are mandatory for all dance majors and are held Tuesday evenings. Dance majors are required to perform in these works if cast.

Departmental Advisement: All Dance majors and minors must receive departmental advising each semester. Majors and minors will not be permitted to participate in technique classes until the Program Advisor has approved their course selections.

Dance Program Mission

The University of New Mexico Dance program offers a Bachelor of Arts Degree in Dance, a Master's degree in Theatre and Dance with an emphasis in Dance History/Criticism and a Master's of Fine Arts degree in Dance. The B.A. and M.A. degrees prepare students for further study both in and out of academia and for careers in the Dance field as artists, scholars, teachers and professionals. The M.F.A. degree is designed to serve a small and select population of emerging artists wishing to prepare for professional careers in performance, choreography, and teaching.

Dance (B.A.)

1. Courses outside the major:

- a. Forty hours selected from courses offered by departments of the College of Arts and Sciences, including Core Curriculum requirements (see Fine Arts Graduation Requirements 6). Specific requirements include an upper-division English elective and 3 hours selected from Anthropology 130, 150 or Psychology 220, 260. These will partially satisfy the college requirements for courses outside the major. 40
 - b. Six hours selected from other departments of the College of Fine Arts (Art and Art History, Fine Arts, Media Arts and Music). 6
 - c. Eight additional hours selected from courses outside the major offered by any college including Fine Arts (cannot be Theatre or Dance). 8
- Subtotal 54**

2. Courses in the major: Dance

- a. Nine hours of Theatre:
 - THEA 194 Introduction to Costuming
 - THEA 196 Introduction to Stage Lighting
 Three hours selected from:
 - THEA 120 Acting Foundations I
 - THEA 224 Voice Production for Actors
 - THEA 328 Musical Theatre
 - or— THEA 426 Performance Art

Subtotal 9
- b. Twenty-one hours in non-studio Dance Courses:
 - DANC 105 Dance Appreciation 3
 - DANC 201 Crew Practicum 0
 - DANC 204 Stretch and Strength 3
 - DANC 212 Improvisation 3
 - DANC 250 Movement Analysis I 3
 - DANC 313 Kinesiology 3
 - DANC 416 Dance Pedagogy 3
 - DANC 431 Dance Criticism 3
- c. Nine hours in selected concentration:
 - Contemporary Dance**
 - DANC 311 Choreography I 3
 - DANC 411 Choreography II 3

FINE ARTS

512 FINE ARTS

Three hours selected from DANC 462, 463, 464, 465, 466	3
Flamenco	
DANC 379 Flamenco Structure/Improvisation	
DANC 479 Flamenco Choreography	
DANC 466 Flamenco History	
Subtotal	30
d. Twenty-six hours in dance technique selected with advisement. All students must complete at least one course in each of the following areas: Ballet, Modern and Flamenco and at least one course from one of the following areas: African, Hip Hop, Jazz, Mexican Folk, Renaissance and Baroque, or Tap. Dance majors and minors may enroll in a maximum of 6 hours of dance technique during their Freshman year.	
Subtotal	26
e. Nine hours of additional courses, in any field, selected with advisement.	9
Major Total	128

Teacher Licensure in Fine Arts: Theatre and Dance

The College of Education offers a program which leads to a Bachelor of Arts Degree in Education with an endorsement in Fine Arts-Theatre. The program qualifies students for teacher licensure in the state of New Mexico. Students may pursue this degree in elementary education (grades K-8) or secondary education (grades 7-12). This program is administered by the College of Education, but students are urged to seek advice early in their program from both the College of Education and the Department of Theatre and Dance.

Elementary Level Dance

DANC 105, 212, 250, 416 and 8 hours of Dance Technique in Modern 24 hours

Theatre

Theatre 120, 122, (3 hours chosen from 192, 194, 196,) 403, 415, 418, 419 24 hours

Secondary Level Dance

DANC 105, 212, 250, 311, 416, 462 or 463, 14 hours of dance technique (8 hours must be in Modern, the other hours must be completed in three of the following areas: Ballet, Ethnic, Folk, Jazz or Tap) 36 hours

Theatre

Theatre 120, 121, 122, 192, 194, 196, 223, 224, 403, 404, 418 and 419 36 hours

Minor Study Requirements

Minor in Theatre

Twenty-four hours of Theatre courses which must include:

- Theatre 120 and 122
 - Three hours chosen from Theatre 192, 194, 196
 - Three hours chosen from Theatre 223, 335, 336 or 439
 - Three hours chosen from Theatre 355, 366, 403, 418, 419 or 415
 - Nine hours of Theatre electives
- | | |
|--------------|-----------------|
| Total | 24 hours |
|--------------|-----------------|

Minor in Dance

- Required: DANC 105, 201, 204, 212, 250 and 3 hours selected from 462, 463, 464, 465. 15 hours
 - Electives: 9 hours in Dance selected with Departmental advisement. 9 hours
- | | |
|--------------|-----------------|
| Total | 24 hours |
|--------------|-----------------|

NOTE: Students majoring in Elementary Education pursuing this minor must take DANC 416 *Dance Pedagogy*.

Minor in Design for Performance

The minor in Design for Performance consists of twenty-four semester credit hours:

- Nine Hours Production Core:
 - THEA 192
 - THEA 194
 - THEA 196
- Nine Hours Design Core:
 - THEA 392
 - THEA 394
 - THEA 396
- Six Hours Electives from the following:
 - THEA 290 Stagecraft II
 - THEA 292 Rendering for Stage, Screen, and New Media
 - THEA 294 Make Up Design for Stage, Film and Television
 - THEA 296 Lighting Methods and Equipment
 - THEA 297 Sound for Performance
 - THEA 298 Pattern Development
 - THEA 334 The Decorated Body
 - THEA 366 Stage Management
 - THEA 371 Digital Imagery and Production
 - THEA 370 2-D CAD & 3-D Viz
 - THEA 387 Design History and Styles
 - THEA 390 Scenic Painting
 - THEA 391 Advanced Scenic Techniques
 - THEA 398 Costume Techniques
 - THEA 399 Special Problems in Theatre and Production
 - THEA 470 Architectural Modeling, Visualization and Presentation for Designers
 - THEA 471 Video Content Production
 - THEA 473 Interactive Design and Technology
 - THEA 475 Special Topics in Computers for Design
 - THEA 483 Lighting Design II
 - THEA 491 Professional Apprenticeship
 - THEA 492 Advanced Scenic Design for Stage, Screen, and New Media
 - THEA 493 Art Direction for TV/Film
 - THEA 494 Costume Design II

Total	24 hours
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Minor in Flamenco

- Required Courses
 - Six hours chosen from:
 - DANC 169 Flamenco I 3
 - DANC 269 Flamenco II 3
 - DANC 369 Flamenco III 3
 - Three hours: DANC 466 Flamenco History 3
 - Six hours chosen from:
 - DANC 289 Topics in Flamenco 1-3
 - DANC 379 Flamenco Structure/Improvisation 3
 - DANC 479 Flamenco Choreography 3
 - Six hours of Spanish 102 or above 6
 - Three hours chosen from:
 - HIST 318 Spain and Portugal to 1700 3
 - HIST 319 Spain and Portugal since 1700 3
- | | |
|--------------|-----------------|
| TOTAL | 24 hours |
|--------------|-----------------|

Minor in World Dance

- Required Courses
 - ANTH 130 Cultures of the World 3
 - DANC 105 Dance Appreciation 3
 - DANC 116 Mexican Folk Dance I 3
 - DANC 127 or 327 African Dance I or African Dance II 3
 - DANC 169, 269 or 369, Flamenco I, Flamenco II or Flamenco III 3
 - DANC 170 or 370, Hip Hop I or Hip Hop II 3
- | | |
|-----------------|--------------------|
| Subtotal | 17-18 hours |
|-----------------|--------------------|

b. Elective Courses, 6–7 hours chosen from:	
DANC 118 Tap I	3
DANC 132 Jazz I	3
DANC 218 Tap II	3
DANC 232 Jazz II	3
MUS 172 Jazz History	3
MUSE 293 Multicultural Awareness Through Music Skills	3
MUS 422/552 Indigenous World Music	3
AMST 310 Topics in Culture Studies	3
Subtotal	6–7 hours
TOTAL	24 hours

Additional Information

Fees

Students are reminded that all Theatre and Dance courses have fees associated with special supplies and services. These course fees must be paid to the University of New Mexico Cashier before the end of the third week of the semester. Refunds will be granted according to the refund schedule in the Student Expenses section of this catalog. Classes subject to this charge bear the notation *course fee required*.

Departmental Honors

For general information on Honors requirements, purpose, process, eligibility and evaluation procedures, see the *College of Fine Arts Honors* section.

The Administration Council of the Department of Theatre and Dance serves as the department *Honors Council*. All application material should be submitted to the Department of Theatre and Dance undergraduate advisor.

In the Department of Theatre and Dance a student may choose one of two approaches to receive honors:

1. Written Research/Thesis Project
2. Creative Project with an Essay

None of the projects may be work that has already been developed in a previous class.

When you are notified by the College of Fine Arts advisement office that you are eligible to apply for Departmental Honors, see the Departmental Advisor for requirements and assistance. You will then need to find a faculty tutor who will work with you on the creation and development of your project.

Graduate Program

All questions should be directed to:
 (505) 277-4332
 (your call will be directed to appropriate advisor)
 FAX (505) 277-8921
 e-mail: theatre@unm.edu or dance@unm.edu

Admission Deadlines

Semester	Domestic Applicants	International Applicants
Fall	February 15	May 1
Spring:	None accepted	
Summer:	None accepted	

If you wish to be considered for financial aid the deadline is February 1.

To receive an early response, applicants are encouraged to submit a complete application as early as possible.

International applicants require additional materials and are processed through The University of New Mexico's International Admissions Office. Call (505) 277-5829 or e-mail: goglobal@unm.edu for more information.

Programs in the Department of Theatre and Dance are accredited by the National Association of Schools of Theatre (NAST) and the National Association of Schools of Dance (NASD).

To enter the program, the student should have completed an undergraduate major in theatre or dance or have taken a minimum of 24 hours in Theatre and/or Dance, including History, Criticism, Dramatic Literature, Directing, Playwriting, Choreography, Technical Theatre and Performance. However, students with undergraduate degrees in other disciplines are eligible for admittance. Contact the Department for information.

The student applying for admission should obtain a Self-Managed Application from the Office of Admissions:

Call: (505) 277-4332
 Online application form: www.unm.edu/grad (click forms)

Other application materials required by the department:

- Three letters of recommendation
 - Academic/scholarly writing sample
- For the M.F.A. in Dramatic Writing–
- A full-length script (stage, screen television play; drama or comedy or two one-act plays)
- For the M.F.A. in Dance–
- A resume of educational and professional dance experience
 - A 12-minute VHS videotape or DVD of recent choreography or dance performance work

Degrees Offered

Time Limit for Completion of Degree

All work toward an M.A. or M.F.A. degree in the department (including course work transferred from another institution) must be completed within a five-year period. This time is calculated by counting back from the planned semester of graduation.

M.F.A. in Dance

The Master of Fine Arts in Dance is a three-year terminal degree program that serves a select population of emerging artists pursuing a future in performance, choreography, and teaching, with focus areas in Choreography and/or Performance. The program promotes the growth and development of artistic achievement balanced with scholarship, accepting only students who show artistic excellence and who demonstrate exceptional potential for future progress. The M.F.A. dissertation in Dance consists of an evening concert of original choreography and an accompanying written dissertation.

Graduate Core:

THEA 500	Introduction to Graduate Studies	3
THEA 503	Performance Theory	3
THEA 506	Critical Issues in the Performing Arts	3
	Subtotal:	9

Dance Core:

DANC 510	Creative Investigations I	3
DANC 511	Choreography II	3
DANC 515	Creative Investigations II	3
DANC 516	Dance Pedagogy	3
DANC 549	Dance Technique for Graduate Student	24
DANC 699	Dissertation	6
DANC 531, 562, 563, 564, 565, or 566	Dance History or Dance Criticism	3
DANC 699	Dissertation	6
	Subtotal:	45

Electives:

Six hours graduate electives in the student's area of interest	6
Subtotal:	6
Total:	60

M.F.A. in Dramatic Writing

For the student preparing to enter the profession of writing for the stage and media the department offers the M.F.A. in Dramatic Writing. The focus of the program is the creation of new work for the stage, the media and the classroom.

Required Courses

Graduate Core:	
THEA 500	Introduction to Graduate Studies 3
THEA 503	Performance Theory 3
THEA 506	Critical Issues in the Performing Arts 3
THEA 512	Topics Seminar in Theatre 3
	Subtotal: 12
Writing Core:	
THEA 555	Dramatic Writing I 8
THEA 556	Dramatic Writing II 8
THEA 557	The Writer's Stage 8
THEA 558	Screenwriting 6
THEA 559	Topics in Dramatic Writing 6
	Subtotal: 36
Elective Courses	
THEA 699	M.F.A. Dissertation 6
	Minimum hours required for degree: 60 hours

Qualifying Review

After completing 20 hours of graduate credit the student will submit all writing completed since entering the program. A committee of review with 3–5 members will be appointed by the Department's graduate committee. This committee will be composed of individuals with expertise in writing both in and outside the department. To continue in the second year of the M.F.A. program, all students must receive a pass on the promise of their writing. Students will be notified before the start of the Fall semester. The review will be the occasion for a comprehensive review of the student's work to that point and a frank evaluation of his or her promise in the profession. Three options are open to the M.F.A. Graduate Committee at this point: 1) continuation in the M.F.A. program; 2) dismissal from the graduate program; or 3) the committee may request the work be resubmitted after addressing a specific set of concerns. Resubmissions must be completed and rereviewed before the beginning of the Fall semester. Students may have a maximum of two tries to pass this review.

Advancement to Candidacy and Comprehensive Examination

After successfully completing 30 hours of graduate work, including completion of one full cycle of the writing core: 555, 556 and 557, all students will take a comprehensive examination at the end of their fourth semester of study. This examination will cover the areas of knowledge explored in the required core courses. Once the Comprehensive Examination is passed the student will submit the Application for Candidacy to the Office of Graduate Studies. If approved the Dean of Graduate Studies will formally advance the student to Candidacy.

Requirements for Graduation

The Master of Fine Arts degree requires a minimum of 60 hours of work, no more than 24 of which can be transferred from other programs—either from within the University of New Mexico or elsewhere. In addition, the candidate must have:

1. completed no fewer than 42 graduate hours in residency at the University of New Mexico;
2. completed 12 hours of a "core" curriculum, plus the remainder of the recommended sequence within the program and passed a Comprehensive Examination on the "core" curriculum;
3. completed a minimum of six complete scripts to the satisfaction of the M.F.A. Committee;
4. have at least three scripts produced in a forum suitable to the M.F.A. Committee. These might include: Concert Readings; The Writer's Stage; Experimental Theatre Series; University Theatre season productions (at the University of New Mexico or elsewhere); Professional Productions.

M.F.A. Dissertation

The M.F.A. Dissertation is the major work, full length play or screenplay written in the final year of the candidate's program. It is written in the course of the final year's work in 555 and 556. The Dissertation work must be presented in 557 Writer's Stage in the final semester in a public presentation which can take the form of a staged concert reading or, given questions of merit and availability of facilities, a more comprehensive presentation.

The play or screenplay must be accompanied by an essay that addresses such topics as the creative process which lies behind the work's development, the research done for the Dissertation work, and presents an analysis of the issues and meaning embodied in the Dissertation work.

In addition to the Dissertation work the successful M.F.A. candidate must complete the following works to graduate: four scripts (two full length plays, one full length screenplay, one short screen or stage piece).

M.A. in Theatre and Dance

Concentrations: Dramatic Writing, Theatre Education and Outreach, Dance History and Criticism.

The Department of Theatre and Dance offers master's level work in theatre and dance for the student preparing for teaching, practice, or further graduate study. In general, the focus of the program is the creation of new works of theatre and dance for stage and classroom, and development of research skills.

Required Courses

The purpose of the required courses for the Master of Arts degree is to provide a common conceptual framework for all graduate students in the program. The required courses aim to strengthen critical and practical skills that will support and guide students' direction and concentration in the remainder of the program and beyond.

THEA/DANC 500	Introduction to Graduate Study	3
THEA/DANC 503	Performance Theory	3
THEA/DANC 506	Critical Issues in the Performing Arts	3
THEA/DANC 512	Graduate Seminar (elective)	3

Degree Plans

(Dance concentration in History/Criticism):

Dance History/Criticism	
Required core: 500 and either 503 or 506	6
Dance Requirements: 6 hours from 562, 563, 564, 565	6
DANC 531 Criticism	3
Electives related to concentration	9
Thesis	6
Total	30

Degree Plans

(Theatre concentration in Dramatic Writing or Theatre Education and Outreach):

Plan I (Thesis):	
Required core: THEA 500, 503, 506 and 512	12
Electives related to concentration	12
THEA 599, Master's Thesis (minimum hours)	6
Total	30

Plan II (Essay):	
Required core: THEA 500, 503, 506 and 512	12
Electives related to concentration:	12
THEA 598: Master's Essay	3
Other Electives	6
Total	33

Plans I – Master's Thesis

This is the traditional M.A. program, and culminates in the writing of a formal Thesis, a work of original research and writing (typically, 60-85 pages) that explores in depth a par-

tical, carefully delimited subject related to the student's area of study. Plan I is especially recommended for students who intend to eventually pursue a Ph.D. The thesis must be written in the UNM Office of Graduate Studies format.

Plan II – Master's Essay and Creative Project

Plan II does not require a Thesis, but does require both a substantial Creative Project (usually, this means directing a full-length performance or project in the department, the schools or community, as well as a Master's Essay. The Master's Essay is intended to conform to the standards of a major seminar paper or journal article, including careful organization, clarity of argument, original research with full citation, bibliography, typically 30-50 pages in length. The Master's Essay may address a topic related to the Creative Project, but this is not absolutely necessary. Plan II also includes a written exam, taken during the student's final semester in the program.

Plan II Master's Exam

The Master's Exam is conducted by a faculty committee of three. The supervisor of the student's Master's Essay normally serves as chairperson of the committee and the other two members are chosen in consultation with the student. The subject matter of the examination questions is taken from the particular program of studies followed by the student. The subject matter of the Master's Essay must be included in the examination questions. Usually the exam is written; the committee may elect, however, to conduct some portion of the exam orally. The length of the exam is three hours. Each member of the committee conducting the exam submits at least one question.

Theatre (THEA)

105. [122.] Theatre Appreciation. (3)

For majors and non-majors. Study of the various elements of the practice of theatre: acting, directing, design, production, playwriting. Issues of spectatorship and criticism also addressed. Required attendance at a number of performances. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts. (NMCCN 1113).

120. Acting I. [Acting Foundations I.] (3)

Exploration of the basic fundamentals of acting through exercises, games and improvisation. Development of the imaginative, physical and emotional skills of the actor.

121. Acting II. [Acting Foundations II.] (3)

Continued exploration of the actor's craft. Introductory work with text.
Prerequisite: 120.

192. Stagecraft I. (3)

Basic techniques, tools and materials for construction of stage scenery. Crew assignments on departmental production required. (Fall, Spring)

194. Introduction to Costuming. (3)

Basic techniques, tools, materials of costume construction. Crew assignment on departmental production required. (Fall, Spring)

196. Introduction to Stage Lighting. (3) [4]

Basic techniques of stage lighting. Crew assignment on departmental production required. (Fall, Spring)

199. Production Lab. (1 to a maximum of 3) Δ

The purpose of this course is to provide a laboratory for students in which they can acquire practical artistic skills, which culminates in a public presentation.
Prerequisite: 192 and 194 and 196.

200. Theatre Practicum. (1 to a maximum of 4) Δ

Participation in University theatre season in production capacity. May not duplicate other course assignments.
Offered on a CR/NC basis only.

220. Acting III. [Acting Skills I.] (3)

Continued exploration of acting technique. Emphasis on methods of study and preparation for presentation of scene-work drawn from contemporary drama. Integration of voice and movement skills with acting technique.
Prerequisite: 121. Pre- or Corequisite: 224. (Fall)

221. Acting Skills II. (3)

Continuation of 220.
Prerequisite: 220. (Spring)

223. Introduction to Script Analysis. (3)

The nature of the staged dramatic work: analysis of plays with representative readings from the history of dramatic literature.

224. Voice and Movement I. [Voice Production for Actors.] (3)

Basic vocal and physical skills with emphasis on relaxation, breath, and freeing the voice. Consideration of placement, articulation and support. Voice work is combined with movement to connect the expressive impulse to the entire body.
Prerequisite: 120. (Fall)

225. Movement and Voice for Actors. (3)

Introduction to basic techniques, which aid in: flexibility, heightened physical and vocal awareness and stamina.
Prerequisite: 224.

226. Ensemble Improvisation. (3 to a maximum of 6) Δ

Emphasis on the development of original dramatic material out of the process of individual and group improvisation. (Offered upon demand)

267. Acting Study for Non-Majors. (3, no limit) Δ]

Introduction to the basic craft and experience of acting. (Summer, Fall, Spring)

290. Stagecraft II. (3)

Advanced techniques of stage crafts. Crew assignment on departmental production required.
Prerequisite: 192. (Spring)

292. Rendering for Stage, Screen, and New Media.

[Drawing Skills for the Designer.] (3)
Introduction to basic drawing skills used in the presentation of theatrical designs for stage, film, and digital media. Emphasis is given to accurate representation of the human figure, perspective, and lighting using different mediums.

293. Fundamentals of Design Theory for Performance and New Media. [Design Computer Skills.] (3)

Introduction to and exploration of elements and principles of design, color theory, and design aesthetics through design projects. This course is for theatrical designers, art directors, artists, architects, and electronic media creators.

294. Make Up Design for Stage, Film and Television. (3)

Basic techniques of make up design for stage, film and television through the use of a variety of materials.

295. Studies in Theatre. (1-3 to a maximum of 9) Δ

Lecture and studio study on various topics in Theatre. (Fall, Spring)

296. Lighting Methods and Equipment. (3)

Theory and practice of lighting for the stage. Crew assignment on departmental production required.
Prerequisite: 196. (Fall, Spring)

297. Sound for Performance. (3)

Introduction to the equipment and techniques of sound for performance. Hands on experience with microphones, mixers, processors, digital recordings, CDs and computer programs for sound production.

298. Pattern Development. (3)

An introduction to pattern development using a combination of techniques: flat patterning, slash and spread, and draping.

Prerequisite: 194. {Fall odd numbered years}

320. Acting Characterization. (3)

Methods for developing a wide range of characters with an emphasis on developing physical, vocal and emotional skills that allow the actor to stretch away from type. {Fall alternate years}

322. Topics in Physical Theatre. [Physical Theatre.] (3 to a maximum of 12) [3] Δ

This course explores advanced movement techniques through text, scenes, monologues and in-class exercises. We will work in-depth with imagination, and the concepts of psychological gesture and invisible body.

Prerequisite: 120 and 224.

324. Speech and Diction for the Stage. (3)

The basics of standard American stage speech, clear articulation and an introduction to the use of the international phonetic alphabet as a tool for correcting regionalisms and learning stage dialects.

Prerequisite: 224.

326. Acting for the Camera. (3)

Introduction to performance before the camera, including: terminology, acting technique, audition skills and technical experience for television, film, video and beyond.

Prerequisite: 220.

328. Musical Theatre. (3 to a maximum of 6) Δ

Training in the singing and acting styles required for performance in musical theatre.

Pre- or Corequisite: 120.

334. The Decorated Body. (3)

Historical and regional study and analysis of the cultural and sociological importance of what people wear and how they decorate and distort their bodies.

335. Theatre History I. (3)

History and theory of theatre and performance, with emphasis on pre-modern and non-western drama. Instruction in the development of critical reading and writing strategies for analysis of theatre.

336. Theatre History II. (3)

History and theory of theatre and performance, with emphasis on 19th and 20th century European and American drama. Instruction in issues and methods of theatre history research. {Fall of even numbered years}

355. Fundamentals of Playwriting. (3 to a maximum of 6) Δ

Introduction to writing for the stage. Practice and study of the elements of dramatic form: dialogue, character, plot. Submission of an original one-act play. {Fall, Spring}

366. Stage Management. (3)

The role, functions and duties of the stage manager in production, rehearsal and performance. {Fall, Spring}

370. 2-D CAD and 3-D Viz. [CAD 2-D for Designers.] (3)

Covers CAD and computer modeling, including the basic types of drawings and formats. Techniques and conventions unique to entertainment/theatre/television/film are also covered. Of special interest for architects, theatrical designers, art directors, etc.

371. Digital Imagery and Production. (3)

For students wishing to create conceptual/multi-media imagery for gallery, performance and similar installations. Covers planning, techniques and equipment, plus teaches software such as *PhotoShop*, *Painter*, *Illustrator*. Students complete a series of conceptual projects.

386. Light Aesthetics. (3)

A survey of lighting practice, including theatre, dance, opera, concerts, media, light as art and architecture; with an emphasis on aesthetics and the psychological, social and spiritual impact of light on human culture. {Fall}

387. Design History and Styles. (3)

A multimedia introduction to the craft, history and styles of costume, lighting, scenery and theatre space design for performance. A study of the influence of seminal figures in design from the renaissance to the present.

390. Scenic Painting for Stage and Screen. (3)

Principles and practice of scenic painting techniques, including: color mixing, textures, faux finishes, and large scale backdrop painting.

Prerequisite: 192 and 292.

391. Advanced Scenic Techniques. (3 to a maximum of 12) [3] Δ

Principles and practice of advanced scenic techniques including rigging, structural analysis, OSHA safety, scene painting and technical direction.

392. Introduction to Scenic Design for Performance and New Media. [Fundamentals of Design Theory for Performance and New Media.] (3)

Course covers the techniques, goals and concepts of scenic design for theatre, television, film, and new media. Theoretical, conceptual, and practical issues are addressed. Students complete a series of conceptual design projects.

Prerequisite: 105 and 292.

394. Costume Design I. (3)

Exploration of costume design for stage, film and television concentrating on design theory, visual communication, rendering techniques and portfolio presentation. Drawing skills required.

Prerequisite: 105 and 194.

396. Lighting Design I. (3)

Basics of lighting design, emphasis on play analysis, light plots and plugging charts. Crew assignment on departmental production required.

Prerequisite: 105 and 196. {Fall}

398. Costume Techniques. (3)

Principles and practice of advanced costuming techniques like millinery, mask making, corsetry, wigs, jewelry and fabric dyeing.

Prerequisite: 194.

399. Special Problems in Theatre and Production. (1-3) Δ

Intensive study and practice of special techniques and materials in theatre and production.

Restriction: permission of instructor. {Offered upon demand}

403. Directing I. [Principles of Directing.] (3)

Methods and techniques for the director in script-analysis and director-actor communication through visual and oral skills.

Prerequisite: 105 and 120.

404./504. Topics in Directing. (3 to a maximum of 6) Δ

Advanced study of the special problems in directing required by specific styles and stagings. Directing of a one-act script is required. Topics vary.

Prerequisite: 403. {Spring}

415./515. Theatre for Educational and Social Change. (3)

Methods for using interactive theatre techniques (e.g. Boal's forum theatre) and collaborative creation of plays for conflict resolution, community building and examining social issues in schools, theatre outreach programs and social service organizations.

418./518. Creative Drama. (3)

Techniques for using informal, improvisational drama as a developmental tool with children, youth and special populations in educational and recreational settings. Exploration of

methods to teach drama and to use drama to teach other subjects in the school curriculum.

419./519. Children's Theatre. (3)

An overview of theatre for children and youth in the U.S. and Europe. Examination of age-appropriate scripts and production approaches. Possible participation in workshop production.

420. Acting-Topics in Classical Styles. (3)

Focuses on a textual and physical approach to the performance of Shakespearean and Grecian texts, with numerous performance opportunities that build upon the work done in Mastering Classical Language.

Prerequisite: 221 or 424.

421./521. Acting-Entering the Profession. (3)

Preparation for a career as a performer, with focus on theatrical and film auditions, callbacks and interviews. Includes practical information on professional etiquette, marketing and creating a strong career plan.

Prerequisite: 221.

422./522. Acting-Topics in Modern Styles. (3)

Development of acting skills necessary to perform plays written in a variety of modern and post modern styles that depart from realism.

Prerequisite: 221.

424./524. Mastering Classical Language. (3)

Consideration of Grecian and Shakespearean texts with an eye towards a more expansive vocal approach and a clear method that allows for greater success in the analysis and performance of these challenging texts.

Prerequisite: 221 and 224.

***426. Performance Art. [Performance Arts.] (3)**

Students create and perform original acts of live art combining various performance disciplines. Studio work will be supplemented by lectures examining performance art and artist. The role of performance in our lives will be probed.

428. Topics in Musical Theatre. (3 to a maximum of 9) Δ

Course material varies, including: training in audition preparation, ensemble performance, repertoire, musical theatre movement and cabaret performance.

Prerequisite: 328. Pre- or Corequisite: 121. Restriction: permission of instructor.

438./538. Topics in Theatre History and Criticism. (3 to a maximum of 9) Δ

Subject differs by semester. May include eras, genres, movements, individuals or theories, e.g., melodrama, feminism and theatre, non-western traditions, Brecht and Artaud, popular entertainments, postcolonial theatre. Advanced lecture/discussion.

439./539. Theories of Theatre. (3 to a maximum of 6) Δ

An interdisciplinary, historical, multinational survey of theatrical and non-aesthetic performance theories. Focus on the intersection of theatre practice and assumptions about everyday life. Lecture/discussion.

Prerequisite: 335 or 336. {Spring}

444./544. Outreach Company. (1-3 to a maximum of 4) Δ

Participation in Theatre and/or Dance productions or projects which tour into the community. {Fall, Spring}

***455. Seminar in Playwriting. (3 to a maximum of 6) Δ**

Emphasis upon analysis of student-written plays.

***456L. Playwriting Laboratory. (3 to a maximum of 6) Δ**

Offered to provide playwriting students opportunities to work in response to the staging of their developing playscripts.

457. Advanced Dramatic Writing Workshop. (3 to a maximum of 6) Δ

For advanced writers to develop applications of dramatic structure through creation of an original longer form play and to study examples from the history of dramatic literature. {Fall}

458./558. Screenwriting. (3 to a maximum of 6) Δ

Investigation of the art of writing the feature-length film. Study is performed in tandem with the development of a treatment and a script with revisions.

460./560. Comedy Writing I. (3)

Short skits, sketches, monologues and musical satires have become a living reminder of the old adage, "Brevity is the sole of wit." This course teaches how to write comedy in the short form.

461./561. Comedy Writing II. (3)

Can comedy co-exist with tragedy? Writers of full-length comedies such as "Life is Beautiful" and "M*A*S*H" believe it not only can, but must. This course focuses on writing this combination of opposites.

***467. Performance Study (Acting Skills Tutorial). (1-3, may be repeated 3 times) Δ**

Emphasis on acting skills in the preparation of dramatic materials.

Prerequisite: 221.

470./570. Architectural Modeling, Visualization, and Presentation for Designers. (3)

For students wishing to use computers to explore the aesthetics of space/time/volume. Covers techniques in high-end modeling/animation of spaces/environments, sophisticated visualization software, and advanced presentation via image, sound and video.

471./571. Video Content Production. [Multimedia Production for Designers.] (3)

Course explores technological and artistic potential of computers for creating and presenting productions utilizing moving images, sound and text. Includes computer image manipulation, video/sound editing, programming presentations. For theatrical designers, media producers, artists, journalists.

472./572. 3-D Modeling and Animation for Designers. (3)

This course explores the technology and techniques of computer based 3-D illustration, 3-D modeling and 2-D/3-D animation. Students will learn a variety of techniques and computer programs and create a series of conceptual projects.

473. Interactive Design and Technology. (3)

Course explores the technology and techniques for planning, creating and presenting interactive events, whether for live performance, installations, the web, or other applications. Students will incorporate video, sound, imagery, and interactive technology in a series of projects.

475./575. Special Topics in Computers for Design. (1-3 to a maximum of 6) Δ

Intensive study and practice in computers and technology for design and performance. Topics vary. {Offered on demand}

482. Scene Design Project. (1-3 to a maximum of 3) Δ

Advanced production work in set design for an actual performance under the supervision of the design faculty. Presentation of portfolio on finished project to design committee necessary for final grade. Admission by portfolio.

Prerequisite: 392.

483. Lighting Design II. (3)

Emphasis on designing for various types of stages. Crew assignment on departmental production required.

Prerequisite: 396. {Spring}

***484. Evaluating the Arts. (3)**

(Also offered as ARTH, DANC, MA, MUS 484.) Examines the practice of criticism, with emphasis on critical processes that penetrate a variety of art forms. Also explores aesthetic theories and cultural outlooks that underpin practical criticism.

Restriction: permission of instructor.

486. Lighting Design Project. (1-3 to a maximum of 3) Δ

Advanced production work in lighting design for an actual performance under the supervision of the design faculty. Presentation of portfolio on finished project to design committee necessary for final grade. Admission by portfolio. Restriction: permission of instructor.

487/587. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as ARTH, DANC, MA, MUS 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.

Restriction: Permission of instructor. {Spring}

491. Professional Apprenticeship. (1-6, no limit) Δ

Qualified students accepted by a professional company (e.g., The Santa Fe Opera, New Mexico Repertory Theatre, Ringling Bros. Barnum and Bailey Circus) may register for technical production or acting credit.

Restriction: permission of instructor. {Summer, Fall, Spring}

492. Advanced Scenic Design for Stage, Screen, and New Media. [Scene Design II: Theatrical.] (3)

Study of the practice and techniques of scenic design for theatre, opera and dance. Emphasis on developing personal artistic vision in a collaborative art form. Students complete conceptual design projects.

Prerequisite: 392.

493. Art Direction for TV/Film. (3)

Overview of the role, task and techniques of the Art Director/Production Designer for television, film and electronic media. Covered are graphics, set design, location scouting, special effects, research, storyboarding, model making and computer pre-visualization.

494. Costume Design II. (3)

Advanced work in costume design, concentrating on student projects for dance, stage, film and television. Portfolio presentation required.

Prerequisite: 394.

495. Studies in Theatre. (1-3 to a maximum of 9) Δ

Lecture and studio study on various topics in theatre.

496/596. Student Production Project. (1-3 to a maximum of 9) Δ

Advanced studies in Theatre under the supervision of an individual faculty member. This study must conclude in a project. This study may not be substitute for any course offered by the Theatre Program.

Restriction: permission of instructor.

497/597. Independent Study. (2-3 to a maximum of 9) Δ

Advanced studies and research in Theatre under the supervision of an individual faculty member. This study must conclude in a written project. This study may not substitute for any course offered by the Theatre Program. All projects must be approved by the Department.

498. Design Seminar. (3)

Explores current topics and trends in contemporary design aesthetics, portfolio and resume preparation, and discussions on the business of theatrical design and related industries. Capstone course intended for students preparing for graduation. {Fall}

499. Departmental Honors. (3-6 to a maximum of 6) Δ

Students achieving an overall grade point of 3.50 will qualify to apply for departmental honors which requires a research or creative project with supporting written document.

Restriction: permission of instructor.

500. Introduction to Graduate Studies. (3)

Research methods for performing arts including development of working bibliography, types of documentation, investigation of research materials and resources in theatre and dance. Includes a survey of main types of studies undertaken in theatre arts and dance. Required of all entering graduate students. {Fall}

503. Performance Theory. (3)

The development of methods of interpretation and formation of theories suitable for both traditional and non-traditional theatre and dance performance. {Spring of even numbered years}

504/404. Topics in Directing. (3, no limit) Δ

Advanced study of the special problems in directing required by specific styles and stagings. Directing of a one-act script is required. Topics vary.

Prerequisite: 403. {Spring}

506. Critical Issues in the Performing Arts. (3)

Examination of major problems and questions arising from interaction between the performing arts and the political, economic and social conditions in which they live. Survey of major figures in contemporary performing arts.

512. Graduate Seminar. (3 to a maximum of 9) Δ

Topical seminars in the areas of Dramatic Writing, Directing and Theatre Education.

515/415. Theatre for Educational and Social Change. (3)

Methods for using interactive theatre techniques (e.g. Boal's Forum Theatre) and collaborative creation of plays for conflict resolution, community building and examining social issues in schools, theatre outreach programs and social service organizations.

518/418. Creative Drama. (3)

Techniques for using informal, improvisational drama as a developmental tool with children, youth and special populations in educational and recreational settings. Exploration of methods to teach drama and to use drama to teach other subjects in the school curriculum.

519/419. Children's Theatre. (3)

An overview of theatre for children and youth in the U.S. and Europe. Examination of age-appropriate scripts and production approaches. Possible participation in workshop production.

521/421. Acting-Entering the Profession. (3)

Preparation for a career as a performer, with focus on theatrical and film auditions, callbacks and interviews. Includes practical information on professional etiquette, marketing and creating a strong career plan.

522/422. Acting-Topics in Modern Styles. (3)

Development of acting skills necessary to perform plays written in a variety of modern and post-modern styles that depart from realism. {Spring, alternate years}

524/424. Mastering Classical Language. (3)

Consideration of Grecian and Shakespearean texts with an eye towards a more expansive vocal approach and a clear method that allows for greater success in the analysis and performance of these challenging texts.

Prerequisite: 324. {Spring, alternate years}

538/438. Topics in Theatre History and Criticism. (3 to a maximum of 9) Δ

Subject differs by semester. May include eras, genres, movements, individuals or theories, e.g., melodrama, feminism and theatre, non-western traditions, Brecht and Artaud, popular entertainments, postcolonial theatre. Advanced lecture/discussion.

539/439. Theories of Theatre. (3 to a maximum of 6) Δ

An interdisciplinary, historical, multinational survey of theatrical and non-aesthetic performance theories. Focus on the intersection of theatre practice and assumptions about everyday life. Lecture/discussion.

Prerequisite: 335 or 336. {Spring}

544/444. Outreach Company. (1-3 to a maximum of 6) Δ

Participation in Theatre and/or Dance productions or projects which tour into the community. {Fall, Spring}

551. Problems. (1-3 to a maximum of 6) Δ**555. Dramatic Writing I. (4 to a maximum of 12) Δ**

Phase #1 of an integrated experience in playwriting in which original concepts are explored and analyzed for dramatic viability, clarity of the central conflict and developed into plays to be read and revised.

556. Dramatic Writing II. (4 to a maximum of 12) Δ

Phase #2 of an integrated experience in playwriting in which experimental playwriting is explored, with an emphasis on modern and post-modern examples. Original concepts are developed into plays to be read and revised.

557. The Writer's Stage III. (4 to a maximum of 12) Δ

Phase #3 of an integrated experience in playwriting. New works are cast, rehearsed and presented to the public in the form of concert readings or in special cases, more elaborate settings.

558./458. Screenwriting. (3 to a maximum of 12) Δ

Investigation of the art of writing the feature-length film. The analysis of concept, premise and social arena to develop the student's own original screenplay to include at least one major set of revisions.

559. Topics in Dramatic Writing. (3 to a maximum of 12) Δ

Selected topics for the professional dramatic writer. Includes: screenwriting, writing for the stage (including musical theatre), film, television and other media. Topics will be offered in response to student demand and guest artist availability.

560./460. Comedy Writing I. (3)

Short skits, sketches, monologues and musical satires have become a living reminder of the old adage, "Brevity is the sole of wit." This course teaches how to write comedy in the short form.

561./461. Comedy Writing II. (3)

Can comedy co-exist with tragedy? Writers of full-length comedies such as "Life is Beautiful" and "M*A*S*H" believe it not only can, but must. This courses focuses on writing this combination of opposites.

570./470. Architectural Modeling, Visualization, and Presentation for Designers. (3)

For students wishing to use computers to explore the aesthetics of space/time/volume. Covers techniques in high-end modeling/animation of spaces/environments, sophisticated visualization software, and advanced presentation via image, sound and video.

571./471. Video Content Production. [Multimedia Production for Designers.] (3)

Course explores technological and artistic potential of computers for creating and presenting productions utilizing moving images, sound and text. Includes computer image manipulation, video/sound editing, programming presentations. For theatrical designers, media producers, artists, journalists.

572./472. 3-D Modeling and Animation for Designers. (3)

This course explores the technology and techniques of computer based 3-D illustration, 3-D modeling and 2-D/3-D animation. Students will learn a variety of techniques and computer programs and create a series of conceptual projects.

573. Interactive Design and Technology. (3)

Course explores computer technology and techniques for planning, creating, and presenting interactive events, whether for live performance, installations, the web, or other applications. Students will incorporate video, sound, imagery, and interactive technology in a series of projects.

575./475. Special Topics in Computers for Design. (1-3 to a maximum of 6) Δ

Intensive study and practice in computers and technology for design and performance. Topics vary. (Offered on demand)

584. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ

(Also offered as ARTH, MUS 584 and MA *485.) An independent study in either critical studies or studio, beyond the scope of the Fine Arts interdisciplinary courses, which may occur within or outside the College of Fine Arts. Restriction: permission of instructor. {Fall, Spring}

587./487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as ARTH, DANC, MUS 587 and MA 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day. {Spring}

593. Art Direction for TV/Film. (3)

Overview of the role, task, and techniques of the Art Director/Production Designer for television, film, and electronic media. Covered are graphics, set design, location scouting, special effects, research, storyboarding, model making, and computer pre-visualization.

596./496. Student Production Project. (1-3 to a maximum of 6) Δ

Advanced studies in Theatre under the supervision of an individual faculty member. This study must conclude in a project. This study may not be substitute for any course offered by the Theatre Program.

Restriction: permission of instructor.

597./497. Independent Study. (2-3 to a maximum of 6) Δ

{Fall, Spring}

598. Master's Essay in Theatre and Dance. (3)

Offered for students who have been advanced to candidacy and who have elected Plan II.

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

699. Dissertation. (3-12, no limit) Δ

Submission of a major work, full length play or screen play that is shown in a public presentation as a staged concert reading or if approved, in a more comprehensive presentation. Offered on a CR/NC basis only.

Dance (DANC)**105. Dance Appreciation. (3 to a maximum of 6) Δ**

A lecture and discussion course introducing the study of dance as technique, spectacle and ritual for today's audience. Course fee required. Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113). {Fall, Spring}

110. Modern Dance I. (3 to a maximum of 9) Δ

Fundamental work for the adult beginner in Modern Dance techniques and styles. Course fee required. {Fall, Spring}

113. Introduction to Historical Dance Forms. (3)

The course offers lectures and active participation in a broad perspective of historical dance styles, ranging from the Renaissance and Baroque periods to 19th and 20th Century Ballroom. Course fee required. (Offered upon demand.)

116. Mexican Folk Dance I. (3 to a maximum of 12) Δ

An introduction to the dynamic dances and styles of the different states of Mexico. Course fee required.

118. Tap I. (3 to a maximum of 9) Δ

Introduction to the techniques and styles of tap dancing. Course fee required. {Fall}

127. African Dance I. (3 to a maximum of 12) Δ

An introduction to the movement, polyrhythmic music and meanings of West and Central African dance. Course fee required.

132. Jazz I. (3 to a maximum of 9) Δ

Fundamental work for the adult beginner in technique and styles of jazz dance. Course fee required. {Fall}

520 FINE ARTS

- 149. Ballet I. (3 to a maximum of 9) Δ**
Fundamental work for the adult beginner in vocabulary, technique and styles of ballet. Course fee required. {Fall, Spring}
- 169. Flamenco I. (3 to a maximum of 9) Δ**
Fundamental work for the adult beginner in techniques and styles of Flamenco. Course fee required. {Fall and Spring}
- 170. Hip Hop I. (3 to a maximum of 12) Δ**
An introduction to Hip Hop, its movement, style and culture. Course fee required. {Fall and Spring}
- 201. Crew Practicum. (0)**
Participation in University theatre and dance season through assignment on a production crew. To be completed in one semester. **Offered on a CR/NC basis only.** {Summer, Fall, Spring}
- 204. Stretching, Strengthening and Conditioning for the Performing Arts. (3 to a maximum of 15) Δ**
Specialized floor work training using principles of the Pilates Methodology and the basic movement concepts of Core Dynamics™. For preparing and maintaining a uniformly developed body for dance and movement. Course fee required. {Fall, Spring, Summer}
- 210. Modern Dance II. (3 to a maximum of 12) Δ**
Modern dance techniques and styles at the intermediate level. Permission of instructor required. Course fee required. {Fall, Spring}
- 212. Improvisation. (3 to a maximum of 6) Δ**
Discovering the authentic self in movement. First steps in use of structure and form in dance composition. Developing skills in group interaction. Course fee required. {Fall}
- 218. Tap II. (3 to a maximum of 12) Δ**
Tap dancing techniques and styles at the intermediate level. Course fee required.
Restriction: permission of instructor. {Spring}
- 232. Jazz II. (3 to a maximum of 12) Δ**
Jazz techniques and styles at the intermediate level. Permission of instructor required. Course fee required. {Fall, Spring}
- 249. Ballet II. (3 to a maximum of 12) Δ**
Ballet techniques and styles at the lower intermediate level. Permission of instructor required. Course fee required. {Spring}
- 250. Movement Analysis I. (3, no limit) Δ**
An introduction to Laban's theoretical system for observing and describing movement events and their component parts. Guidance in the application of Laban theory to dance, therapy and awareness of the role of movement in the other arts through an understanding of dynamics, space and body function. Course fee required. {Fall}
- 251. Movement Analysis II. (2)**
This course will give the student several opportunities to apply the body, space, effort and shape theories learned in Movement Analysis I to the teaching, choreographing and performing of and the writing about dance. Course fee required.
Prerequisite: 250
- 269. Flamenco II. (3 to a maximum 12) Δ**
Flamenco techniques and styles at the intermediate level. Permission of instructor required. Course fee required. {Summer, Fall, Spring}
- 289. Topics in Flamenco. (1-3 to a maximum of 12) Δ**
Various topics such as: Cante, Cuadro/Improvisation/Structure, Spanish Form/Castanets, Palmas and Cajon, Brazeo/Marcaje, Footwork and Vueltas and Bata de Cola/Manton/Abanico. Course fee required.
- 295. Special Topics in Dance. (1-3 to a maximum of 12) Δ**
Lecture courses and workshops on various topics in dance. Course fee required. {Summer, Fall, Spring}
- 304./504. Theories of Movement. (3)**
History, development and practical applications of major western theories of movement and movement therapy. Course fee required.
Restriction: permission of instructor.
- 305./505. Stretch, Strength and Conditioning for Performance Arts II. (3 to a maximum of 15) Δ**
Continuation of specialized floor work training using principles of the Pilates methodology. For preparing and maintaining a uniformly developed body for the performing arts and also for the general population. Course fee required. {Spring}
Prerequisite: 204.
- 308. Studies in Dance Forms. (1-3 to a maximum of 12) Δ**
Study of techniques and styles of world dance forms. Course fee required. {Summer, Fall, Spring}
- 310. Modern Dance III. (3 to a maximum of 12) Δ**
Modern dance techniques and styles at the advanced level. Restricted to students majoring or minoring in Dance. Others may petition the Dance faculty for permission to register for this course. Course fee required. {Fall, Spring}
- 311. Choreography I. (3 to a maximum of 6) Δ**
Selecting dance materials and sound accompaniment for solo composition.
Prerequisite: 212. {Spring}
- 313. Kinesiology. (3, no limit) Δ**
Structural analysis of movement. Basic understanding of the skeletal and neuromuscular systems of the human body in movement. Course fee required. {Fall}
- 327. African Dance II. (3 to a maximum of 12) Δ**
Intermediate to advanced studies in the movement, poly-rhythmic music and meanings of West and Central African Dance. Course fee required.
Prerequisite: 127
- 349. Ballet III. (3 to a maximum of 12) Δ**
Ballet techniques and styles at the advanced level. Permission of instructor required. Course fee required. {Fall, Spring}
- 369. Flamenco III. (3 to a maximum of 12) Δ**
Flamenco techniques and styles at the advanced level. Restricted to students majoring or minoring in Dance. Others may petition the Dance faculty for permission to register for this course. Course fee required. {Fall, Spring}
Prerequisite: 379.
- 370. Hip Hop II. (3 to a maximum of 12) Δ**
Intermediate to advanced study of Hip Hop, its movement, style and culture. Course fee required.
Prerequisite: 170 or permission of instructor.
- 379. Flamenco Structure/Improvisation. (3)**
Study of various elements necessary in an improvisational setting in Flamenco. Using "tangos" and "Bulerias" as a format, students study the compass of each palo, then move to several traditional letras appropriate to these forms. {Spring}
- 411./511. Choreography II. (3 to a maximum of 6) Δ**
Further exploration in generating and organizing movement material for performance. Course fee required.
Prerequisite: 311. {Fall}
- 412. Senior Performance. (2)**
Guided independent work in choreography with a faculty artists, culminating in a formal or informal performance. Course fee required.
Restriction: permission of instructor.

416/516. Dance Pedagogy. (3)

Theories of teaching. Principles and techniques of curriculum development in elementary schools, secondary schools, higher education and in private schools. Course fee required. {Spring of odd-numbered years}

431/531. Writing About Dance. [Dance Criticism.] (3)

Observation and written analysis of dance events with an emphasis on contemporary theories and performances. Course fee required. {Spring of even-numbered years}

450/550. Movement Analysis III. (3)

Specialized problems in the effort, space harmony and fundamentals of Laban Movement Theory. Students enrolled in 550 will submit a substantial final project, either written or choreographic. Course fee required. Prerequisite: 250. {Offered upon demand}

462/562. Dance History I. (3)

A study of the history of dance from tribal culture to 19th-century Romantic ballet. Course fee required.

463/563. Dance History II. (3)

A survey of the origins of modern ballet and modern dance from the late 19th century to the mid-20th century. Extensive readings culminating in a research paper will be required. Course fee required.

464/564. Dance History III. (3)

Study of contemporary choreography from Modernism to the present. Particular emphasis on feminism and post-modernism as these movements have influenced our understanding of dancing and dance-making.

465/565. History of African-American Dance in Performance. (3)

An investigation of the developing influence of African-American dance from its largely West African slave and plantation origins to the present. Includes a survey of ritual, social, theatrical, film and video dance. Course fee required.

466/566. Flamenco History. (3)

Introduction to Flamenco history, investigation of the controversial history of the art form through study of Gypsy history, Spanish history, and major figures and events that shaped the evolution of Flamenco. {Spring, odd numbered years}

479/579. Flamenco Choreography. (3)

Designed for advanced students with knowledge of Flamenco structure and improvisation, cante, palmas, and three levels of Flamenco technique, investigation of choreography in Flamenco movement and rhythms. Prerequisite: 379. {Fall}

***484. Evaluating the Arts. (3)**

(Also offered as ARTH, MA, MUS, THEA 484.) Examines the practice of criticism, with emphasis on critical processes that penetrate a variety of art forms. Also explores aesthetic theories and cultural outlooks that underpin practical criticism. Restriction: permission of instructor.

487/587. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as ARTH, MA, MUS, THEA *487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day. Course fee required. Restriction: permission of instructor. {Spring}

495. Special Studies in Dance. (1-3 to a maximum of 12) Δ

Course fee required. Permission of instructor required. {Offered upon demand}

496/596. Student Production Project. (1-3 to a maximum of 12) Δ

Independent project culminating in a formal, informal or video performance. Students must submit a proposal to instructor and program head. {Summer, Fall, Spring}

497/597. Independent Study. (1-3 to a maximum of 12) Δ

Independent project culminating in a formal paper. Students must submit a proposal to instructor and program head. {Summer, Fall, Spring}

499. Departmental Honors. (3-6 to a maximum of 12) Δ

Students achieving an overall grade point of 3.50 will qualify for departmental honors, which requires a research or creative project with supporting written document. Permission of the department.

500. Introduction to Graduate Study. (3)

Research methods for performing arts including development of working bibliography, types of documentation, investigation of research materials in theatre and dance. Required of all entering graduate students. Course fee required. {Fall}

503. Performance Theory. (3)

The development of methods of interpretation and formation of theories suitable for both traditional and non-traditional theatre and dance performance. {Spring of even-numbered years}

504/304. Theories of Movement. (3 to a maximum of 6) Δ

A survey of major Western theoretical systems of movement re-education, dance and theatre performance and composition. Students will create and present a substantive written and/or choreographic project. Course fee required. {Fall of even-numbered years} Restriction: permission of instructor.

505/305. Stretch, Strength and Conditioning for Performance Arts II. (3 to a maximum of 15) Δ

Continuation of specialized floor work training using principles of the Pilates methodology. For preparing and maintaining a uniformly developed body for the performing arts and also for the general population. Course fee required. Prerequisite: 204.

506. Critical Issues in the Performing Arts. (3)

Examination of major problems and questions arising from interaction between the performing arts and the political, economic and social conditions in which they live. Survey of major figures in contemporary performing arts. Course fee required. {Spring of odd-numbered years.}

509. Graduate Internship. (3-6 to a maximum of 12) Δ

Individualized work with Department faculty or professional artists in Dance or Theatre. Internship to be conceived in advance and structured throughout by directed study. Culminates in critical paper. {Summer, Fall, Spring} Restriction: permission of instructor.

510. Creative Investigations I. (3 to a maximum of 6) Δ

An in depth study of the nature of creative investigation and art-making in dance with the prospect of finding alternative ways of constructing dance movement and composing new works. Course fee required. {Fall} Restriction: permission of instructor.

511/411. Choreography II. (3 to a maximum of 6) Δ

Further exploration in generating and organizing movement material for performance. A major piece of 20-30 minutes in duration or several smaller works of equivalent total length will be required. Course fee required. Restriction: permission of instructor. {Fall}

512. Graduate Seminar. (3 to a maximum of 12) Δ

Topical seminars in the areas of choreography, history and criticism and dance education. Course fee required.

515. Creative Investigations II. (3 to a maximum of 6) Δ

Further in-depth study of the nature of creative investigation and art-making specifically as it pertains to dance composition. Works-in-progress begun during the previous semester will be brought to completion. Course fee required. {Fall} Restriction: permission of instructor.

522 FINE ARTS

516/416. Dance Pedagogy. (3)

Theories and teaching. Principles and techniques of curriculum development in the elementary and secondary schools, higher education and in private studios. Course fee required. {Spring, odd numbered years}

531/431. Writing About Dance. [Dance Criticism.] (3)

Observation and written analysis of dance events with an emphasis on contemporary theories and performances. Course fee required. {Spring of even numbered years}

549. Dance Technique for Graduate Student. (1-4) Δ

Regularly-scheduled technique course. Students must enroll in the appropriate section by dance genre and level. Course fee required. {Fall, Spring}

550/450. Movement Analysis III. (3)

Specialized problems in the effort, space harmony and fundamentals of Laban Movement Theory. Students enrolled in 550 will submit a substantial final project, either written or choreographic. Course fee required. Prerequisite: 250. {Offered upon demand}

551–552. Problems (1-3 to a maximum of 12) Δ

562/462. Dance History I. (3)

A study of the history of dance from tribal culture to 19th-century Romantic ballet. Extensive readings culminating in a research paper will be required. Course fee required.

563/463. Dance History II. (3)

A survey of the origins of modern ballet and modern dance from the late 19th century to the beginning of Modernism. Extensive readings culminating in a formal research paper. Course fee required.

564/464. Dance History III. (3)

Study of contemporary choreography from Modernism to the present. Particular emphasis on feminism and post-modernism as these movements have influenced our understanding of dancing and dance-making. Course fee required.

565/465. History of African-American Dance in Performance. (3)

An investigation of the developing influence of African-American dance from its largely West African slave and plantation origins to the present. Includes a survey of ritual, social, theatrical, film and video dance. Course fee required.

566/466. Flamenco History. (3)

Introduction to Flamenco history, investigation of the controversial history of the art form through study of Gypsy history, Spanish history and major figures and events that shaped the evolution of Flamenco. Course fee required.

579/479. Flamenco Choreography. (3)

Designed for advanced students with knowledge of Flamenco structure and improvisation, cante, palmas, and three levels of Flamenco technique, investigation of choreography in Flamenco movement and rhythms. {Fall} Prerequisite: 379. Restriction: permission of instructor.

587/487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

{Also offered as ARTH, MUS, THEA 587 and MA *487.} Analyzes major instances of interdisciplinary influence and collaboration in the present day. Course fee required.

596/496. Student Production Project. (1-3 to a maximum of 12) Δ

Independent project culminating in a formal, informal or video performance. {Summer, Fall, Spring}

597/497. Independent Study. (1-3 to a maximum of 12) Δ

Independent project culminating in a final paper. Students must submit a proposal to instructor and Dance Program Head. {Summer, Fall, Spring}

598. Master's Essay in Theatre and Dance. (3)

Offered for students who have been advance to candidacy and who have elected Plan II. {Summer, Fall, Spring}

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

699. Dissertation. (3-6, no limit) Δ

Offered on a CR/NC basis only.

SCHOOL OF LAW

Kevin K. Washburn, Dean
School of Law, Bratton Hall
MSC11 6070
1University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4700

Professors

Marsha Baum, M.S.L.S., Columbia University; J.D., SUNY at Buffalo
Norman C. Bay, J.D., Harvard University
Reed Benson, J.D., Michigan
Barbara E. Bergman, J.D., Stanford University, (Associate Dean, Academic Affairs)
Sherri L. Burr, J.D., Yale University
Louis Calderia, J.D., Harvard University
James W. Ellis, J.D., University of California (Berkeley)
Denise Fort, J.D., Catholic University of America
Christian G. Fritz, Ph.D., University of California (Berkeley); J.D., University of California, Hastings College of Law
Laura Gomez, J.D., Ph.D., Stanford University
Ellen Gauna, J.D., The University of New Mexico
Scott Hughes, LL.M., Temple University
April Land, LL.M., Georgetown University
John P. LaVelle, J.D., University of California (Berkeley)
Nathalie Martin, LL.M., Temple University
Alfred D. Mathewson, J.D., Yale University
Jennifer Moore, J.D., Harvard University
Margaret Montoya, J.D., Harvard University
J. Michael Norwood, J.D., The University of New Mexico, (Associate Dean for Clinical Affairs)
Mario E. Oochialino, Jr., J.D., Georgetown University
Elizabeth Rapaport, Ph.D., Case Western Reserve University; J.D., Harvard University
Antoinette Sedillo Lopez, J.D., University of California-Los Angeles, (Associate Dean)
Carol Suzuki, J.D., Columbia University
Gloria Valencia-Weber, J.D., Harvard University
Kevin Washburn, J.D., Yale University
Christine Zuni Cruz, J.D., The University of New Mexico

Associate Professors

Eric Gerding, J.D., Harvard University
Jose L. Martinez, J.D., University of California (Berkeley)
Sergio Pareja, J.D., Georgetown University
Carol Parker, J.D., Wayne State University MSI, University of Michigan (Director of Library)

Assistant Professors

Camille Carey, J.D., University of California- Los Angeles
Barbara Creel, J.D., University of New Mexico

Legal Writing Instructors

Barbara Blumenfeld, J.D., Wayne State University
Steven Homer, J.D., Harvard University
Megan Argo, J.D., Widener University

Professors Emeriti

Michael B. Browde, J.D., Georgetown University
Robert J. Desiderio, J.D., Boston College
Charles T. DuMars, J.D., University of Arizona
Willis H. Ellis, J.D., Indiana University
Myron Fink, M.S.L.S., Columbia University; LL.M., New York Law School
Richard A. Gonzales, J.D., New York University
Frederick Hart, LL.M., New York University
G. Emlen Hall, J.D., Harvard University
Michele S. G. Hermann, LL.M., Harvard University
Ruth L. Kohnat, LL.B., Southern Methodist University
William T. MacPherson, Jr., J.D., The University of New Mexico
Theodore Parnall, J.D., The University of New Mexico
Leo M. Romero, LL.M., Georgetown University
Robert L. Schwartz, J.D., Harvard University
Peter A. Winograd, LL.M., New York University
Sheryl Wolf, LL.M., Yale University

Introduction

The State Bar of New Mexico having previously adopted a resolution to that end and the Legislature having financial provision, the Regents of The University of New Mexico, on March 31, 1947, as expressly authorized by Laws 1889, Ch. 138, Sec. 15, approved the establishment of a School of Law.

Accreditation

The school is fully accredited; it was approved by the American Bar Association on February 24, 1948, and membership in the Association of American Law Schools was granted in December 1948.

Degree Program

The University of New Mexico School of Law offers a full-time course of study leading to the degree of Juris Doctor (J.D.).

Admission Requirements

Information about the procedure for applying to the School of Law is contained in the School of Law Catalog. All applicants for admission to the School of Law are required to take the Law School Admission Test (LSAT), to register for the Law School Data Assembly Service and to have a baccalaureate degree from an accredited college or university before time of registration. Application material is available after September 1; the application deadline is February 1.

Beginning law students will be admitted at the opening of the fall semester only. No part-time students are admitted.

Graduation Requirements

Detailed information about graduation requirements for the School of Law is contained in the School of Law Bulletin and Handbook of Policies. To be graduated from the University of New Mexico with a J.D. degree, a student must meet all of the following requirements:

1. Residence. The student must spend the equivalent of at least two full academic years in residence at accredited law schools.
2. Credit hours. The student must earn at least 86 hours of law credit.
3. Grade point average. The student must attain at least a 2.00 overall grade point average.
4. Required Courses.
 - a. First-year. The student must take the full first-year curriculum offered upon entrance.
 - b. Professional responsibility. The student must take and pass a professional responsibility course: *Ethics* (LAW 750).
 - c. Clinic. The student must participate satisfactorily in at least 6 hours of clinical law school credit, as prescribed by the faculty. No extern field experience courses or skills courses apply toward this requirement. There are prerequisites and/or corequisites for all clinical courses.
 - d. Advanced writing requirement. Students are required to complete the Advanced Writing Requirement by the beginning of their sixth semester.

Additional Information

Detailed information for the School of Law is contained in the School of Law Bulletin and Handbook of Policies.

Dismissal/Probation/Suspension

The School of Law Policy on academic retention and suspension, found in the School of Law Bulletin and Handbook of Policies, governs law students with regard to academic probation, suspension and dismissal.

Transfer Procedures

The School of Law accepts a limited number of transfer students who have completed one full-time year at other ABA-approved law schools. Transfer applicants are considered for admission only if they 1) have outstanding records at the law school previously attended; or 2) are in good standing at the law school previously attended, are residents of New Mexico and have a compelling reason to continue their legal education at the University of New Mexico. Credits earned at other law schools that do not meet their minimum graduation requirements are not acceptable for transfer credit to the University of New Mexico School of Law. Information about the procedure for applying to the School of Law is contained in the School of Law Catalog. The deadline for submitting transfer applications is June 15. The deadline for completing a transfer application file is July 15. If admitted with advanced standing to the University of New Mexico Juris Doctor degree program, the student's right to continue in that program depends entirely on work done at the University of New Mexico. Transfer students are ineligible for certain prizes and awards given by the Law School.

Student Aid

See the School of Law Catalog for scholarships, awards and loans available to law students.

Additional Expenses

All students registered in the School of Law are expected to pay, in addition to the University's tuition and fees for residents and non-residents, the following:

1. Duplicating and Computer fees. All law students will be charged a basic annual fee for duplicating and computer costs. This fee is \$300.00 (\$150.00 paid each semester. This fee may change without notice.)
2. Malpractice insurance. New Mexico does not mandate practicing lawyers to carry malpractice insurance. The School of Law Clinic, however, believes it is fundamental professional responsibility to protect clients from potential harm which may be caused by our negligence. The Clinic negotiates a new malpractice insurance premium each year, buying the most coverage for the most reasonable rate. To keep the cost down for each student, all students enrolled in Clinical courses are required to pay an equitable share of the cost of maintaining this insurance. This fee is approximately \$120.00. Students are informed of the actual rate no later than the first day of Clinic classes and will pay their fee to the School of Law during the semester in which the student is enrolled in Clinical courses.
3. Student Bar Association dues. All students registered in the School of Law become members of the Student Bar Association (SBA). SBA officers collect one time, voluntary dues charge of \$90.00 from first year students during the first week of the fall semester. Payment of these dues entitles each student to a locker and allows participation in SBA-sponsored activities.

Honors

1. Semester honors. Any law student in good standing will be eligible for:
 - a. Dean's List. Grade point average of 3.50 or higher during a semester in which 12 or more credit hours are earned, of which at least 9 are graded.
 - b. Honor Roll. Grade point average of 3.00 or higher during a semester in which 12 or more credit hours are earned, of which at least 9 are graded.

2. Graduation honors. The J.D. degree may, in the discretion of the faculty, be awarded with the honors indicated to graduating students who have successfully completed the requirements prescribed by the faculty and who have achieved the following overall grade point averages in their law school work.

cum laude	3.40
magna cum laude	3.60
summa cum laude	3.80

3. Thesis honors. The faculty annually may award one or more special certificates of honor to students who produce a thesis of exceptional quality. If the student's thesis is deemed to be of exceptional quality, a certificate of honor and cash prize shall be awarded to the student.
4. Order of the Coif. A chapter of the Order of the Coif was established at the School in 1971. This prestigious national organization honors the top 10% of each year's graduating class.
5. Other awards and prizes are described in detail in the School of Law Bulletin and Handbook of Policies.

Law (LAW)

First Year Courses

All variable credit courses may be taken only once for credit.

500. Comparative & Historical Legal Perspectives. (1-3)¹

501. Introduction to Constitutional Law. (3-4)¹

502. Contracts I. (2-4)¹

504. Criminal Law. (3-4)¹

506. Legal Reasoning and Writing. (1-4)¹

507. Practicum. (1-2)¹ Offered on a CR/NC basis only.

508. Property I. (2-4)¹

510. Torts. (3-4)¹

512. Civil Procedure I. (2-4)¹

513. Advocacy. (3-4)¹

Footnote:

¹ Required.

Second and Third Year Courses

505. International Law. (2-3)

509. Disabilities Law. (2-3)

511. Education Equity and the Law. (2-3)

514. Access to Justice. (2-3)

515. Conflicts Indian Law. (1-3)

516. Entertainment Law. (2-3)

517. Trial Practice. [Trial Practice Workshop.] (2-3)

518. Administrative Practice. (1-4)

520. Business Associations I. (2-3)

521. Business Associations II Topics. (1-3)

522. Arbitration. (2)

523. Secured Transactions. (1-3)

524. Community Property. (1-3)

525. Conflict of Laws. (1-4)

526. Constitutional Rights. (1-4)
527. Business Planning. (2-4)
528. Legal Research I. (1)
529. Criminal Procedure I-4th, 5th, 6th Amendments. (1-3)
530. Federal Estate and Gift Tax. (1-3)
531. Health Law. (1-5)
532. Evidence. (2-4)
533. Family Law I. (3-4)
534. Federal Income Tax. (3-4)
535. Health Law Moot Court. (1-2) Offered on a CR/NC basis only.
536. Endangered Species. (2-3)
537. Labor Law. (1-3)
538. Natural Resources Journal I. (2-3)
Offered on a CR/NC basis only.
539. Natural Resources Journal II. (2-3)
Offered on a CR/NC basis only.
540. Copyright Law. (2-3)
541. Human Rights Law. (2-3)
542. Oil & Gas Contracts. (2-3)
543. Animal Law Moot Court Competition. (1)
544. Oil and Gas. (1-3)
545. Estate and Retirement Planning. (2-3)
546. Antitrust Law I. (2-3)
547. Water Law. (2-3)
548. Refugee and Asylum Law. (2-3)
550. Basic Mediation Training. (2)
Offered on a CR/NC basis only.
551. Family Mediation Training. (2)
Offered on a CR/NC basis only.
552. Federal Jurisdiction. (2-3)
553. Financial Literacy. (1-2)
554. Indian Water Law. (2-3)
555. Jurisprudence. (2-3)
556. National Hispanic Moot Court. (1-2)
Offered on a CR/NC basis only.
557. Wills and Trusts. (1-4)
558. Frederick Douglas Moot Court Competition. (1)
559. National Native American Moot Court. (1-2)
Offered on a CR/NC basis only.
560. Gender and the Law. (2-3)
561. Indian Land Claims. (2-3)
562. Indian Tax. (2-3)
563. National Moot Court Competition. (1-3)
Offered on a CR/NC basis only.
564. Indian Gaming. (2-3)
565. Natural Resources. (1-3)
566. Taxation of Business Enterprises. (2-3)
567. National Mock Trial Competition. (1-3)
Offered on a CR/NC basis only.
568. Natural Resources Journal III. (3)
Offered on a CR/NC basis only.
569. Natural Resources Journal IV. (3)
Offered on a CR/NC basis only.
570. Introduction to Alternate Methods of Dispute Resolution. (2-3)
571. Native American Rights. (2-3)
572. Theory of Conflict. (2-3)
573. Computer Law. (2-3)
574. Federal Public Lands and Resources Law. (1-3)
575. Western Water Policy. (2-3)
576. Energy Law. (2-3)
577. Spanish for Lawyers I. (2)
578. Natural Resources: Indian Country. (1-3)
579. Tribal Courts. (2-3)
580. Environmental Law. (1-3)
581. Insurance. (2-3)
582. Economic Development in Indian Country. (2-3)
583. Workers Compensation. (2-3)
584. Indian Law. (2-3)
585. Tribal Law Journal III-Staff. (1)
Offered on a CR/NC basis only.
586. Tribal Law Journal IV-Editors. (2)
Offered on a CR/NC basis only.
587. Tribal Law Journal IV-Staff. (1)
Offered on a CR/NC basis only.
588. Legal History of New Mexico. (1-3)
589. Information, Technology and Law. (2-3)
590. Child Health Policy & Practice. (1-5)
591. Critical Race Theory. (2-3)
592. Constitutional Law Topics. (1-3)
593. Topics in Law. (1-9, no limit) Δ
594. Independent Research. (1-3)
Offered on a CR/NC basis only.
595. Tribal Law Journal I-Staff. (1)
Offered on a CR/NC basis only.
596. Tribal Law Journal I-Editors. (1-2)
Offered on a CR/NC basis only.
597. Tribal Law Journal II-Editors. (2)
Offered on a CR/NC basis only.
598. Tribal Law Journal II-Staff. (1)
Offered on a CR/NC basis only.
599. Tribal Law Journal III-Editors. (2)
Offered on a CR/NC basis only.
600. Immigration Law Practicum. (3-4)

601. Art Law. (2-3)
602. Patent Law. (2-3)
603. Jessup International Moot Court. (1-2)
Offered on a CR/NC basis only.
605. Advanced Constitutional Rights. (2-3)
606. Civil Procedure II. (3-4)
607. Employment Law. (2-3)
608. Property II. (3-4)
609. Advanced Legal Writing (2-3)
610. Advanced Bankruptcy. (2-3)
611. Real Estate Planning. (1-3)
612. AIDS & the Law. (2-3)
613. Sexual Orientation and the Law. (2-3)
614. Administrative Law. (2-3)
615. Environmental Justice. (2-3)
616. Health Law Ethics & Policies. (1-5)
619. International Petroleum Transactions. (2-3)
620. American Constitutional History. (2-3)
621. Legal Research II. (1)
622. Payment Systems. (1-3)
623. Sales of Goods. (2-3)
624. Mexican Legal Systems (2-3)
625. Supreme Court Decision-Making. (2-3)
626. International Criminal Law. (2-3)
627. Criminal Procedure II-Bail to Jail. (2-3)
628. Law of Indigenous People. (2-3)
629. Bankruptcy. (1-3)
630. Environmental Problems. (2-3)
631. Remedies. (2-4)
632. Evidence/Trial Practice. (3-6)
633. Advanced Evidence and Trial Practice. (2-6)
634. Children's Law. (2-3)
635. Land Use Regulation. (2-3)
636. NAFTA: A Comparative Approach. (2-3)
637. Medical Liability. (2-3)
638. New Mexico Law Review I. (1-3 to a maximum of 3) [1-2] Δ
Offered on a CR/NC basis only.
639. New Mexico Law Review II. (2-3)
Offered on a CR/NC basis only.
640. Advanced Mediation. (1-2)
Offered on a CR/NC basis only.
641. Overview of Mexican Business Law. (2-3)
642. Sports Law. (2-3)
643. Spanish for Lawyers II. (2)
644. Specialized Legal Research. (1-2)
645. Trademark Law. (2-3)
646. Environmental Law Moot Court Competition. (1)
647. Employment Discrimination. (1-3)
648. Indian Gaming. (2-3)
649. Latin American Law. (3)
650. Mental Health and Retardation Law. (2-3)
652. Problems in Commercial Transactions. (1-3)
654. State & Local Tax. (2-3)
655. First Amendment Rights. (1-3)
656. State Constitutional Law. (2-3)
657. Global Issues in Financial Institution Regulation (3)
658. Government Regulation of Banking. (2-3)
659. Tax Exempt Organizations. (2-3)
662. Mental Disability and Criminal Law. (1-3)
665. First Amendment Rights: Church and State. (2-3)
666. Wildlife Law. (2-3)
667. Immigration Law. (2-3)
668. New Mexico Law Review III. (3)
Offered on a CR/NC basis only.
669. New Mexico Law Review IV. (3)
Offered on a CR/NC basis only.
670. Animal Law. (2-3)
671. Advanced Tort Litigation. (2-3)
679. International Business Transactions. (2-3)
683. Advanced Legal Research. (1-2)
690. Bioethics. (1-5)
691. Intellectual Property Law. (2-3)
710. Pre-Trial Practice. (2-3)
714. Law Office Management. (1-3)
718. Interviewing, Counseling and Negotiations. (1-3)
720. Mexican Externship Program (2-3)
729. Advanced Clinic. (1-3)
Offered on a CR/NC basis only.
730. Criminal Law in Practice. (4-6)
750. Ethics. (2-3) ¹

Footnote:

¹ Required.

Clinical Program

721. Law Extern Program. (2-3)
Offered on a CR/NC basis only.
725. Alternate Disposition Resolution Externship. (2-3)
Offered on a CR/NC basis only.
726. Community Lawyering Clinic. (1-6) ¹
(or LAW 723, 727, 740.)

727. Southwest Indian Law Clinic. (1-6) ¹
(or LAW 723, 726, 740.)

728. Business and Tax Clinic (6) ¹

740. Law Practice Clinic. (1-6) ¹
(or LAW 723, 726, 727.)

744. Judicial Extern. (2-3)
Offered on a CR/NC basis only.

Footnote:

¹ Required.



THE UNIVERSITY OF NEW MEXICO HEALTH SCIENCES CENTER

Paul B. Roth, Dean
School of Medicine
Health Sciences & Services Building
MSC09 5399
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 272-5849

The establishment of a school of basic medical sciences was authorized by the Regents and the faculty of The University of New Mexico in 1961. The first entering class was enrolled in September 1964, and progress to the full four-year program was approved by the New Mexico State Legislature in 1966. Full accreditation by the Liaison Committee on Medical Education was granted in 1968.

The University of New Mexico Health Sciences Center was created in 1994 by bringing together The University of New Mexico's existing health care teaching and treatment organizations. Individually, these components have a legacy of contributions to the educational, research and patient care missions of The University of New Mexico. Collectively, they are the largest health care teaching, research and patient care organization in the state.

The strength of the Health Sciences Center lies in the interdependence of its education, patient care and research programs. This atmosphere of continuous exploration, coupled with a "hands on" approach to learning, has improved the quality of care to all New Mexicans.

The four academic strengths of the Health Sciences Center include 819 faculty members and more than 2,000 students in the School of Medicine, College of Nursing, College of Pharmacy and Health Sciences Center Library.

The six clinical facilities serving the state treat more than 120,000 patients each year. These include: Children's Hospital of New Mexico, Children's Psychiatric Hospital, Cancer Research and Treatment Center, Carrie Tingley Hospital, Mental Health Center and University Hospital.

The Health Sciences Center is committed to developing solutions for New Mexico's health problems through expanding its interdisciplinary, programmatic research in addition to its educational and community service programs. The Health Sciences Center provides a vital support network, i.e., continuing professional education, the Locum Tenens service, Health Sciences Center library services, etc., that serve the needs of New Mexico's widely-dispersed health professionals. This statewide role for the Health Sciences Center requires a strong interdependence of education, research and patient care.

The academic programs at the Health Sciences Center are of the highest quality. For example, the School of Medicine has been recognized as one of the top ten schools in the country in primary care, rural medicine and family medicine. The clinical service programs at the Health Sciences Center are recognized for their comprehensive approach to health care. The Health Sciences Center has also responded to many requests from the state and local communities to address problems in health professions manpower and service provisions in rural communities. This tremendous array of services and accomplishments make the Health Sciences Center a recognized resource for the entire state.

The Doctor of Medicine Degree

The School of Medicine has gained national and international recognition for its constantly evolving curricular innovations which have aimed at adapting adult learning theory to medical education. Educational emphasis has shifted from the learn-

ing of facts to teaching students the skills they will need to be effective lifelong learners. Current educational initiatives are aimed at improving the integration of the basic sciences and clinical medicine, shifting teaching and learning to ambulatory and community settings, integrating problem-based learning throughout the curriculum and emphasizing computer literacy and information management skills.

The four-year curriculum, incorporates successful aspects of conventional (lecture-based) medical school curricula with innovative aspects of small group learning found in problem-based curricula. These aspects include problem-based and student-centered learning; early clinical skills learning coupled with sustained, community-based learning; the incorporation of a population and behavioral perspective into the clinical years; peer teaching; computer-assisted instruction; and biweekly seminars on professional responsibility. The new curriculum also addresses the historically unmet as well as changing health care needs of our population and changing learning needs of future physicians.

Admissions

See <http://hsc.unm.edu/som/admissions> for additional information regarding the application and admission process.

B.A./M.D. Combined Program

For information on the B.A./M.D. program, see the Health, Medicine and Human Values Program in the Arts and Sciences section of this Catalog.

M.D./M.P.H. Dual Degree Program

The dual status M.D./M.P.H. requires five years of integrated learning. This integrated learning enhances opportunities for medical students to acquire public health knowledge and skills with the goals of 1) reducing disparities in health status within New Mexican populations 2) strengthening physician advocacy and leadership skills in health policy development 3) fostering evidence-based interventions and 4) using assessment skills to better determine population needs and interventions. Each M.D./M.P.H. student would be able to successfully complete both degrees in an integrated fashion.

Student applies simultaneously to both the M.D. and the M.P.H. programs and indicates on the two application that they are applying for dual status. Students must meet the requirements of both programs and be accepted into both programs in order to be considered dual status.

General Information

The School of Medicine is publicly supported and has an implied obligation to train students who are likely to serve the State's expanding medical needs. For this reason, residents of New Mexico are given primary consideration for admission to the school. The university is also a member of the Western Interstate Commission for Higher Education (WICHE). Therefore, secondary consideration is given to residents of participating states that at present have no medical schools (i.e., Montana and Wyoming). WICHE applicants and residents of other states (including former New Mexico residents) must have at least the average MCAT/GPA threshold as the last years entering class, to be given consideration for admission. The 2006 entering class average MCAT composite was 28.4 and the average GPA composite was 3.61

Premedical Requirements

The School of Medicine encourages applications from all interested students who meet the requirements given above, regardless of their area of academic study. Each applicant must complete the prerequisites listed below:

- 8 semester hours general biology or zoology including lab
- 8 semester hours general chemistry including lab
- 8 semester hours organic chemistry including lab
- 6 semester hours general physics
- 3 semester hours biochemistry

Note: Combined organic chemistry/biochemistry courses are inadequate. The biochemistry course must be at the junior/senior level.

Applicants are strongly encouraged to take courses in microbiology and anatomy/physiology prior to entering Medical School. (The lecture portion of an anatomy course is adequate.)

Other science courses that the student may find helpful in preparing for medical school include genetics, cell physiology, histology and immunology and computer science. Advanced placement (AP) credit with scores of 4 or better is acceptable for the prerequisite courses in general physics, general chemistry and general biology. However, individuals exempted from the general biology prerequisite through advanced placement are required to take at least an equivalent number of college credits in more advanced biology courses with laboratory. CLEP credits are not acceptable nor can pass/fail courses or survey courses be used to satisfy the prerequisites.

Although there is no specific language requirement, competence in spoken and written English is necessary. A facility in conversational Spanish or a Native American language will be an advantage for students intending to remain in the Southwest.

In developing a premedical studies program, the student should keep in mind that a physician needs a broad educational background. Therefore, the student should not concentrate on the physical and biological sciences to the exclusion of the humanities and social sciences.

To optimize the chances of admission, the student should plan his/her course of study so that at least most of the prerequisite courses are completed prior to taking the Medical College Admission Test and before submitting an application to the medical school.

While applications from college juniors who have completed at least 90 semester hours are considered, in the last several years, all accepted applicants have earned at least a Bachelor's degree. Applicants are strongly encouraged to finish any degree programs they have begun prior to medical school matriculation.

The Committee on Admissions believes that each applicant should have been involved in some type of medically related experience prior to applying to medical school in which the applicant was able to interact in some way with those who are in need of care. The purpose of this is to help the applicant prove to himself or herself, and to the Committee on Admissions, that medicine is the profession in which the individual wishes to study and work.

Application Procedure

The University of New Mexico uses the centralized American Medical Colleges Application Service (AMCAS) that is supported by the Association of American Medical Colleges. Applicants for the medical school will apply using a web application at the following Web site: <http://www.aamc.org/students/amcas/start.htm>. The AMCAS applications of those applicants who wish to apply to The University of New Mexico School of Medicine will be electronically forwarded to this school.

Application Dates

Regular application earliest date: June 1, latest: November 15.

Clinical Science (CLNS)

- 509. Cardiovascular-Pulmonary-Renal. (6)
- 510. Endocrinology-Human Sexuality-Reproduction. (1-10) [6]
- 511. Human Structure, Function and Development. (6)
- 513. Neurosciences. (1-10) [6]
- 516. Gastrointestinal/Nutrition. (6)
- 517. Transition Course. (8)
- 518. Research Course.
- 520. Perspectives in Medicine I. (2)
- 521. Foundations of Clinical Practice.
- 522. Practical Immersion Experience. (4)
- 523. Continuity Clinic I. (2)
- 524. Continuity Clinic II. (2)
- 525. Perspectives in Medicine II. (2)
- 545. Perspectives in Medicine III. (2)
- 547. Infection and Immunity. (1-10) [6]
- 548. Genetics and Neoplasia. (1-10) [6]
- 600. Medicine Clerkship. (8)
- 650. Obstetrics and Gynecology Clerkship. (8)
- 660. Benign Gynecology Sub-Internship at UNMH (1-4)
- 675. Pediatrics Clerkship. (8)
- 700. Neurology Clerkship. (4)
- 725. Psychiatry Clerkship. (4)
- 750. Surgery Clerkship. (8)
- 774. Neuroscience Intensive care. (1-4)
- 775. Family Practice Clerkship. (8)
- 834. Emergency Ultrasound at UNMH. (1-4)
- Phase III (Fourth Year) Electives. (32)

ANESTHESIOLOGY

John Wills, MBBS, FANZCA, MBA, Professor and Chairperson
The University of New Mexico School of Medicine
Department of Anesthesiology and Critical Care Medicine
Surge Building
MSC11 6120
1 University of New Mexico
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Professors

Janet Brierley, M.B.B.S., FRCA University of Newcastle upon Tyne
Nivine Doran, M.D., University of Ottawa Medical School, (Canada)
Hugh Martin, M.D., (Vice Chair), University of Kansas
Saul Wiesel, M.D., University of Calgary (Canada)
John Wills, MBBS, University of Adelaide (South Australia)

Associate Professors

Niels Chaplain, M.D., Technische Universtete (Munich)
Sally Fortner, M.D., The University of New Mexico
James Harding, M.D., Columbia University
Thomas Long, M.D., University of Washington
Michele Moro, M.D., Tulane University
Joyce Phillips, M.D., The University of New Mexico
Randy Rosett, M.D., Texas Tech University
Eva Szabo, M.D., Semmelweis University of Medical Science (Hungary)

Assistant Professors

Chris Arndt, M.D., The University of New Mexico
 Elizabeth Baker, M.D., Texas Tech University
 Ruth Burstrom, M.D., Medical College of Wisconsin
 Michael Crabtree, M.D., The University of New Mexico
 James Dunagan, M.D., University of Texas, Medical Branch
 at Galveston
 Ricardo Falcon, M.D., The University of New Mexico
 Hilary Ford, M.D., The University of New Mexico
 Neal Gerstein, M.D., The University of Vermont
 Frank Jaime, M.D., University of Texas Health Sciences
 Center
 Eugene Koshkin, M.D., University of California
 Harvey Mallory, M.D., University of Texas
 John Rask, M.D., The University of Utah
 Robert Rudawsky, M.D., St. George's University School of
 Medicine
 Codruta Soneru, M.D., University of Medicine and
 Pharmacy, Iulia Hateganau (Romania)
 Brian Starr, M.D., The University of New Mexico
 Elizabeth Steele, M.D., University of North Carolina
 Eli Torgeson, M.D., The University of New Mexico
 Firoz Vagh, M.D., Kilpauck Medical College (India)
 Tony Yen, M.D., University of Texas
 Arpad Zolymoi, M.D., Semmelweis University of Medicine
 (Hungary)

BIOCHEMISTRY AND MOLECULAR BIOLOGY

William L. Anderson, Chairperson
 The University of New Mexico School of Medicine
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 1 University of New Mexico
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 (505) 272-3333

See Arts and Sciences; Biochemistry**Professors**

Jeffrey K. Griffith, Ph.D., Purdue University
 Tudor I. Oprea, M.D., Ph.D., University of Medicine and
 Pharmacy, Timisoara, Romania

Associate Professors

William L. Anderson, Ph.D., University of Minnesota
 Chien-An Andy Hu, Ph.D., Ohio State University
 Robert A. Orlando, Ph.D., University of California (Irvine)
 Marcy P. Osgood, Ph.D., Rensselaer Polytechnic Institute
 Vallabh Shah, Ph.D., Maharaja Sayajirao University, Baroda,
 India

Assistant Professors

William Sherman Garver, Ph.D., New Mexico State
 University
 Karlett J. Parra, Ph.D., State University of New York
 (Syracuse)
 Marco Bisoffi, Ph.D., University of Basel

Research Associate Professors

Cristian G. Bologa, Ph.D., Romanian Academy of Science,
 Timisoara, Romania
 Laurel O. Sillerud, Ph.D., University of Minnesota
 Dorothy J. VanderJagt, Ph.D., The University of New Mexico

Research Assistant Professor

Natalie Adolphi, Ph.D., Washington University, St. Louis
 Charlotte Mobarak, Ph.D., The University of New Mexico

Professors Emeriti

Robert H. Glew, Ph.D., University of California (Davis)
 Robert B. Lofthield, Ph.D., Harvard University
 Andrzej Pastuszyn, Ph.D., University of Vienna
 Edward Reyes, Ph.D., University of Colorado
 Robert E. Royer, Ph.D., The University of New Mexico
 David L. Vander Jagt, Ph.D., Purdue University
 Beulah M. Woodfin, Ph.D., University of Illinois (Urbana)

BIOMEDICAL SCIENCES

SOM Office of Research
 MSC08 4560
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 272-1887

Introduction

The Biomedical Sciences Graduate Program (BSGP) offers M.S. and Ph.D. degrees in the basic biomedical sciences and offers a joint M.D./Ph.D. degree program with the School of Medicine M.D. program. Applications to the joint M.D./Ph.D. program should be made through the M.D. degree application process. Contact the Biomedical Sciences Graduate Program Office for more information at <http://hsc.unm.edu/som/research/bsgp/> or bsgp@salud.unm.edu. A certificate in university level science teaching may be obtained by completing 15 credit hours of specialized course work teaching, and an independent project.

Other graduate degrees offered through Biomedical Sciences are the Masters in Public Health, Masters in Occupational Therapy and Masters in Physical Therapy. See the respective entries in this catalog for admission information, course requirements and course descriptions. A new Master of Science in Biomedical Sciences with concentration in Clinical Research is currently offered.

December 1st is the preferred deadline for admission applications, although applications are accepted until March 1. Early application is strongly encouraged.

The Biomedical Sciences Graduate Program is an integrated, interdepartmental program in the basic medical sciences leading to the Ph.D., M.D./Ph.D. or M.S. degrees. The program provides students with a broad-based, one-year core curriculum followed by focused course work and thesis/dissertation research. Research is conducted in faculty laboratories in the various basic science departments in the School of Medicine. In addition to our School of Medicine faculty, the BSGP is complemented by affiliated faculty in the UNM College of Pharmacy, Lovelace Respiratory Research Institute and Los Alamos National Laboratory who may direct graduate student research. To receive their degree, students fulfill the requirements of the Biomedical Sciences Graduate Program in one of the content areas:

Biochemistry and Molecular Biology; Cell Biology and Physiology; Pathology; Molecular Genetics and Microbiology; Neurosciences; Toxicology and Pharmaceutical Sciences.

NOTE: The Master of Science in Biomedical Sciences has one formal concentration in Clinical Research.

The time frame for completion of the degree requirements is generally four to six years for the Ph.D. degree and two to three years for the M.S. degree.

Admission Requirements

The minimum requirements for admission to the program include:

1. B.S., B.A. or equivalent from an accredited U.S. institution or a recognized international institution.
2. The following courses are prerequisite to the first-year core courses:

Biological Science	two semesters
General Chemistry	two semesters
Organic Chemistry	two semesters
Biochemistry	one semester
Calculus	one semester
Physics	two semesters
3. Overall 3.00 GPA.
4. GRE score must total at least 1000 and 3.50 for analytical writing. GRE scores obtained before Fall 2002 must total 1500.

5. International applicants must submit their TOEFL scores (minimum score of 580 on paper-based or 237 on computer-based exam, or 92 on internet-based exam).

Admission is competitive and meeting the minimal requirements does not ensure entry into the program. However, all aspects of an application are considered (course work, GPA, exam scores, letters of recommendation, letter of intent and experience). Students who may not have met all of the minimum requirements but have otherwise demonstrated exceptional potential to succeed in graduate study may be considered for admission to this program.

Core Courses Required

The following core courses must be taken by both Ph.D. and M.S. students in the program:

BIOM 501	Fundamentals for Graduate Research	(1)
BIOM 506	Special Topics in Biomedical Research (2 credits M.S., 3 credits Ph.D.)	
BIOM 507	Advanced Molecular Biology	(4)
BIOM 508	Advanced Cell Biology	(4)
BIOM 525	Cell and Molecular Basis of Disease Journal Club (Fall and Spring 4)	
BIOM 530	Cell and Molecular Basis of Disease Seminar	(1)

Choice of a minimum of 9 credit hours selected from an approved list of course offerings. At this catalog publication date, the list includes:

BIOM 509	Principles of Neurobiology	(3)
BIOM 510	Physiology	(3)
BIOM 514	Immunobiology	(3)
BIOM 515	Cancer Biology	(3)
BIOM 516	Molecular Genetics and Genomics	(3)
BIOM 522	Experimental Design and Methods in Molecular and Cellular Biosciences	(3)

Master of Science in Biomedical Sciences with Concentration in Clinical Research

The Master of Science in Biomedical Sciences with a concentration in Clinical Research (MS-BIOMED-CR) provides learners who have earned a terminal degree (e.g. Ph.D., M.D., PharmD) with the didactic and experiential learning necessary to conduct extramurally-funded clinical and translational research. Its mission is to produce skilled clinical and translational researchers dedicated to sound scientific clinical research and scholarship, conducted in an ethical and culturally sensitive manner, who will develop and implement novel therapeutic interventions contributing to the transformation of human health and health care within the State of New Mexico.

The multidisciplinary, competency-based program uses adult learning principles as its foundations and incorporates 12 domains of study. The 12 domains include: Research Design, Measurement, Study Implementation and Project Management, Biostatistics, Current and Emerging Technologies, Patient Outcomes Research, Epidemiology, Conducting Research within Healthcare Systems, Biomedical Informatics, Cultural Competence, Grantsmanship, and Ethics and Regulatory Compliance. The concentration is developed to ensure that all learners have the opportunity to develop competency in these twelve domains.

Those accepted in the MS-BIOMED-CR will prepare an individual Inventory Assessment: Needs Analysis and Self-Identification to identify knowledge, skills and abilities attributable to their prior education, training, and experience. Together with the MS-BIOMED-CR Committee of Studies and their mentors, learners will develop an Individual Program of Studies that will prepare them to develop clinical and translational research skills sufficient to become independent investigators.

Admissions Requirements

Prospective students must pick up an application packet from the Biomedical Sciences Graduate Program (BSGP). The minimum requirements for admission include:

Applicant

1. Letter/Personal Statement (3-5 pages), must address: a) research and career trajectory; b) prior research activities; c) why this program is important component of training; d) how competencies will help prepare for desired research; e) career timeline after program completion; f) tenure and promotion plans and implications of enrollment in MS-BIOMED-CR.
2. 3 references with names, phone numbers and email addresses.
3. CV.
4. Official copy of transcript for terminal degree (in lieu of GRE, MCAT, PCAT, TOEFL).
5. Attendance at a MS-CR Seminar.

Research Thesis Advisor

1. Letter of Commitment with very specific mentoring plan, including a) goals and objectives of advisin relationship, b) expectations for frequency of contact and type of contact, c) advisor roles and expectations, d) student roles and expectations, e) feedback mechanisms, f) turnaround time for feedback, g) agreement to participate in: MS-CR Orientation (2 hrs.), Mentor Training and Evaluation, Biannual Student Portfolio Review and Independent Committee on Studies (thesis committee).
2. CV

Department Chair or Dean

1. Letter of support describing a) career trajectory, b) commitment to faculty position, c) release time, d) other support (e.g. research funds, book/supply fees, travel to scientific meetings, etc.), e) tuition support (if resident or fellow).

Admission is competitive and meeting the minimal requirements does not ensure entry into the program. However, all aspects of an application are considered (professional statement, letter of recommendation, letters from department chair and research thesis advisor). Learners who may not have met all the minimum requirements, but have otherwise demonstrated exceptional potential to succeed in graduate study may be considered for admission to this program.

Program Requirements

The MS-BIOMED-CR encompasses an individualized learning experience of 38 semester hours as follows:

Core requirements: 14 hours

Core requirements for the MS-BIOMED-CR substitute for those required for the general MS in Biomedical Sciences. 1 credit hour in each domain except for Biostatistics and Seminar (for which 2 credit hours are required.)

Electives: 18 hours

A second credit hour in any one of the domains is considered an elective. No single domain may accrue more than 6 hours (1 required hour and 5 elective hours). Two elective credits are required in no less than three domains, and 3 elective credits in at least two domains.

Thesis: 6 hours

Many higher level competencies are attained through practical research experience.

Certificate Program in University Science Teaching in Biomedical Sciences

The University Science Teaching in Biomedical Sciences Certificate Program is designed for trainees in the biomedical sciences to gain rigorous training in the educational pedagogy and practical experience in discipline specific teaching. This transcripted certificate program encompasses 15 credit hours of required and elective coursework and completion

of a final portfolio designed to enhance competitiveness for careers that include teaching in the basic sciences. In addition to practical teaching experience, students gain exposure to, and hands-on experience with, multiple approaches to teaching through workshops, discussions, and project design, thereby developing creative, critical thinking, and communication skills that are also essential to successful research. The 15 credit hours required for the Certificate are included in (not in addition to) the 66 credits required for the Ph.D. degree.

Qualifications

Students must have successfully completed their first year of the BSGP and passed the Qualifying Exam.

Curriculum

Required Courses and Activities (11 credits)

BIOM 525	Cell and Molecular Basis of Disease Journal Club	4
BIOM 540	University Teacher Training	2
BIOM 542	Teaching Assistant Practicum	2
BIOM 543	Independent Education Immersion for Teaching Scholars	3

Elective Courses and Activities (4 credits)

BIOM 541	Teacher Training Workshops	1
Workshops offered through the Teacher and Educational Development Office of the SOM can be bundled to provide the required 15 contact hours.		
BIOM 544	Human Anatomy	4
Students successfully completing this course will be eligible for teaching assistantships in the Human Structure, Function, and Development Block of the Phase I medical curriculum.		
BIOM 542	Teaching Assistant Practicum	variable credits
Provides additional teaching experience.		
BIOM 543	Independent Education Immersion for Teaching Scholars	up to 4 additional credits beyond the 3 required
CJ 583	Teaching the Basic Course	1
EDPY 510	Principles of Classroom Learning	3
EDPY 572	Classroom Assessment	3
LEAD 529	The Adult Learner	3

Teaching Portfolio

Documentation of all activities leading to a Certificate will be assembled into a Teaching Portfolio, which will also include a statement of teaching philosophy.

Ph.D. Program Fellowships

The BSGP Director, with the advice of the Steering Committee, awards a number of stipends to highly qualified first-year students. The fellowship for 2008-2009 will be approximately \$23,000 plus additional support for tuition/fees and health insurance. Early application (December 1st) insures consideration for this financial package worth over \$30,000. After the first year, students are funded by their dissertation advisor, training grants or the advisor's department.

General Program Information

The School of Medicine participates in programs which provide educational opportunities in biomedical research for students from under-represented minority groups, e.g. Initiatives for Minority Student Development (IMSD), Minority Access to Research Careers (MARC) and Bridges to the Ph.D. The BSGP is committed to training for a diverse scientific workforce.

Completion of 48 credit hours plus 18 dissertation hours is required for the Ph.D. degree and 24 credit hours plus 6 thesis hours is required for the M.S. degree. Due to the intense research nature of both degree programs, students often complete more than the minimum requirements for each degree prior to graduation.

More information concerning the M.S. and Ph.D. programs may be requested from the Biomedical Sciences Graduate Program, SOM Office of Research, MSC08 4560, 1 University of New Mexico, Albuquerque, NM 87131-0001 or obtained from the BSGP Web site at <http://hsc.unm.edu/som/research/bsgp/>. E-mail inquiries are welcomed at bsgp@salud.unm.edu.

Joint M.D./Ph.D. Program Introduction

The M.D./Ph.D. program is designed to provide comprehensive training in both clinical sciences and a basic biomedical science discipline. The intent of the program is to provide students with an integrated and cohesive training experience while obtaining the M.D./Ph.D. degree. Students participate in activities common to both programs while involved in the M.D. curriculum or engaged in Ph.D. dissertation research.

Currently, the program consists of 18 months of the medical school (M.D.) curriculum followed by 3-4 years of Ph.D. dissertation research and the graduate school curriculum. Students conclude with the remaining two years of the medical school curriculum. The joint M.D./Ph.D. program is designed to be completed in 7-8 years. The Ph.D. and M.D. degrees are awarded simultaneously at the end of the entire training period. Students will take two one-month long rotations in research laboratories during the initial 18 months of the program. These experiences are meant to broaden the research experience of the students as they decide in what research area they wish to specialize. Students can pursue many lines of research activity performed by investigators in biomedical research in the School of Medicine.

For more information visit the web site or contact us:
 M.D./Ph.D. Program
 SOM Office of Research
 MSC08 4560
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 505/272-1887

Visit our Web site at <http://hsc.unm.edu/som/programs/mdphd/index.shtml>
 E-mail inquiries are welcomed at bsgp@salud.unm.edu.

Admission Requirements

The minimum requirements for the M.D./Ph.D. Program are identical to the M.D. degree requirements:

Overall GPA 3.00
 MCAT SCORE 28

Research experience is highly desirable. The commitment of the 7-8 year program requires an understanding of what a research environment is like. Heavy emphasis is placed on whether or not a candidate has any research background.

Required Course Work

The only change from the M.D. curriculum takes place during the summer of the first academic year. In place of the Practical Immersion Experience (PIE) the M.D./Ph.D. students take laboratory research rotations during their Research Intensive Experience (RIE).

In addition the M.D. degree curriculum the M.D./Ph.D. students are required to take the following courses in the BSGP:

BIOM 501	Fundamentals for Graduate Research	1
BIOM 506	Special Topics in Biomedical Research	3 credits total
BIOM 507	Advanced Molecular Biology	
BIOM 508	Advanced Cell Biology	4
BIOM 525	Cell and Molecular Basis of Disease Journal Club	2
BIOM 530	Cell and Molecular Basis of Disease Seminar	1
BIOM 555	Problem Based Research Bioethics	2

534 HEALTH SCIENCES CENTER

Credit is given for up to six credit hours for the SOM curriculum. In addition the M.D./Ph.D. students must take 3 credit hours from an approved list of course offerings including:

BIOM 509	Principles of Neurobiology	3
BIOM 510	Physiology	3
BIOM 514	Immunobiology	3
BIOM 515	Cancer Biology	3
BIOM 516	Molecular Genetics and Genomics	3

Other available courses offered for M.D./Ph.D. students through the BSGP are listed under the BSGP courses.

A total of 48 credits hours plus 18 dissertation hours and good standing throughout the SOM curriculum is required for the M.D./Ph.D. degree.

Financial Support

The M.D./Ph.D. students are provided with a scholarship or stipend either through the SOM or from the BSGP mentor for the entire period of their M.D./Ph.D. program. The amount of this financial support will be approximately \$23,000 plus tuition/ fees and health insurance.

General Program Information

The School of Medicine participates in programs that provide educational opportunities in biomedical research for students from under-represented minority groups, e.g. Initiatives for Minority Student Development (IMSD), Minority Access to Research Careers (MARC) and Bridges to the Ph.D. The M.D./Ph.D. Program is committed to training for a diverse scientific workforce.

Biomedical Science (BIOM)

*410. Research in Medical Sciences. (1-3 to a maximum of 9) Δ

Laboratory research in the medical sciences for undergraduate students.

Restriction: permission of instructor. {Offered upon demand}

511L. Intensive Introductory Biochemistry I. (4)

Anderson

{Also offered as BIOC 545L.} An introduction into the physical and chemical properties of proteins and enzymes; enzymatic catalysis; structure, synthesis and processing of nucleic acids and proteins; structure and control of genetic material. {Fall}

512L. Intensive Introductory Biochemistry II. (4)

{Also offered as BIOC 546L.} An introduction to intermediary metabolism and hormonal control of catabolic and anabolic pathways.

Prerequisite: 511L. {Spring}

540. University Teacher Training. (2)

An introduction to the principles of how people learn and methods of teaching and assessment. Special workshops provide hands-on experience with effective lecture preparation and tutorial group facilitation for problem-based learning.

Restriction: permission of instructor.

541. Teacher Training Workshops. (1-2, may be repeated twice) Δ

Workshops emphasize skill development in education theory and curriculum development or student assessment and feedback through didactic lectures and hands-on experience. Workshops are led by School of Medicine Teacher Education and Development (TED) Office and the Teaching Assistant Resource Center (TARC) faculty.

Prerequisite: permission of instructor.

542. Teaching Assistant Practicum. (1-4, may be repeated three times) Δ

BSGP students enrolled in this course earn course credit for serving as teaching assistants. The number of credits is determined by the number of contact hours. Arrangements are made on an individual basis. Prerequisites: 540 or 541.

543. Independent Education Immersion for Teaching

Scholars. (1-4, may be repeated once) Δ

Emphasizes skill development as an independent instructor. Requires development or implementation of independent teaching or educational project. Scholars are evaluated on teaching materials, oral and written communication skills, and project design and tool development. Arrangements for service as course instructor are made on an individual basis. Prerequisite: 542. Restriction: permission of instructors.

553. Biochemistry of Disease I. (1-3)

{Also offered as BIOC 563.} Five 3-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states. {Fall}

554. Biochemistry of Disease II. (1-3)

{Also offered as BIOC 564.} Five 3-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states. {Spring}

Biomedical Sciences Core and Program Courses

501. Fundamentals for Graduate Research. (1)

This course provides first year students with information for making an educated choice of a dissertation research advisor, of various teaching and research resources and facilities, and teaching and communication skills. {Fall}

505. Special Topics in Biomedical Sciences. (1-6 to a maximum of 48) Δ

This course provides a format to teach current information in a variety of rapidly advancing areas of biomedical research which are not now provided by existing courses. Subject area varies depending on the need for education in a particular area and the faculty member involved.

Restriction: permission of instructor. {Offered upon demand}

506. Special Topics in Biomedical Research. (1-2 to a maximum of 3) Δ

In this course, first year graduate students will participate in research with potential thesis or dissertation mentors and gain first-hand experience in a variety of techniques and approaches to biological problems. **Offered on a CR/NC basis only.**

507. Advanced Molecular Biology. (4)

{Also offered as BIOL 581.} The course covers the structures and functions of nucleic acids and proteins, mechanisms and macromolecular synthesis and principles of enzymology.

Prerequisite: organic chemistry, one semester of cell biology or biochemistry. {Fall}

508. Advanced Cell Biology. (4)

{Also offered as BIOL 582.} Course covers advanced topics in cell biology, including microscopy, the nucleus, protein and membrane trafficking, cytoskeleton signal transduction, cell cycle and division and extracellular matrix.

Prerequisite: 507. {Fall}

509. Principles of Neurobiology. (3)

This course covers cellular structure of neurons and glia, the electrical properties of neurons, intercellular communication, and the formation, maintenance and plasticity of chemical synapses.

510. Physiology. (3)

Course in regulatory and systems biology, and cardiovascular and pulmonary biology.

Prerequisite: 508. {Spring}

514. Immunobiology. (3)

This is a comprehensive, fundamentals-based immunology course for graduate students in the biomedical sciences or related fields. The course will have a problem-based component that will introduce students to experimental design in immunological research.

Prerequisite: graduate status. {Spring}

515. Cancer Biology. (3)

Fundamental elements of cancer development and progression will be the focus of this course. Basic biochemical and genetic mechanisms of tumorigenesis, including genomic instability, principles of tumor cell invasion and growth dysregulation will be emphasized.

516. Molecular Genetics and Genomics. (3)

Covers genetic and genomic approaches in model organisms (prokaryotes, fungi, worms, mouse and fruit flies) and humans to study biological processes at the molecular, cellular, tissue, organism, population and evolutionary levels. Provides an introduction to bioinformatic and computational methods used in such studies.

Prerequisite: 507, 508.

522. Experimental Design and Methods in Molecular and Cellular Biosciences. (3)

This case-based course is intended for first year graduate students and focuses on practical issues of how to design, plan and conduct scientific studies through appropriate use of experimental methods and data analysis.

525. Cell and Molecular Basis of Disease Journal Club. (2 to a maximum of 4) Δ

Course offers new graduate students experience in oral presentation skills, experience in reading and discussing scientific literature and exposure to research seminars. Student led discussions partner with weekly Cell and Molecular Basis of Disease Seminar. {Fall, Spring}

530. Cell and Molecular Basis of Disease Seminar. (1 to a maximum of 5) Δ

The Cell and Molecular Basis of Disease Seminar is a cross-cutting, interdepartmental seminar series offered for graduate credit. Weekly seminars are presented by preeminent scientists on a wide variety of broadly relevant research topics. {Fall, Spring}

555. Problem-Based Research Bioethics. (1)

This is a problem-based discussion course on topics in bioethics such as publication credits and authorships; conflict of interest and fraud, scientific misconduct, human genomics and other relevant issues. {Fall}

576. Molecular and Cellular Pharmacology. (3)

Basic principles and recent advances underpinning modern molecular and cellular pharmacology. Topics include receptor theory, drug metabolism and biotransformation, pharmacogenomics, receptors and signal transduction, rationale drug design and selected topics in organ-system based pharmacology.

Prerequisite: 507, 508. {Spring}

599. Master's Thesis. (1-6, no limit) Δ

Offered on a CR/NC basis only.

695. Research in Basic Medical Sciences. (1-6, no limit) Δ**699. Dissertation. (3-12, no limit) Δ**

Offered on a CR/NC basis only.

Biomedical Science Advanced Courses**532. Neurochemistry. (3)**

(Also offered as BIOC 521.) An introduction to neurochemistry and neuropharmacology, with heavy emphasis on student participation, by reading and evaluating current publications. Restriction: permission of instructor. {Fall, even years}

533. Neurophysiology and Neuroanatomy. (4)

Provides a background and understanding of the structure and function of the mammalian nervous system. The course includes both lectures and laboratory experiences.

Prerequisite: 509. {Fall, odd years}

535. Neuroscience Seminar. (1 to a maximum of 10) Δ

Weekly presentation of current topics in clinical neuroscience and in neuroscience basic research.

537. Advanced Topics in Neuroscience. (1-3 to a maximum of 9) Δ

Study Projects in the literature of Neuroscience.

Restriction: permission of instructor.

544. Human Anatomy for Basic Scientists. (4)

Biomedical Sciences Graduate Program students may take the lecture and laboratory portions of the Human Structure, Function, and Development block of the SOM curriculum, making them eligible for teaching assistantships in the block in subsequent years. {Spring} Restriction: permission of instructor.

548. Biochemistry and Molecular and Cellular Biology Seminar. (1 to a maximum of 10) Δ

{Fall, Spring}

580. General Toxicology I. (3)

An in-depth introduction to the basic principles and concepts of toxicology. Categories of chemicals causing toxic effects, the manner of exposure to toxic substances, the environmental and biological effects, and the laws and regulations will be considered.

581. Colloidal Nanocrystals for Biomedical Applications. (3)

(Also offered as ECE, NSMS 581.) Intended for students planning careers combining engineering, materials science, and biomedical sciences. Covers synthesis, nanocrystals characterization, biofunctionalization, biomedical nanosensors, FRET-based nanosensing, molecular-level sensing/imaging, and applications in cell biology, cancer diagnostics and therapy, neuroscience, and drug delivery.

583. Pathology Seminar. (1 to a maximum of 6) Δ

Weekly presentations of current topics in pathology. {Summer, Fall, Spring}

590. Topics in Biochemistry. (1-3 to a maximum of 9) Δ

Restriction: permission of instructor.

594. Topics in Environmental Disease. (1-3 to a maximum of 3) Δ

Advanced readings in topics relating to toxicology and environmental disease, including areas such as chemical teratogenesis, reactive oxygen species, respiratory toxicology, receptor-mediated toxicology and environmentally induced cancer.

Prerequisite: PHRM 580. {Fall, Spring}

605. Membrane Trafficking Seminar. (1 to a maximum of 4) Δ

A weekly journal club style course for advanced graduate students to participate in journal club presentations and discussion of current literature in the field of intracellular membrane trafficking. {Fall, Spring}

615. Signal Transduction and Cell Adhesion Seminar. (1, no limit) Δ

Weekly presentation of current topics in signal transduction and cell adhesion research. {Fall, Spring}

616. Molecular Virology. (3)

Fundamental principles related to interactions of animal viruses with host cells. Topics include virus chemical and physical properties, virus classification, virus cultivation and assay, viral replication and morphogenesis, persistent infections, viral oncology and other pertinent subjects.

Pre- or corequisite: 511, BIOL 450, BIOL 456. Restriction: permission of instructor. {Fall, odd years}

620. Molecular Genetics and Microbiology Seminar. (1 to a maximum of 3) Δ

Weekly presentations of current topics in Immunology and Microbiology. {Fall, Spring}

624. Proteomics. (3)

This course is designed to probe for knowledge of the immune system by looking at molecular mechanisms responsible for the generation and regulation of immune responses.

Prerequisite: introductory course in immunology, 512L. {Alternate years}

625. Advanced Topics in Immunology & Microbiology.**(1-3 to a maximum of 9) Δ**

May be taken three times to a maximum of 9 credit hours.
Prerequisite: biochemistry, general microbiology or equivalent. (Offered upon demand)

642. Advanced Topics in Cell Biology. (1-3 to a maximum of 9) Δ

An advanced graduate-level course in which current information in a variety of rapidly advancing areas of cell biology research is taught. This course is usually taught in seminar format. Subject area varies depending on the need for education in a particular area and the faculty member involved.
Restriction: permission of instructor. (Summer, Fall, Spring)

646. Advanced Topics in Molecular Biology. (1-3 to a maximum of 9) Δ

An advanced graduate-level course in which current information in a variety of rapidly advancing areas of molecular biology research is taught. This course is usually taught in seminar format. Subject area varies depending on the need for education in a particular area and the faculty member involved.
Restriction: permission of instructor. (Summer, Fall, Spring)

652. Immunopathogenesis of Infectious Diseases. (2)

This course will cover basic models of immunopathogenesis and immune evasion mechanisms using well-characterized infectious disease models. Topics will include host mechanisms of microbial clearance, immune-mediated inflammation and pathological effects of pathogens and microbial mechanisms of avoiding host attacks.

657. Advanced Topics in Cellular and Systems Physiology. (1-3 to a maximum of 9) Δ

This is an advanced graduate level course covering current, rapidly changing topics in physiology. Taught in a combination lecture/seminar format, the subject area varies depending on the expertise of the faculty member(s) involved.
Restriction: permission of instructor.

659. Regulatory and Systems Biology Seminar. (1 to a maximum of 10) Δ

Weekly presentations of current topics in regulatory and systems biology.

672. Structure and Function of the Cell Nucleus. (3)

A survey of experimental approaches to study the relationship between nuclear structure and function and eukaryotic gene expression. Students must reserve a place in the course by contacting the instructor.
Prerequisite: (507 and 508) or (BIOL 420 and 449).

677. Muscle Cell Biology. (1 to a maximum of 6) Δ

An in-depth overview of muscle structure and function, muscle cell gene expression, and neuromuscular diseases.
Restriction: permission of instructor.

701. Post Doctoral Research. (1-6 to a maximum of 6) Δ

A course in techniques, laboratory methods and administration. May be taken nine times to a maximum of 54 credit hours.
Offered on a CR/NC basis only. (Summer, Fall, Spring)

MS-BIOMED-CR: Domains/Courses, Seminar & Thesis**556. Research Design for Clinical and Translational Research. (1 to a maximum of 6) Δ**

This course will introduce the variety of study designs that are used to conduct clinical and translational research, including qualitative, observational, experimental, quasi experimental, non-experimental and mixed methods designs.
Restriction: permission of course director.

557. Measurement in Clinical and Translational Research. (1 to a maximum of 6) Δ

This course will cover qualitative and quantitative instrument design, construction, theory, and implementation; qualitative data analysis and interpretation; assessment of measurement reliability, validity, accuracy, precision, specificity and sensitivity.
Restriction: permission of course director.

558. Study Implementation and Project Management in Clinical and Translational Research. (1 to a maximum of 6) Δ

This course trains researchers in the management of clinical and translational research studies, including organizational processes to implement and conduct a funded research study, with financial, personnel, and business management and compliance issues.
Restriction: permission of course director.

559. Biostatistics in Clinical and Translational Research. (1 to a maximum of 6) Δ

Overview of the basic principles and methods of biostatistics designed specifically for clinical and translational research scientists. Computer software is used to analyze clinical and translational data sets.
Restriction: permission of course director.

560. Current and Emerging Technologies in Clinical and Translational Research. (1 to a maximum of 6) Δ

Course covers key biomedical research technologies currently in use for studies at the cellular and molecular, clinical and community levels, concentrating on the advantages and disadvantages of technologies for application to specific translational research studies.
Restriction: permission of course director.

561. Patient Outcomes in Clinical and Translational Research. (1 to a maximum of 6) Δ

Overview health care economics and patient outcomes research, including public policy issues associated with the rising cost of health care, patient-reported outcomes, clinical outcomes, and economic outcomes, and evaluation of patient outcomes research.
Restriction: permission of course director.

562. Epidemiology in Clinical and Translational Research. (1 to a maximum of 6) Δ

Course introduces the student to Epidemiology, the study of causes, distribution and control of disease in populations. A methodology to identify risk factors for disease and to determine optimal treatment approaches.
Restriction: permission of course director.

563. Conducting Clinical and Translational Research within Health Care Systems. (1 to a maximum of 6) Δ

This course will cover the dimensions of a variety of health care systems and settings and discuss potential areas for investigation; challenging learners to consider the opportunities where research can contribute to system improvements.
Restriction: permission of course director.

564. Biomedical Informatics in Clinical and Translational Research. (1 to a maximum of 6) Δ

This course covers information technology tools and biomedical informatics strategies to optimize collection, storage, retrieval, and intra-/inter-institutional sharing of quantitative and qualitative data in support of clinical and translational research.
Restriction: permission of course director.

565. Cultural Competence in Clinical and Translational Research. (1 to a maximum of 3) Δ

This course covers the impact of culture including values, tradition, history and institutions, sources of health care disparities, how culture influences in the way patients respond to medical services, prevention and physician delivery of services.
Restriction: permission of course director.

566. Grantsmanship in Clinical and Translational Research. (1 to a maximum of 3) Δ

Grant preparation fundamentals focused on writing and submitting a competitive research or fellowship application that meets prevailing guidelines, addresses an important hypothesis-driven research question and is responsive to critical feedback and review.
Restriction: permission of course director.

567. Biomedical Ethics and Regulatory Compliance in Clinical and Translational Research. (1 to a maximum of 6) Δ

History and development of biomedical ethics in theory and practice within health care, tenets of autonomy, beneficence, non-maleficence and justice as they pertain to human clinical research and the development of health care public policy. Restriction: permission of course director.

568. Seminar in Clinical and Translational Research. (1 to a maximum of 3) Δ

Includes integration and synthesis of concepts integral to clinical and translational research, providing problem-based and cross-cutting case studies for analysis/discussion, networking opportunities and a platform to demonstrate competencies. Restriction: permission of course director.

Medical Physics (MPHY)**432. Introduction to Medical Physics. (3)**

(Also offered as CHNE 432) Basic atomic physics, radiation interactions, image formation, scatter and resolution, x-ray equipment and digital properties, digital imaging, computed tomography, magnetic resonance imaging ultrasound imaging, radiation oncology principles, brachytherapy, nuclear medicine physics, radiation protection, regulation, and radiation biology. Restriction: permission of instructor.

505. Selected Topics in Medical Physics. (1-5 to a maximum of 10) [1 to a maximum of 10] Δ

The course provides a format to teach current information in medical physics which are not now provided by existing courses. Subject area varies depending upon for education in a particular area and the faculty member involved. Restriction: permission of instructor.

516. Medical Imaging I-X-ray Physics. (3)

(Also offered as CHNE 516) Course provides review of x-ray interactions, x-ray production, film-screen and film processing, mammography, fluoroscopy, image quality, digital radiography, physics of computed tomography, PACS and digital systems, and diagnostic radiation shielding. Corequisite: 517L. Restriction: permission of instructor. (Fall)

517L. Medical Imaging Lab I-X-ray Physics. (1)

(Also offered as CHNE 517L) Perform QC on a diagnostic x-ray system, a fluoroscopy system, CR system, DR system, CT scanner, mammography system. Evaluate radiation shielding in a diagnostic x-ray room. Perform a digital monitor evaluation and evaluate a film processor. Corequisite: 516. Restriction: permission of instructor.

518. Medical Imaging II - MR, Ultrasound and Nuclear Medicine Physics. (3)

(Also offered as CHNE 519) MR basic physics, MR imaging equipment, and ultrasound imaging physics. Nuclear medicine imaging physics including: radioactive decay, isotope production, detector systems, Na I gamma camera imaging systems, PET/SPECT cameras systems, regulations and patient dose calculations. Corequisite: 519L. Restriction: permission of instructor.

519L. Medical Imaging Laboratory II - MR, Ultrasound and Nuclear Imaging Physics. (1)

(Also offered as CHNE 519L) Perform MRI ACR QC tests and Ultrasound ACR QA tests. Perform QC tests on dose calibrator, gamma camera, PET camera, SPECT camera. Perform a leak test on a sealed radioactive material source. Visit a PET cyclotron. Corequisite: 518. Restriction: permission of instructor.

527. Radiation Biology for Engineers and Scientists. (3)

(Also offered as CHNE 527) Covering fundamentals of the biological effects of ionizing radiation on living systems, especially man; basic biological mechanisms which bring about somatic and genetic effects; and the effect of ionizing radiation on cell cultures. Restriction: permission of instructor.

540. Radiation Oncology Physics. (3)

(Also offered as CHNE 540) The course will cover the operation of linear accelerators, measurement of absorbed dose and quality of x-ray beams, dose distribution and scatter analysis, and clinical dose calculations for electron and photon beams. Techniques such as IMRT, total body irradiation, and SRS will be discussed. Brachytherapy treatment planning including HDR, LDR and intravascular treatments will be covered. Corequisite: 541L. Restriction: permission of instructor.

541L. Radiation Oncology Physics Laboratory (3)

(Also offered as CHNE 541L) Complete a number of clinical treatment plans, participate in the annual calibration of a linear accelerator, acquire basic photon and electron dose data for a computerized treatment planning system, perform several brachytherapy treatment plans including HDR and LDR plans, and perform an IMRT QA validation. Corequisite: 540. Restriction: permission of instructor.

Master of Public Health (M.P.H.)

The purpose of the Master of Public Health Program is to prepare graduates to improve the health of populations with primary focus on New Mexico, the Southwest, the United States/Mexico border region and south of the border. Its mission is for graduates to work in partnership with New Mexico's diverse communities, tribes and the public and private sectors to build on community strengths and to increase the capacity within the state to respond to public health problems. See Master in Public Health for admissions information, course requirements and course descriptions.

Master of Public Health

The Master of Public Health (M.P.H.) in Community and Preventive Health is granted through the Biomedical Sciences Graduate Program. The Master in Public Health Program is located in the Institute for Public Health and the Department of Family and Community Medicine at The University of New Mexico School of Medicine.

The curriculum promotes an interdisciplinary and comprehensive approach to research and interventions to address health problems, provides multiple opportunities for students to practice public health skills in communities and fosters critical thinking about issues addressed by the students. Students will be drawn from a broad range of social science, biomedical science and clinical disciplines. Specific core content areas include: principles of public health, epidemiology, biostatistics, environmental and occupational health, health policy/health services administration and cultural and social health theory or rural health.

To complete the degree, students must complete 42 credit hours and either complete a thesis; professional paper; or the integrative experience course (PH 597). All students must complete an oral master's exam. Students may petition to reduce their total credit hours for graduation based on demonstrating knowledge of core competencies or core classes (up to 6 hours). Students may enroll either full-time or part-time and have seven years to complete the degree.

Professors

Nina B. Wallerstein, Dr. P.H., M.P.H., University of California, Berkeley
Howard Waitzkin, Ph.D., M.D., Harvard Medical School

Associate Professors

Jonathon Eldredge, M.L.S., Ph.D., University of New Mexico
Larry Leeman, M.D., University of California, San Francisco, M.P.H., M.S., University of California, Berkeley
Andrew Rowland, Ph.D., University of North Carolina, Chapel Hill
Kristine Tollestrup, Ph.D., University of California, Berkeley

Assistant Professors

Magdalena Avila, Dr. P.H., University of California, Berkeley
Lisa Cacari-Stone, Ph.D., Brandeis University
Alexis Handel, Ph.D., University of Michigan
Celia Iriart, Ph.D., University of Campinas, Sao Paulo, Brazil

Victoria Sanchez, Dr. P.H., M.P.H., University of North Carolina, Chapel Hill

Research Assistant Professors

William Athas, Ph.D., Johns Hopkins School of Public Health
 Margaret Menache, Ph.D., Duke University
 Veronica Plaza, M.D., M.P.H., University of Rosario, Rosario
 Argentina, M.P.H., University of New Mexico

Professors Emeriti

David Bennahum, M.D., University of Geneva, Professor of Law, University of New Mexico
 Lily Velarde, Ph.D., University of New Mexico
 William H. Wiese, M.D., M.P.H., Harvard Medical School

Other Faculty

Nicola Baptiste, B.A., Instructor
 James Cheek, M.D., M.P.H., University of New Mexico, M.P.H., Johns Hopkins
 Nathaniel Cobb, M.D., Harvard Medical School
 David Broudy, Ph.D., University of New Mexico
 David Espey, M.D., Wake Forest University, North Carolina
 Cheryl Ferguson, M.P.H., University of New Mexico
 Floyd Frost, Ph.D., University of Washington
 Lyndon Haviland, Ph.D., Harvard Medical School
 Frankie Perry, M.A., University of Michigan, Nursing, Nazareth College
 Cliff Reese, J.D., Franklin Pierce Law Center, Concord, NH
 Thomas Scharmen, M.P.H., University of New Mexico
 Janet Yagoda-Shagam, Ph.D., University of New Mexico, M.S., University of Arizona
 Corinne Shefner-Rogers, Ph.D., Johns Hopkins
 Malcolm Siegel, Ph.D., Harvard Medical School
 Victor Strasburger, M.D., Harvard Medical School
 Cathleen Willging, Ph.D., Rutgers University, M.P.H., University of New Mexico

Minimum Requirements for Admission

- B.S., B.A. or equivalent from an accredited U.S. institution or a recognized international institution.
 - GPA must be at least 3.0.
1. All students must have
 - Recent (5 years) GRE scores: preferred verbal & quantitative scores of 500 each and analytical writing of 4 and above, or
 - MCATS: preferred score of 10 and N in writing, or
 - GMATs: preferred score of 500 and above.
 - Use Insitution Code 4845 and departmental Code 0616 to indicate where your scores should be sent.
 2. M.D.s & Ph.D.s are exempt from submitting the above test scores.
 3. Foreign students must take the TOEFL examination and score at least a 560.
 4. Students are required to have experience in the public health field. Experience could be in community development, research, health education, health science, health promotion or other health-related work. Experience can be paid or voluntary. Call our office if you are unsure if your experience satisfies this requirement.
 5. If you are applying as a foreign student you must check with the office of International Admissions, University of New Mexico, Student Services Center, Room 140, Albuquerque, NM 87131-5267. Feel free to contact International Admissions for further information regarding your application at (505) 277-5829.

Students are admitted for the fall semester only. Applications are due in the **Office of Admissions by February 1 of each year. Screening of completed applications will begin February 1.** Applications received by that date will be given first consideration for admission and financial assistance. Applications received or completed after that date but before the university deadline for the fall semester will be considered on a space available basis only.

The application process is a self-managed process whereby each applicant is expected to compile all the information

required. Complete detailed instructions are included in the application packets.

Send these materials to the Admissions Office:

1. The Application/Residency form
 - a. An Application Form
 - b. A Residency Form
2. An Application Fee of \$50.00
3. Two official transcripts from each academic institution you have attended.

Send these materials to the Master in Public Health:

4. Letter of Intent
5. Resume: include public health experience, can be paid or voluntary.
6. A minimum of 3 Letters of Recommendation.

Incomplete packets will be returned by the Office of Graduate Studies without processing.

International students must check with the Office of International Admissions, The University of New Mexico, Student Services Center, Room 140, Albuquerque, NM 87131, (505) 277-5829, for further information regarding your application.

Students not yet admitted to the program or who would like to take courses may do so as long as they meet any pre-requisites for those courses. Students may take courses in non-degree status or enroll in courses as graduate students if they are enrolled in another graduate program. Students may take up to 17 credit hours as a non-degree or other graduate student status. Courses taken in this status will transfer and be counted toward the degree.

For further information or to request an application packet write, call or go to Web site <http://hsc.unm.edu/som/fcm/mph/packetform.shtml>

Master of Public Health Program
 The University of New Mexico
 Family Practice Building, Room 165
 MSC09 5060
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 Phone (505) 272-4173
 FAX (505) 272-4494

Degree Requirements for the Master in Public Health

1. The following four core courses must be taken:

PH 501	Principles of Public Health	(3) (F)
PH 502	Epidemiologic Methods I	(3) (F)
PH 506	Environmental/Occupational Health	(3) (Sp)
STAT 538	Biostatistical Methods I	(3) (F)
2. Choice of one of two health systems courses:

PH 507	Health Care Systems	(3) (Sp)
PH 510	Public Health and Health Care Management	(3) (Sp)
3. Choice of one of these two courses:

PH 505	Social and Cultural Theories and Models: Community Interventions	(3) (F)
PH 552	Public Health Program Planning	(3) (F)
4. Additional required courses:

PH 508	Theory and Practice Seminar I (Mandatory in 1st semester, CR/NC.)	(1) (F)
PH 509	Theory and Practice Seminar II (Mandatory in 2nd semester, CR/NC.)	(1) (Sp)
PH 511	Writing for Public Health Professionals (CR/NC)	(1-2) (F)
PH 513	Public Health Seminar	(1) (F)(S)
PH 598	Public Health Practicum	(2)
5. Choice of one of three culminating experience options:

PH 596	Professional Paper	(3)
-or-		
PH 597	Public Health Integrative Experience	(3)
-or-		
PH 599	Master's Thesis	(6)

Joint Degrees:

- M.P.H./M.S.N.
- M.P.H./M.D.

26-31 credits will be taken from the core curriculum.

Concentrations:

- Epidemiology
- Community Health

Electives—The balance of credits toward the 42 credit requirement can be taken in the Masters in Public Health Program or throughout the University in departments such as Health Education, Public Administration, Communications & Journalism, Anthropology, Community and Regional Planning, Law and others, under the supervision of an M.P.H. advisor. Students taking courses in other departments must do so in consultation with their faculty advisor and with approval by the M.P.H. Program Director.

M.P.H./M.S.N.

The student completes the core requirements in each discipline. The prototype is designed for the Master in Public Health concentration and M.S.N./Community Health Nursing.

The non-thesis option requires the professional paper to be completed while enrolling in a course designed to facilitate this activity in M.P.H. This paper will also serve to meet the requirements of the Master's Comprehensive Examination in Nursing under the non-thesis option, and is expected to reflect a combination of perspectives in the dual degree plan.

The thesis option requires the thesis to be completed while enrolling in thesis work under the Nursing number; again, the expectation is that the research will combine the perspectives of both degree plans. Contact M.P.H. program advisor for more information on M.P.H./M.S.N. dual degree.

M.D./M.P.H.

The dual status M.D./M.P.H. requires five years of integrated learning. This integrated learning enhances opportunities for medical students to acquire public health knowledge and skills with the goals of 1) reducing disparities in health status within New Mexican populations 2) strengthening physician advocacy and leadership skills in health policy development 3) fostering evidence-based interventions and 4) using assessment skills to better determine population needs and interventions. Each M.D./M.P.H. student would be able to successfully complete both degrees in an integrated fashion.

Student applies simultaneously to both the M.D. and the M.P.H. programs and indicates on the two applications that they are applying for dual status. Students must meet the requirements of both programs and be accepted into both programs in order to be considered dual status.

Students will be admitted to each program separately, yet once they are admitted to both programs, they qualify as dual status students. For more information on the M.D./M.P.H. dual status, contact the M.P.H. program.

**Public Health Minor
(15 credit hours)**

The public health minor will provide a basic understanding of the core principles, sciences, and skills behind the discipline of public health. The two core classes in the minor include the basic behavioral and social sciences and the science of disease causation and distribution. One other course is required from a menu of M.P.H. core courses. Two other M.P.H. electives can be of student choosing.

Required Core Classes (6 credit hours)

- PH 501 Principles of Public Health (fall course)
- PH 502 Epidemiology Methods I (fall course)

**One Other Course from M.P.H. Core Courses
(3 credit hours)**

- PH 505 Social and Cultural Theories and Models: Community Interventions
- PH 552 PH Program Planning
- PH 506 Environmental/Occupational Health
- PH 507 Health Care Systems
- PH 510 Public Health and Health Care Management

Electives (6 credit hours)

Students may choose other M.P.H. courses constituting a minimum of 6 credit hours. It is expected that these courses will further the student's own research or professional project. All courses must be completed with a 'B' or better.

Potential M.P.H. Minors

Master's and Doctoral level graduate students enrolled in Departments of Anthropology, Communication and Journalism, Sociology, and Psychology; School of Law, Nursing and Pharmacy; Programs in Community and Regional Planning, Water Resources, Nutrition, Education, Latin American Studies, among others.

Potential M.P.H. Degree

Public health minor classes can transfer into graduate classes if students are admitted into the M.P.H. Program.

Community Health Concentration

Mission: The mission of the Community Health Concentration is to prepare students for leadership roles in population-based disease prevention and health promotion in public and private settings. The philosophical foundation of the concentration relies on a community capacity building, empowerment approach to promote social justice and equity in health. The concentration is designed for students with prior experience, education or interest in community-focused public health practice or research that values diversity, self-reflection and critical analysis of evidence-based practice and practice-based public health approaches.

Description: Guided by the social-ecological approach, the Community Health Concentration emphasizes training in the basic core principles and skills of community needs and assets assessment, program planning, implementation and evaluation, and policy development and their application to a broad array of health and social issues in population and community-based public health disease prevention and health promotion. The purpose of this concentration is to provide students with the multi-disciplinary knowledge and skills necessary to plan, implement, and evaluate public health programs at multiple levels of the social-ecologic framework.

Requirements:

Students completing the Community Health Concentration will take the following courses:

Community Health Concentration Required**Curriculum:**

Total Units— 12

PH 505	Social and Cultural Theories and Models: Community Interventions	3
PH 510	Public Health and Health Care Management	3
PH 552	Public Health Program Planning	3
PH 555	Public Health Evaluation Methods	3

Community Health Concentration Selected Electives

Choose one course:

PH 554	Public Health Policy, Politics and Social Equity	3
PH 564	Public Health & Health Care Communication	3
CJ 550	Health Communication	3

One other elective with community health intervention skills. The following are recommended. Other options require guidance from your advisor (minimum 2 credits).

Two courses among the following:

PH 504	Rural Health	3
PH 507	Health Care Systems	3
PH 568	Popular and Empowerment Education	2
PH 577	Public Health Leadership in Policy and Advocacy (2 cr hours required for CHC students.)	2
PH 580	Community Assessment	3
PH 560	CBPR Research Methods	3

Selected health communication courses within the Department of Communications and Journalism

Epidemiology Concentration

The Epidemiology Concentration will provide students with the knowledge and skills necessary to collect, analyze and interpret epidemiologic data for the solution of public health problems. The concentration will prepare students for employment as a master's level epidemiologist or research scientist in various settings such as the New Mexico State Department of Health, The University of New Mexico School of Medicine, and other public health research and service organizations. Questions about the Epidemiology Concentration can be directed to any of the three core epidemiology faculty: Drs. Alexis Handal, Andy Rowland, and Kristine Tollestrup.

Requirements:

In addition to the core curriculum the Epidemiology concentration requires:

1. Completion of **15 credits** in graduate-level courses in epidemiology and biostatistics as outlined below and
2. Completion of a field experience (PH 598—Public Health Practicum) emphasizing epidemiologic practice in an applied public health setting;
3. Demonstration of competencies in epidemiology through the culminating experience.

In addition, for students concentrating in epidemiology, the chair of their culminating experience committee should be a core epidemiology faculty member, or an epidemiologist or biostatistician agreed upon by the Epidemiology Curriculum Committee.

Required Courses (9 credits)

• PH 520	Epidemiologic Methods II	3
• PH 534	Epidemiology Data Analysis	3
• STAT 539	Biostatistical Methods II	3

Elective Courses (6 credits)

Likely to be offered at least once every two years.

• PH 522	Seminar in Epidemiology	1
• PH 527	Chronic Disease Epidemiology	2
• PH 528	Infectious Disease Epidemiology	2
• PH 530	Environmental and Occupational Epidemiology	2
• PH 531	Perinatal Epidemiology	2
• PH 532	Cancer Epidemiology	2
• STAT 574	Biostatistical Methods: Survival Analysis and Logistic Regression	3

Additional elective epidemiology courses may be developed.

Master of Public Health Courses—Core (PH)

501. Principles of Public Health. (3)

Concepts of public health related to determinants of health; cultural, social and political concepts of disease; disease prevention; health promotion, including individual behavior change and community based intervention; health policy. {Fall}

Restriction: enrolled in M.P.H. degree program.

502. Epidemiologic Methods I. (3)

Provides an overview of the methods of epidemiologic research. Designed to provide students with the capability of understanding epidemiologic measures of disease occurrence, interpreting the findings of epidemiologic studies and integrating the results of epidemiologic research into public health practice. {Fall}

Prerequisite: B or better in MATH 121 or STAT 145.

STAT 538. Biostatistical Methods I—Statistical Summaries and Inference. (3)

Covers basic statistical methods including statistical summaries and inference. Methods of summarizing data include graphical displays and numerical summaries. Statistical inference includes hypothesis testing and confidence intervals. Methods for continuous and categorical data are studied. Prerequisite: B or better in MATH 121. {Fall}

505. Social and Cultural Theories and Models: Community Interventions. (3)

In-depth investigation of behavioral, social and cultural theory's application to public health problem definition, prevention and intervention programs. Problem etiology and change strategy theories are investigated through application to specific public health problems among culturally distinct and marginalized groups in New Mexico. {Spring}

506. Environmental/Occupational Health. (3)

Applies the public health perspective to environmental and occupational disease. Students will learn to apply the ecologic principles of agent, host and environment to diseases associated with exposures to the physical environment and chemical contaminants.

Prerequisite: 501. {Spring}

507. Health Care Systems. (3)

Provides an overview of how health care is delivered in the United States. A wide variety of delivery and payment methods are examined. In addition, the U.S. health care delivery systems will be compared to Native American, U.S. Mexican Border, Canadian and Cuban systems. Core option for students admitted any year; required for students year 2000 and later. {Spring}

508. Theory and Practice Seminar I. (1)

Teaches students the core public health principles of assessment. Restricted to MPH students only. **Offered on CR/NC basis only.** {Fall}

Restriction: enrolled in M.P.H. degree program.

509. Theory and Practice Seminar II. (1)

Teaches students the core public health principles of assurance and policy. Restricted to MPH students only. **Offered on CR/NC basis only.** {Spring}

Restriction: enrolled in M.P.H. degree program.

510. Public Health and Health Care Management. (3)

This course will examine the history and organization of the U.S. Healthcare System and will focus on the core functions in public health healthcare management. The role and elements of professionalism and ethics will be integrated throughout the course. {every other Spring}

511. Writing for Public Health Professionals. (1-2)

Intensive writing course for public health professionals and graduate students. Course will promote understanding of multiple modes of writing; improves revising and editing strategies; and provides experience in synthesizing and integrating research into literature reviews and articles for public health journals. **Offered on CR/NC basis only.** {Fall}

Restriction: enrolled in M.P.H. degree program.

513. Public Health Seminar. (0-1 to a maximum of 3). Δ

A graduate seminar and journal club focusing on a wide range of PH topics. Speakers present original research. Journal club guides students to critically assess literature. Two semesters required for credit.

Prerequisite: 502 or permission.

552. Public Health Program Planning. (3)

An exploration of rational health planning methods. Methods will be applied in the development of a health program plan within a social context where public health planning actually occurs. Involves the development of a realistic program plan addressing a health-related problem and writing a proposal for funding. {every other Fall}

560. Special Topics in Public Health. (1-3, no limit) Δ

596. Professional Paper. (1-3 to a maximum of 3) Δ

The professional paper allows the student to engage in analyzing or solving a real public health problem. {Summer, Spring, Fall}

597. Public Health Integrative Experience. (3) [2]

One of three options for Culminating Experience. Students will conduct a computer-based systematic review of the epidemiologic and health intervention literature, perform epi data analysis and apply other planning and evaluation techniques to develop a prevention plan for a New Mexico population. Restriction: enrolled in M.P.H. degree program.

598. Public Health Practicum. (1-6 to a maximum of 6) Δ

Individually arranged field experience to develop and refine professional public health skills. **Offered on CR/NC basis only.** {Summer, Spring, Fall}
Restriction: permission of instructor.

599. Master's Thesis. (1-6, no limit) Δ

Restriction: permission of instructor. **Offered on a CR/NC basis only.**

Community Health Courses**504. Rural Health. (3)**

Increases awareness of the complex factors affecting delivery of rural health services in New Mexico and the U.S. and examines rural health support systems and rural health policy.

554. Health Policy, Politics and Social Equity. (3)

Provides students with understanding of factors within and outside of health care system. Reviews social policy in addressing coverage of uninsured, improving population health and reducing social inequities. Examination of frameworks and politics of policy programs.

555. Public Health Evaluation Methods. (3)

Introduces students to the language and theory of program evaluation to undertake their own evaluation design: how to pose evaluation research questions; data collection methodologies available to them; how to make decisions about appropriate data collection methods for different types of evaluation objectives.

564. Public Health and Health Care Communication. (2-3)

Explores topics in patient-doctor and client-health care worker communication. From the public health standpoint, emphasizes communication about health promotion and disease prevention. Considers critically the communication processes in public health campaigns, especially how health policy issues are portrayed in mass media.

568. Popular and Empowerment Education. (2)

Focuses on empowerment education and popular learning methodologies within the context of public health. Theoretical and experiential course creating opportunities for dialogue between theory and practice.

577. Public Health Leadership in Policy and Advocacy. (1-2)

Problem solving on health policy issues and practical experience with health bills in legislature. Involves a one-day field trip to the New Mexico legislature, in addition to guest speakers. Small group work on media advocacy skills, interacting with policy-makers and presenting testimony. Variable credit to meet professional and graduate student needs. For 1 credit, a 5 page problem analysis; for 2 credits, additional 10 page literature review.

580. Community Assessment. (3)

Introduces participants to a participatory community assessment model. Participants will learn and practice the following: steps in the participating community assessment model, data sources and data collection strategies for sub-county areas, data analysis, using results of community assessment to make change. One credit, a 5 page problem analysis; 2

credits, additional 10 page paper and 3 credits will include additional data analysis.

Restriction: permission of instructor.

Epidemiology Courses**520. Epidemiologic Methods II. (3)**

Provides a good understanding of the principles and methods involved in the design, conduct, analysis and interpretation of epidemiologic research.

Prerequisite: 502 and STAT 538 or STAT 527. {Spring}

522. Seminar in Epidemiology. (0-1 to a maximum of 4) Δ

Guest speakers will lecture on various topics in the field of epidemiology. To receive credit students must attend at least 12 seminars during two consecutive semesters and make a 20-minute presentation. **Offered on CR/NC basis only.**

Prerequisite: 502. {Fall, Spring}

525. Epidemiology Surveillance. (2)

Covers disease surveillance in the history of public health; establishing a disease surveillance system; surveillance of infectious diseases, chronic/environmental diseases and behavioral risk factors; surveillance system evaluation and surveillance in emergency conditions. Emphasizes the central role that surveillance plays in development of public health policy.

Prerequisite: 502.

527. Chronic Disease Epidemiology. (2)

Familiarize student with methods of measuring morbidity and mortality from chronic disease, surveillance of behavioral risk factors for chronic disease, the scientific basis and cost-benefit analysis of screening programs, evaluation of prevention efforts and modeling disease patterns to predict future needs.

Prerequisite: 502.

528. Infectious Disease Epidemiology. (2)

Learn basic epidemiological principles of infectious diseases. Learn and understand the multiple factors associated with spread of infectious agents within populations and development, application and evaluation of control measures to stop or prevent transmission.

Prerequisite: 502.

530. Environmental and Occupational Epidemiology. (2)

This course explores key concepts and methods involved in the design, analysis and interpretation of epidemiologic studies of environmental and occupational disease. Lectures and Case Studies critically evaluate public health problems related to environmental exposures.

Prerequisite: 502.

531. Perinatal Epidemiology. (2)

Review of a wide range of topics central to perinatal epidemiology. Highlighted topics will include conception and early fetal loss, design issues in studies of adverse reproductive outcomes and epidemiologic aspects and public health approaches to prevention of congenital malformation.

Prerequisite: 502.

532. Cancer Epidemiology. (2)

Covers basic concepts and methods in cancer research. Specific topics for discussion include cancer surveillance, measures of disease occurrence, descriptive epidemiology of cancer, casual mechanisms, etiologic factors, screening issues, cancer prevention and control, and intervention studies.

Prerequisite: successful completion of both 502 and Biostat I. An understanding of research methodology and biology will be assumed. {Offered on demand}

Prerequisite: 502 and (STAT 527 or 538).

534. Epidemiology Data Analysis. (3)

Students will learn how to conduct a careful epidemiologic data analysis. The focus of the course is developing the practical and critical thinking skills to conduct an epidemiologic data analysis. This course is required for epidemiology concentration students.

Prerequisite: 520 and STAT 539.

STAT 539. Biostatistics Methods II—Introduction to Statistical Modeling. (3)

Covers basic models used in the statistical analysis of studies in the medical sciences and public health field, with an emphasis on epidemiology. Linear regression, analysis of variance, logistic regression and survival models are studied. Prerequisite: Biostat I. (Spring)

STAT 574. Biostatistical Methods: Survival Analysis and Logistic Regression. (3)

A detailed overview of methods commonly used to analyze medical and epidemiological data. Topics include the Kaplan-Meier estimate of the survivor function, models for censored survival data, the Cox proportional hazards model, methods for categorical response data including logistic regression and probit analysis, generalized linear models. Prerequisite: 528 or 540.

Other General Electives

512. Public Health Proposal Writing Workshop. (1)

Prepares students to write their professional paper, thesis or completing another MPH culminating experience. Participants must be ready to write either their professional paper proposal or drafts of their professional paper. **Offered on CR/NC basis only.**

Restriction: enrolled in M.P.H. degree program.

521. Introduction to Epidemiology. [Web-Based Introduction to Epidemiology.] (1-3 to a maximum of 3) Δ

Designed for students pursuing an Public Health certificate. Provides students with basic epidemiologic background and methods to analyze and interpret disease occurrence in populations. Emphasizes community assessment, surveillance, problem solving, health promotion, and disease prevention.

530. Pro-Seminar in Health Policy. (1 to a maximum of 10) Δ

(also offered as POLS 530.) An interdisciplinary introduction to the study of health policy and health disparities under the auspices of the Robert Wood Johnson Center for Health Policy at the University of New Mexico. Restriction: permission of instructor.

533. Public Health Research Methods. (2-3)

Gives students an understanding of the principles and skills of doing social science research, using qualitative and quantitative approaches, in public health settings. Prerequisite: 502 and (STAT 527 or 538).

540. Disparities in Health: Introduction to Public Health for Medical Students. (3)

This course creates a conceptual framework for understanding health and illness from a socio-ecological perspective and lays the groundwork for public health and health equity concepts that will be reinforced and augmented throughout medical school.

Restriction: M.D. students only.

541. Epidemiology and Biostatistics. (1-4 to a maximum of 4). Δ

Fundamental elements of study design and statistical analysis are presented to enable students to critically evaluate/interpret the medical/scientific literature, conduct sound research, and gain a broad perspective of factors that influence health and disease.

Restriction: M.D. students only.

542. Community-Based Service Learning. (3)

Students will spend 4-6 weeks in a New Mexico community examining community health issues, identifying solutions and devising interventions for these issues.

Restriction: M.D. students only.

557. International Health. (2)

This class applies economic, sociologic and anthropologic perspectives to health care problems across national and international groups. Strategies for analyzing needs in a cultural context are stressed.

559. The History of Public Health. (3)

A survey of public health issues from the ancient world to the modern world including plague, syphilis, smallpox and AIDS. Addresses interrelation of history, philosophy, economics and disease.

560. Special Topics in Public Health. (1-3, no limit) Δ

561. Maternal Child Health Issues. (3)

This course provides an overview of Maternal and Child Health in context of principles and practices of public health. Students will explore historical trends and contemporary MCH issues in U.S. and New Mexico.

562. Women's Health Issues. (2-3)

This course will provide an overview of Women's Health issues in the context of principles and practices of public health and to develop critical understanding of contemporary Women's Health issues in the United States and New Mexico.

563. Social Medicine in Latin America. (2)

Reviews critically several topics in Latin American social medicine; the history of social medicine; national and international groups working in social medicine; health policy analysis; occupational and environmental health; social class and health outcomes; gender issues; social epidemiology-content and methods and educational reform.

565. Public Health: Law Policy and Ethics. (3)

This course will deal with the role of law in public health, history of American public health, history of law concerning public health, ethics of modern epidemiology, early research, public health and public accountability, and issues in public health.

569. American Indian Health Issues. (2)

Descriptive overview of health-related topics and issues of American Indian and Alaska Native people. Provides an understanding of the most important, health-related challenges these communities face. Topics include: population, Indian tribes, major health conditions, the Federal Trust relationship, Indian Health Service and self-determination.

572. Community Health Intervention Models. (2)

The present course examines the current models for health interventions at the community level. In contrast to the traditional focus on behavior change at the individual level, this course is designed to provide a broad exposure to the foundations for preventive health interventions at the community level.

573. Introduction to Public Health Planning and Evaluation. (1-2)

Basics of public health planning and evaluation. Overview of the concepts of prevention, risk/needs assessment, health promotion theory and models, intervention development including prioritizing, objectives and strategies and evaluation. The course will be partially problem-based so students have an opportunity to apply the concepts.

574. Community Health Improvement Strategies. (1)

Designed to assist public health professionals in identifying and avoiding system features that result in program implementation failure. It applies the methods of systems thinking and continuous quality improvement to program implementation at the state and community level.

575. Public Health Leadership on Facilitation. (1-2)

Facilitation skills for public health settings such as coalitions, working in teams and community meetings. Explores methods, role of facilitator, assumptions behind different styles, setting priorities and action planning. Variable credit to meet professional and graduate student needs. For 1 credit, a 5 page problem analysis; for 2 credits, additional 10 page literature review.

576. Public Health Leadership in Cross Cultural Communication and Conflict. (1-2)

Explores the legacy of historical trauma and colonization on population health among diverse populations. Divided into practice sessions to enhance participants' capacity for com-

munication and problem solving in intercultural public health situations. Variable credit to meet professional and graduate student needs. For 1 credit, a 5 page problem analysis; for 2 credits, additional 10 page literature review.

578. Environmental Health Policy. (2)

Examines policy processes affecting environmental health. Explores theories of power and powerlessness and how social constructions are used in policy debates. Case studies illustrate how interest groups access and affect the political agenda.

579. New Mexico Border Health. (2)

Provides an overview of history of U.S./Mexican Border. In particular, the course focuses on current relevant public health problems, policies and health care delivery to address this issue. For example, this course will also examine how the North American Free Trade Agreement has impacted public and environmental health. Immigration Policy and effects of the Maquiladora Industry will also be examined.

581. Fundamentals of Public Health. (1-2)

Provides basics of public health, its history and development, the current organization of public health activities, the concept of population as a unit of measurement, epidemiology, the determinants of disease, surveillance, monitoring and planning. Variable credit to meet professional and graduate student needs. For 1 credit, a 5 page problem analysis; for 2 credits, additional 10 page literature review.

582. Basic Public Health Epidemiology. (1-2)

Acquaints public health professionals working in the field with those basic epidemiology fundamentals and uses of data that are important for understanding the distribution and determinants of disease. Variable credit to meet professional and graduate student needs. For 1 credit, a 5 page problem analysis; for 2 credits, additional 10 page literature review.

583. Health Systems and Globalization. (2)

Analyzes relationships among medicine, public health, and social structure in a comparative international perspective. Examines public health care and systems under differing economic systems and the impacts of managed care in Latin America and Africa.

584. Child Health & Child Rights. (3)

Surveys history, development and issues surrounding child health status and children's rights. Discusses current measures of child health and international movement in children's rights. Specific topics include war, abuse, racism, poverty and economic structural adjustment.

585. Public Health Mental Health. (3)

Covers the history and epidemiology of mental health, nationally and internationally, and mental health cross-culturally and in contexts of age, race, gender, and ethnicity. Also explores social determinants of mental illness and mental health promotion.

586. Public Health Law. (3)

Introduces students to a broad spectrum of legal issues related to public health. Legal emphasis will be placed on New Mexico statutory law and administrative rules as applicable.

587. International and US Health Policy Reform. (2)

Examines international debates about health policy reforms, privatization, and relationships among adjustment policies. Pharmaceuticals discussed in redefining risk as disease; objective to understand political economy analysis as applied to the study of health policy reforms.

588. Tuberculosis, HIV and Malaria: Local and Global Perspectives. (3)

Interactive overview of social, natural, and epidemiology histories of TB, HIV/AIDS and Malaria. These infectious diseases will be examined regarding how PH interventions are designed to respond to pathology and epidemiology in specific populations.

593. Independent Studies. (1-3, no limit) Δ

Students work individually with faculty members on projects with individual supervision.

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The research mission of the Department of Cell Biology and Physiology is the study of biological structure, fundamental cellular and physiological processes and the relationship of these processes to human development and disease. There are two major research divisions: (1) cell, developmental and cancer biology and (2) vascular physiology.

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Ben Liem, M.D.
Amanda Story, M.D.
Thomas Schroeder, M.D.
Charles Stutzman, M.D.

RADIOLOGY

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Philip Heintz, Ph.D., University of Washington
Loren H. Ketai, M.D., University of Michigan
Robert D. Rosenberg, M.D., Washington University (St. Louis)
Frederick W. Rupp, M.D., Louisiana State University
James J. Sell, M.D., Wright University
Michael R. Williamson, M.D., Southern Illinois University
Susan L. Williamson, M.D., University of California, (San Diego)

Associate Professors

Steven C. Eberhardt, M.D., Wayne State University
Philip Wiest, M.D., University of Nevada
Kevin Williams, M.D., The University of New Mexico

Assistant Professors

Scott Carter, M.D., University of Texas HSC at Houston
Brad W. Cushman, M.D., Medical College of Ohio
Adam N. Delu, M.D., University of Texas Houston Medical School
Joanna R. Fair, M.D., Ph.D., Washington University School of Medicine
Reyada Hayek, M.D., Northeastern Ohio Universities College of Medicine
Carolyn C. McCarty, D.O., Touro University College of Osteopathic Medicine
Mary S. McKee, M.D., The University of New Mexico
Gary W. Mlady, M.D., St. Louis University
Jennifer Pohl, M.D., Ph.D., University of Nevada
William G. Schaeffer, M.D., University of Pennsylvania School of Medicine
Berndt P. Schmit, M.D., Tufts University School of Medicine
Jessica B. Williams, M.D., University of Texas Southern Medical School

Research Professor

Cheryl J. Aine, Ph.D., University of North Carolina

Lecturers III

Rebecca Blankley C.R.T., M., C.T., The University of New Mexico
Elizabeth Greer, R.T., The University of New Mexico
Sheldwin Yazzie, R.T., The University of New Mexico
Gregory Chambers, M.S., C.N.M.T., A.R.R.T., N., The University of New Mexico
Daniel J. Sandoval, M.S., The University of New Mexico
Lynnette M. Trujillo, R.T., The University of New Mexico

Adjunct Professor

Jose F. Garcia, M.D., Medical School of Buenos Aires
Robert J. Telepak, M.D., University of Colorado, Denver

Working Retiree

Charles Kelsey, Ph.D., Notre Dame

Professors Emeritus

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Fred A. Mettler, Jr., M.D.

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Arup Das, M.D., Ph.D., Medical College, University of Calcutta (India)
Gerald B. Demarest III, M.D., Columbia University
Thomas Howdieshell, M.D., Medical College of Georgia School of Medicine
Mark Langsfeld, M.D., Medical College of Georgia
Demetra Logothetis, R.D.H., M.S., University of Missouri (Kansas City)
Christine Nathe, R.D.H., M.S., Old Dominion University
John C. Russell, M.D., Harvard Medical School
Anthony Y. Smith, M.D., The University of Texas at Dallas
Jorge A. Wernly, M.D., Universidad Nacional de Rosario (Argentina)

Associate Professors

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Bret R. Baack, M.D., The University of New Mexico
Erica Bennett, M.D., University of Southern California School of Medicine
Gary Cuttrel, D.D.S., The University of Texas at Houston
Michael Davis, M.D., The University of New Mexico
Dusanka Deretic, Ph.D., The University of Texas Health Sciences Center at San Antonio
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Lawrence J. Gibel, M.D., Jefferson College
Peter Jensen, D.D.S., University of Detroit School of Dentistry
David G. Lemon, M.D., University of Washington School of Medicine
Stephen Lu, M.D., The George Washington University School of Medicine
John Marek, M.D., University of Cincinnati
Tim Nelson, M.D., University of California
Garth Olson, M.D., University of Arizona
David E. Pitcher, M.D., The University of New Mexico
Ashwani Rajput, M.D., Case Western Reserve University
Cynthia Reyes, M.D., Harvard Medical School
Mark L. Schluter, M.D., The University of New Mexico
Michael Spafford, M.D., University of Illinois College of Medicine
Charles D. Tatlock, D.D.S., Baylor College of Dentistry
Jon Wagner, M.D., University of Missouri (Kansas City)
Philip H. Watkins, M.D., University of Kansas
Jason Wilson, M.D., The University of Texas Health Sciences Center at San Antonio

Assistant Professors

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Mark Beauchamp, M.D., New Jersey Medical School
Kristin Biggs M.D., University of Texas San Antonio Texas
Diana Burnham, R.D.H., M.A., The University of New Mexico
Kimberly Espinoza, D.D.S., University of Southern California
Ralph Stuart Ford, M.D., University of Arkansas
Vicki Gianopoulos, M.D., The University of New Mexico
Glenroy Heywood, M.D., State University of New York Health Sciences Center at Syracuse.
Carey Hill, M.D., Albany Medical College
Darra Kingsley, M.D., University of Nebraska Medical Center
Wayne Kuang, M.D., Stanford University School of Medicine
Seth Lowell, M.D., Duke University
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Linda Rose, M.D., Ph.D., University of Maryland
Yassin Said, M.D., Damascus University School of Medicine, Syria
Jess Schwartz, M.D., New York University School of Medicine
Satyan Shah, M.D., Robert Wood Johnson Medical School, Camden, NJ
Isaac Tawil, M.D., Sackler School of Medicine
Anthony Vigil, M.D., The University of New Mexico
Philip Vitale, M.D., New Jersey College of Medicine
Anne Marie Wallace, M.D., University of Arizona
Libby Watch, M.D., Sackler School of Medicine, Tel Aviv University
Sontee West, M.D., UT Houston Medical School
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Albert M. Brettnr, D.D.S., Temple University
Donals E. Fry, M.D., Ohio State University School of Medicine
Fred Herzon, M.D., University of Illinois
Stuart B. Pett, Jr., M.D., University of Utah

DIAGNOSTIC AND THERAPEUTIC SCIENCES

The University of New Mexico School of Medicine offers a number of paramedical health professional training and educational programs in the Diagnostic and Therapeutic Sciences, ranging from certificate to the Master's degree.

Diagnostic and Therapeutic Sciences professionals play an important role in the health care delivery system and have opportunities for challenging careers in hospitals, physicians' offices, nursing homes, extended care facilities, rehabilitation centers, clinics, industry and other health-related agencies.

DIVISION OF DENTAL HYGIENE

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Introduction

The Division of Dental Hygiene currently offers three programs:

1. A Bachelor of Science in Dental Hygiene degree program which includes one and one-half years of pre-professional entrance requirements and two and one-half years of professional curriculum requirements.
2. A Bachelor of Science in Dental Hygiene degree completion program.
3. A Masters of Science in Dental Hygiene degree program.

Dental hygienists are licensed preventive oral health professionals who provide educational, clinical and therapeutic services in dental care. Career opportunities for hygienists are available in a variety of settings, including private dental practices, community dental health clinics, public schools, clinical and basic science research laboratories, state and federal health facilities and management positions. Licensure by national and state examination is required.

Students for the Bachelor of Science in Dental Hygiene degree are accepted for matriculation only in the spring semester. Students may be accepted into the Bachelor of Science in Dental Hygiene Degree Completion Program for the fall, spring or summer sessions.

Bachelor of Science in Dental Hygiene Degree Program Requirements

The Bachelor of Science in Dental Hygiene degree program follows a required three semester pre-professional year in college with a five semester curriculum which begins each year during the spring semester. An additional short session is also included during the summer between the junior and senior years of the Dental Hygiene curriculum. Facilities limit each class to no more than 24 students. In addition to tuition, housing, books and other usual school expenses, the Division of Dental Hygiene issue student instrument kits costing the student approximately \$3,600.00. Additional fees of approximately \$2000.00 annually cover dental supplies, clinic and laboratory, uniforms, graduation fees and Student American Dental Hygienists' Association membership. Fees are subject for change on a yearly basis. Students are responsible for transportation fees to and from rotations at off campus sites.

Semester 1 Pre-professional—Freshman

ENGL 101	Composition I: Exposition	3
BIOL 123/ 124L	Biology for Health Related Sciences and Non-Majors/Lab	4
CHEM 111L	Elements of General Chemistry	4
PSY 105	General Psychology	3
		<hr/> 14

Semester 2 Pre-professional

ENGL 102	Composition II: Analysis and Argument	3
BIOL 237/ 247L	Human Anatomy and Physiology I for the Health Sciences/Lab	4
CHEM 212	Integrated Organic Chemistry and Biochemistry	4
CJ 221	Interpersonal Communication	3
	Elective	3
		<hr/> 17

Semester 3 Pre-professional—Sophomore

SOC 101	Introduction to Sociology	3
BIOL 239L	Microbiology	4
NUTR 244	Human Nutrition	3
STAT 145	Introduction to Statistics	3
BIOL 238/ 248L	Human Anatomy and Physiology II for the Health Sciences/Lab	4
		<hr/> 17

Semester 4 Professional

DEHY 205	Introduction to Dental Hygiene	2
DEHY 210	Head and Neck Anatomy	3
DEHY 211	Dental Anatomy	2
DEHY 250	Gen/Oral Hist and Embry	2
	Two Electives (Humanities Core Curriculum)	6
		<hr/> 15

* Only 6 hrs. of PEP are allowed towards graduation.

Semester 5 Professional—Junior

DEHY 301	Clinical Dental Hygiene Lecture I	3
DEHY 302	Clinical Dental Hygiene I	2
DEHY 330	Dental Health Education I	2
DEHY 312	Dental Radiology/Lab	3
DEHY 340	General and Oral Pathology	3
DEHY 335	Dental Office Emergencies	2
		<hr/> 15

Semester 6 Professional

DEHY 303	Clinical Dental Hygiene Lecture II	2
DEHY 304	Clinical Dental Hygiene II	3
DEHY 331	Dental Health Education II	2
DEHY 320	Dental Bio-Materials	2
DEHY 360	Pharmacology	3
DEHY 370	Special Care in Dental Hygiene	2
DEHY 470	Periodontology I	3
		<hr/> 17

Summer Semester Professional

DEHY 440	Extramural Experience	3
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Semester 7 Professional –Senior			
DEHY 401	Clinical Dental Hygiene Lecture III		2
DEHY 402	Clinical Dental Hygiene III		3
DEHY 475	Periodontology II		2
DEHY 422	Dental Public Health		3
DEHY 410	Dental Hygiene Research Methodology		3
DEHY 480	Local Anesthesia and Pain Control		3
			<hr/> 16
Semester 8 Professional			
DEHY 403	Clinical Dental Hygiene Lecture IV		2
DEHY 404	Clinical Dental Hygiene IV		4
DEHY 442	Principles of Practice		2
DEHY 400	Current Issues		3
DEHY 423	Dental Pub Health II		1
DEHY 440	Extramural Experience		3
			<hr/> 15
Total			<hr/> 126

Admission Requirements

Bachelor of Science in Dental Hygiene

- Applications/Academic Credentials
 - The University of New Mexico Application: Students presently enrolled in a degree-seeking status at The University of New Mexico need not reapply. All others must submit an application for admission to The University of New Mexico. Application forms are available from the Office of Admissions. Complete and return application to the Office of Admissions.
 - Application to the Division of Dental Hygiene: Applications are available from the Division of Dental Hygiene and must be submitted to the Division of Dental Hygiene.
 - Academic Credentials (submit a copy to the Division of Dental Hygiene with your completed application).
 - Official transcripts from all previous institutions of higher education
 - Official listing of courses in progress.
- Admissibility to The University of New Mexico as described in Admissions section in this catalog.
- Completion of pre-professional curriculum. Courses in progress and those to be completed by January of the year in which the application is made will be considered. Proof of successful completion of these courses must be submitted to both The University of New Mexico Office of Admissions and the Division of Dental Hygiene at the end of each semester which they are taken. An official, final transcript must be forwarded to both The University of New Mexico Admissions and Division of Dental Hygiene as soon as it becomes available.
- Minimum overall grade point average of 2.40 on a 4.0 scale will be considered. Courses with pass/fail (CR/NC) grading will not be considered for fulfillment of the requirements. All DH prerequisites courses must be taken for a letter grade.

Deadline: Both applications (The University of New Mexico and Dental Hygiene) and credentials are due no later than September 1. Admission is for the Spring semester only. Those applicants who are provisionally selected will be notified in December.

All applicants will be notified of their admissions status. Selection will be given to qualified persons regardless of their race, color, religion, gender, national origin, age, qualified disability or military involvement. Equal opportunity for admission is given to all qualified applicants.

Advisement sessions are required and are available each month at the Division of Dental Hygiene. Call the office at (505) 272-4513 to attend the monthly sessions.

Bachelor of Science–Dental Hygiene Degree Completion Program

The Bachelor of Science in Dental Hygiene (B.S.D.H.) degree completion program expands the basic skills and knowledge acquired in an Associate of Science in Dental Hygiene degree program.

This program requires successful completion of 12 core credit 400 upper-division courses and selection of area of focus in one of several areas including education, advanced clinic, management, research or public health. The program is self-paced and designed to serve the needs of the practicing hygienist.

This program is available to selected students who have received an Associate Degree or a Certificate in Dental Hygiene from a school accredited by the Commission on Dental Accreditation. Applicants for admission to the bachelor's degree program must meet the following requirements.

Bachelor of Science Degree Completion Program Admission Requirements

- Completion of an CODA-accredited program in dental hygiene.
- A satisfactory academic GPA of at least 2.5 on a 4.0 scale.
- Completed application to the Degree Completion Program.
- A copy of official transcripts of all prior college courses undertaken.
- A \$50.00 application fee made payable to the Division of Dental Hygiene.
- A copy of national dental hygiene examination board score.
- A copy of current and active license in any state.
- Interview with Admissions Committee.
- Application to The University of New Mexico.

Bachelor of Science Degree Completion Requirements

- Satisfactory completion of 12 hours of 400 level Dental Hygiene core courses, to include 6 hours of Extramural Experience in an area of focus as approved by the B.S.D.H. Program Coordinator.
- Satisfactory completion of a minimum of 128 total semester credit hours including the above. Thirty of these hours must be completed at The University of New Mexico, exclusive of extension courses. Fifteen of these hours must be completed after 92 hours have been earned.
- At least a 2.00 grade point average in all hours attempted at The University of New Mexico and a 2.50 average in all dental hygiene courses.
- Written application for graduation to be submitted to the Division of Dental Hygiene office in Novitski Hall during the semester prior to expected graduation date. This is to be submitted to the Division of Dental Hygiene Degree Completion Coordinator.
- Unanimous recommendation for graduation by the full-time faculty of the Division.

An individual curriculum for each student will be developed. This curriculum will be designed to meet the needs of the practicing hygienist who wishes to enroll as a part-time student as well as the full-time continuing student.

First Semester

DEHY 400	Current Issues		3
DEHY 440	Extramural Experience		3
	Areas of concentration: (education, advanced clinic, management, public health, research) additional related electives (such as DEHY 407 1-3)		
	(as approved by program coordinator)		<hr/> 6–12
			<hr/> 12–18

Second Semester

DEHY 410	Dental Hygiene Research Methodology		3
DEHY 440	Extramural Experience		3
	Areas of focus: (education, advanced clinic, management, public health, research) additional related electives (such as DEHY 407 1-3)		
	(as approved by program coordinator)		<hr/> 6–12
			<hr/> 12–18

Students graduate under the catalog requirements of the year in which they enroll, provided they complete graduation requirements within a continuous three-year period. Students

who interrupt attendance and are absent from the program one or more years must reapply and follow the same procedures as a new applicant.

Master of Science in Dental Hygiene Degree Program Requirements

The Master of Science in Dental Hygiene degree program follows a required four semester graduate level curriculum, which begins each year during the fall semester. Resources limit each class size to no more than 5 students. In addition to tuition, housing, books and other usual school expenses will apply. Fees are subject to change on a yearly basis. Students are responsible for transportation fees to and from externships at off campus sites.

Plan I: Thesis Option

Semester 1		
DEHY 510	Dental Hygiene Research	3
DEHY 502	Instructional Strategies	3
DEHY 505	Clinical Teach/Admin	4
Semester 2		
DEHY 500	Current Issues	3
DEHY 501	Dental Hygiene Manag/Admin	3
DEHY 503	Oral Medicine	3
Semester 3		
DEHY 599	Thesis	3
STAT 579	Selected Topics in Stats	3
Semester 4		
DEHY 504	Dental Hygiene Internship	6
DEHY 599	Thesis	3
TOTAL		34

Plan II: Nonthesis Specialty

Semester 1		
DEHY 510	Dental Hygiene Research	3
DEHY 502	Instructional Strategies	3
DEHY 505	Clinical Teach/Admin	4
Semester 2		
DEHY 500	Current Issues	3
DEHY 501	Dental Hygiene Manag/Admin	3
DEHY 503	Oral Medicine	3
Semester 3		
DEHY 560	Non-Thesis Project	3
STAT 579	Selected Topics in Stats (Graduate Course from Specialty)	3
Semester 4		
DEHY 504	Dental Hygiene Internship (Graduate Course from Specialty)	6
TOTAL		37

*Satisfactory completion of Master's Exam Mandatory for Graduation.

Plan II: Nonthesis Dental Hygiene Practitioner Option

Semester 1		
DEHY 510	Dental Hygiene Research	3
DEHY 502	Instructional Strategies	3
DEHY 505	Clinical Teach/Admin	4
Semester 2		
DEHY 500	Current Issues	3
DEHY 501	Dental Hygiene Manag/Admin	3
DEHY 503	Oral Medicine	3
Semester 3		
DEHY 561	Advanced Dental Hygiene Clinic	6
STAT 579	Selected Topics in Stats	3
Semester 4		
DEHY 504	Dental Hygiene Internship	6
DEHY 562	Primary Dental Care	3
TOTAL		37

*Satisfactory completion of Master's Exam Mandatory for Graduation.

Admission Requirements

Formal admission to The University is an initial requirement for admission to the Master of Science Degree Program in Dental Hygiene. Applications for graduate admission are available from the Division of Dental Hygiene, University of New Mexico. The Division of Dental Hygiene will recommend acceptance to the program. The Office of Graduate Studies will offer final determination of admissions. The following documents must be submitted to the Division of Dental Hygiene for admittance to the program:

- 1) Application to the Office of Graduate Studies.
- 2) Application to the Division of Dental Hygiene.
- 3) Photocopy of the National Dental Hygiene Board Examination results.
- 4) Possession of a bachelor degree in dental hygiene or a related field and, in the latter case, have completed an accredited certificate or associate program in Dental Hygiene. Proof should be provided by official college transcripts.
- 5) Evidence of an undergraduate overall quality point average of at least 3.0 on a 4.0 scale.
- 6) Three letters of recommendation.
- 7) Interview with Admissions Committee.

Deadline: Both applications are due no later than April 15th. Early admission due date is January 31. Those applicants who are provisionally selected will be notified in May. All applicants will be notified of their admission status. Selection will be given to qualified persons regardless of their race, color, religion, national origin, age, qualified disability or military involvement. Equal opportunity for admission is given to all qualified applicants.

Advisement sessions are available from the Division of Dental Hygiene.

Call the office at (505) 272-8147 for an appointment.

Graduation Requirements

- A. Satisfactory completion of all graduate courses.
- B. Students who have completed graduate-level course work (at a B level or higher) at an accredited institution other than UNM may apply for the credit(s) to be transferred.
- C. Students must maintain a 3.00 GPA or higher.
- D. Student must complete the Master's Examination and/or Thesis Requirement.
- E. All work toward a Master degree including transferred course work must be completed within a seven-year period.
- F. Students must inform their graduate unit and the Office of Graduate Studies in writing of their intention to graduate at the end of a particular semester by submitting a "Notification of Intent to Graduate" form.
- G. Unanimous recommendation for graduation by the full-time faculty of the Division of Dental Hygiene and School of Medicine.

Dental Hygiene (DEHY)

205. Introduction to Dental Hygiene. (2)

Introduction to Dental Hygiene is a comprehensive overview of major topics and issues germane to the practice of dental hygiene. Topics selected in this course are intended to provide entering dental hygiene students with an understanding of the role of the dental hygienist in disease prevention, therapeutic services provided by dental hygienists and professional growth. (Spring)
Restriction: DH majors only.

210. Head and Neck Anatomy. (3)

Anatomy of head and neck with emphasis on oral structures and their function. Three lectures. (Spring)
Restriction: DH majors only.

250. Gen/Oral Hist and Embroy. (2)

Study of cells, tissues, organ systems and embryology with emphasis on the oral structure.

Restriction: DH majors only.

301. Clinical Dental Hygiene Lecture I. (3)

Provides student with the theoretical basis to perform clinical dental hygiene. Topics covered include: intra- and extraoral examination procedures, periodontal tissue characteristics, occlusion and basic dental hygiene instrumentation.

Restriction: DH majors only.

302. Clinical Dental Hygiene I. (2)

Dental Hygiene 302 provides the student with hands-on experiences in a clinical setting. Students practice dental hygiene evaluative and instrumentation skills learned in 301.

Restriction: DH majors only.

303. Clinical Dental Hygiene Lecture II. (2)

Theories and clinical performance of specific dental hygiene treatment concerns as well as biomedical/dental concerns are emphasized. Content includes nutritional counseling, intraoral photography, periodontal debridement and microscopic evaluation of plaque samples.

Restriction: DH majors only.

304. Clinical Dental Hygiene II. (3)

DH 304 refines assessment and instrumentation skills. Emphasis is focused upon developing case management skills relative to periodontal debridement, dietary counseling, desensitization, phase contrast microscopy, subgingival irrigation and other related preventive skills.

Restriction: DH majors only.

312. Dental Radiology/Lab. (3)

Didactic, laboratory and clinical course which includes basic concepts for radiation physics, radiation biology and protection, exposure techniques, film processing and mounting, quality assurance and radiographic appearance of normal and some abnormal anatomic landmarks.

Restriction: DH majors only.

320. Dental Bio-Materials. (2)

A survey of materials used in dentistry and dental hygiene and dental laboratory procedures.

Restriction: DH majors only.

330. Dental Health Education I. (2)

This course includes the Etiology of prevalent oral diseases with a focus upon developing the education skills necessary to counsel dental hygiene patients. Dental and periodontal charting techniques are introduced.

Restriction: DH majors only.

335. Dental Office Emergencies. (2)

An introduction to emergency situations in the dental office with emphasis on taking and recording health/dental history and procedures required to prevent occurrence of an emergency situation. {Fall}

Restriction: DH majors only.

340. General and Oral Pathology. (3)

Pathology of the head and neck and the major diseases that affect the oral cavity. Two lectures. {Spring}

Restriction: DH majors only.

360. Pharmacology. (3)

Basic principles of pharmacology and their application to drugs currently used in dentistry; mechanisms of action with emphasis on drugs specifically used by dental professionals and possible interactions between other medications and these drugs.

Restriction: DH majors only. {Spring}

370. Special Care in Dental Hygiene. (2)

A didactic course with topics covered to include medically and physically compromised patients, management of the geriatric population and hospital dentistry. Assigned rotations with affiliated health care facilities are a part of 440.

Restriction: DH majors only.

400/500. Current Issues in Dental Hygiene. (3)

In depth discussions focusing on current issues facing the dental hygiene discipline.

Restriction: DH majors only.

401. Clinical Dental Hygiene Lecture III. (2)

Advanced clinical concepts and procedures.

Restriction: DH majors only.

402. Clinical Dental Hygiene III. (3)

Students refine DH skills while learning new techniques. Emphasis is placed upon the quality of care the student renders.

Restriction: DH majors only.

403. Clinical Dental Hygiene Lecture IV. (2)

This course is designed to emphasize treatment of medically compromised patients. Guest speakers representing various dental specialties are also included.

Restriction: DH majors only.

404. Clinical Dental Hygiene IV. (4)

Clinical course which helps the student develop time management skills necessary for private practice and provides an environment necessary to further develop the students periodontal skills through routine periodontal treatment and periodontal surgery.

Restriction: DH majors only.

407. Problems. (1-3 to a maximum of 9) Δ

Topical research and new procedures that cannot be accommodated in the regular dental hygiene curriculum. Hours arranged. **Offered on a CR/NC basis only.**

Restriction: DH majors only.

410/510. Dental Hygiene Research Methodology. (3)

Developing of research in regard to special areas in dental hygiene with emphasis on writing reports.

Restriction: DH majors only.

422. Dental Public Health I. (3)

Study of the dental care delivery system in the world today and a global perspective of the science of oral disease prevention.

Restriction: DH majors only.

423. Dental Public Health II. (1)

Application of principles and objectives studied in 422. Students will plan and develop specific educational programs for schools, hospitals, nursing homes, mental retardation centers and other groups in the community.

Prerequisite: 422. Restriction: DH majors only.

440. Extramural Experience. (1-6 to a maximum of 9) Δ

Provides the student with the opportunity to achieve educational and clinical skills and in depth knowledge in various dental care delivery systems.

Restriction: DH majors only.

442. Principles of Practice. (2)

Introduction to dental hygiene professional ethics, professional association, principles, laws, regulations and office management.

Restriction: DH majors only.

470. Periodontology I. (3)

Didactically covers basic biological principles and the prevention and treatment of periodontal disease. Three lectures. {Fall}

Restriction: DH majors only.

475. Periodontology II. (2)

Didactically covers periodontal surgeries maintenance and support periodontal services.

Restriction: DH majors only.

480. Local Anesthesia and Pain Control. (3)

Instruction and clinical practice in the administration of local anesthetic agents and other pain control treatment modalities.

Restriction: DH majors only.

500/400. Current Issues in Dental Hygiene. (3)

Restriction: DH majors only.

501. Dental Hygiene Administration. (3)

Restriction: DH majors only.

502. Dental Hygiene Instructional Strategies. (3)

Restriction: DH majors only.

503. Oral Medicine. (3)

Restriction: DH majors only.

504. Dental Hygiene Internship. (1-6 to a maximum of 6) Δ

Restriction: DH majors only.

505. Clinical Teaching and Administration. (4)

Restriction: DH majors only.

507. Problems. (1-3 to a maximum of 6) Δ

Topical research and new procedures that cannot be accommodated in the regular dental hygiene curriculum.

Restriction: DH majors only.

510/410. Dental Hygiene Research Methodology. (3)

Developing of research in regard to special areas in dental hygiene with emphasis on writing reports.

Restriction: DH majors only.

560. Nonthesis Project. (3)

Restriction: DH majors only.

561. Advanced Dental Hygiene Clinic. (6)

Restriction: DH majors only.

562. Primary Dental Care. (3)

Restriction: DH majors only.

599. Dental Hygiene Thesis. (3, no limit) ΔContinuation of research, culminating in Master's Degree Thesis. The student is responsible for following procedures of the Office of Graduate Studies. **Offered on a CR/NC basis only.**

Restriction: DH majors only.

EMERGENCY MEDICINE

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Professors

Michael Richards, M.D.

Director and Medical Director

Marc-David Munk, M.D., M.P.H.

Lecturer III

Melissa Alexander, Ph.D., George Washington University, NREMT-P

Coffee Brown, M.D., FACEP

Lynne Fullerton, Ph.D., University of New Mexico

Instructors

Luke Forslund, NREMT-P

John Grassham, B.S., University of New Mexico, NREMT-P

Jeffrey Gregor, NREMT-P, B.S.-EMS, University of New Mexico

Mary Hewett, B.S., University of New Mexico, EMT-P

Rick Lynn, B.S., East Stroudsbury University, EMT-P

Shelly McLaughlin, M.S., University of New Mexico, EMT-I

David Turner, EMT-P

Jason Williams, B.S., University of New Mexico, NREMT-P

Bachelor of Science in Emergency Medical Services

The B.S. degree in EMS is intended to prepare graduates to meet the professional requirements for prehospital care providers. Completion of the paramedic core courses with a minimum grade of C is required for eligibility to apply for National Registry of EMTs examination and New Mexico Licensure. Only paramedic core courses are required for National Registry eligibility.

Students may enter the program with or without EMS licensure. Students with previous EMS licensure must discuss options for receiving credit with the program academic advisor. The program accepts academic credit from accredited institutions of higher education for course work deemed equivalent to program requirements. Of the 132 hours required for the degree, a minimum of 30 credit hours in the EMS major must be taken at the University of New Mexico to satisfy University residency requirements.

Application and Admission Requirements

New applicants for admission to the B.S. in EMS program must complete the standard UNM application for admission and declare EMS as their major in the University College Advisement Center. Students applying for admission to the program must contact the advisor at the EMS Academy.

Prior to admission to the paramedic core courses students must have completed 30 undergraduate hours to include the equivalent of Math 121, College Algebra, and the equivalent of English 102, English Composition, with a grade of no less than a C, and have an overall GPA of 2.5. Alternatively, students who have not met these requirements may contact the EMS Academy to take the Health Occupations Basic Entrance Test (HOBET).

Contact the program Academic Advisor for admission application deadlines. Paramedic core course admission deadlines differ from UNM standard application deadlines.

Although EMS licensure is not required for admission to the program, those students with out-of-state licensure should contact the New Mexico EMS Bureau regarding reciprocity prior to taking paramedic core courses. All students must have current New Mexico licensure at the EMT-Basic or EMT-Intermediate level prior to taking paramedic core courses.

Program Requirements

Students must maintain an overall GPA of 2.5 throughout the program. While in the paramedic core courses students must maintain a current CPR for healthcare providers course completion card and a current New Mexico EMT license.

Departmental Honors Program

Students with a minimum overall GPA of 3.2 and a minimum 3.5 GPA in EMS course work are eligible for honors under the following circumstances:

- Completion of a minimum of 6 additional credit hours of approved research or independent study courses beyond the hours required to achieve the B.S. degree.
- Submission of an approved project, submission-ready research article, or presentation at a state or national conference.
- Endorsement of program faculty
- Maintenance of academic honesty and integrity, and professional conduct expected of healthcare professionals.

Bachelor of Science Degree Completion Requirements

1. Satisfactory completion of a total of 132 credit hours. A minimum 30 hours of these hours must be UNM EMS

- courses. Fifteen of these hours must be completed after 92 hours have been earned.
2. Completion of general education requirements the first and second years. Completion of paramedic school the third year, and completion of listed electives during the fourth year.
 3. Minimum overall GPA of 2.5, EMS course GPA 3.0.
 4. Submission of an application for graduation.
 5. Approval of the full-time program instructional staff.

General Education Requirements

MATH 121	College Algebra	3
-or-		
MATH 150	Pre-Calculus Mathematics	3
-or-		
MATH 180	Calculus I	3
ENGL 101	Composition I	3
ENGL 102	Composition II	3
ENGL 220	Expository Writing	3
-or-		
ENGL 290	Introduction to Professional Writing	3
PSY 105	General Psychology	3
BIOL 123	Biology for Health Related Sciences and Non-Majors	3
BIOL 124L	Lab for Biology for Health Related Sciences and Non-Majors	1
CHEM 121	General Chemistry I	3
-and-		
CHEM 123L	General Chemistry I Lab	1
-or-		
CHEM 122	General Chemistry II	3
-and-		
CHEM 124L	General Chemistry II Lab	1
BIOL 237	Human Anatomy & Physiology I for the Health Sciences	3
BIOL 247L	Human Anatomy and Physiology Lab I	1
BIOL 238	Human Anatomy & Physiology II for the Health Sciences	3
BIOL 248L	Human Anatomy and Physiology Lab II	1
STAT 145	Introduction to Statistics (or equivalent)	3
PHIL 101	Introduction to Philosophical Problems	3
PHIL 245	Professional Ethics	3
CJ 130	Public Speaking	3
ANTH 101	Introductory Anthropology or	
-or- SOC 101	Introductory Sociology	3
Fine Arts Elective		3
Foreign Language		3
Total		52

Pre-Paramedic Required EMS Courses

EMS 113	EMT-Basic	8*
EMS 120	Introduction to EMS Systems	3
EMS 142	EMT-Basic	2*
Total		13

*Students may substitute the 2-semester equivalent of EMS 113 and 142 consisting of EMS 114, 115, 140, and 141. Students entering the program as licensed EMT-Basics may substitute 6 hours of approved electives, which may include EMS 143, 151, and 180, if not licensed as an EMT-Intermediate.

Paramedic Core Courses

Paramedic core courses can be competed at any time in the program, so long as prerequisites are achieved, however, the courses must be completed in the sequence below in consecutive semesters, including one summer session.

Semester I

EMS 209	Introduction to Prehospital Advanced Life Support	3
EMS 210	Prehospital Pharmacology	3
EMS 211	Patient Assessment and Airway Management	2
EMS 212	Cardiac and Respiratory Emergencies	2
EMS 241	Paramedic Lab I	2
EMS 251	Paramedic Clinical Rotation I	3
Total		16

Semester II

EMS 220	Medical Emergencies	3
EMS 221	EMS Operations	3
EMS 230	Special Patient Populations in EMS	3
EMS 231	Trauma Emergencies	3
EMS 242	Paramedic Lab II	2
EMS 252	Paramedic Clinical Rotation II	2
Total		16

Semester III

EMS 243	Paramedic Lab III	2
EMS 252	Paramedic Clinical Rotation III	2
EMS 254	Paramedic Field Internship	4
Total		8
Paramedic Core Total		40

Additional Required EMS Courses

EMS 470	EMS Research and Analysis	3
Total		3

Fourth Year Requirements

Students must complete 27 credit hours, with a grade of C or better, choosing from the courses below:

EMS 398	EMS Topics	1-3
EMS 399	EMS Problems	3
EMS 400	Advanced Assessment	3
EMS 401	AICP	3
EMS 402	PNICP	3
EMS 403	Mountain Medicine	3
EMS 407	Aeromedical EMS	3
EMS 410	EMS Administration	3
EMS 421	EMS Education Internship	3
EMS 441	EMS Education	3
EMS 471	EMS Research and Publication	3
EMS 472	EMS Research Independent Study	1-3
EMS 473	EMS Journal Club	1
EMS 498	EMS Topics	1-3
EMS 499	EMS Problems	3
BIOL 201	Molecular and Cell Biology	4
BIOL 203L	Ecology and Evolution	4
BIOL 204L	Plant and Animal Form and Function	4
BIOL 239L	Microbiology for Health Sciences and Non-Majors	3
BIOC 423	Introductory Biochemistry	3
CHEM 301	Organic Chemistry I	3
CHEM 301	Organic Chemistry II	3
HED 471	Introduction to Community Health	3
HED 482	Introduction to Health Education and Multicultural Health Beliefs	3
HIST 417	History of Modern Medicine	3
MATH 180	Calculus	3
MATH 181	Calculus II	3
PHYC 151	General Physics I	3
PHYC 152	General Physics II	3

Emergency Medicine (EMS)

106. Emergency Medical Responder. (4)

Emergency Medical Responder is a 60-hours course designed specifically for personnel who are first at the scene of an accident or emergency. This course offers a foundation for advanced EMS courses.

113. EMT-Basic. (8) [6]

Meets the 1998 EMT-Basic National Standard Curriculum requirements and incorporates New Mexico EMT-B scope of practice. Provides lecture instruction to prepare the student to sit for New Mexico and National Registry testing. Corequisite: 142. Restriction: program permission.

114. EMT-Basic I. (3)

First half of a 2-semester option for EMT-Basic based on the National Standard Curriculum and New Mexico EMT-B scope of practice. Provides lecture instruction to prepare the student for EMS 115, EMT-Basic II. Corequisite: 140. Restriction: program permission.

115. EMT-Basic II. (3)

Second half of a 2-semester EMT-Basic course based on National Standard Curriculum and New Mexico EMT-B scope of practice. Provides instruction to prepare the student to sit for New Mexico and National Registry testing.
Prerequisite: 114 and 140. Corequisite: 141. Restriction: program permission.

120. Introduction to EMS System. (3)

Covers the history of emergency medical services and the development of EMS systems and current trends and issues in EMS. Ideal for students considering a career in EMS.

121. EMT Vehicle Extrication. (1)

Teaches fundamental techniques of basic and light vehicle rescue. Primary focus is on vehicle extrication.
Prerequisite: 113 and 142.

140. EMT-Basic Lab I. (1)

First half of a 2-semester option for EMT-Basic based on the National Standard Curriculum and New Mexico EMT-B scope of practice. Provides lab instruction to prepare the student for EMS 141, EMT-Basic Lab II.
Corequisite: 114. Restriction: program permission.

141. EMT-Basic Lab II. (1)

Second half of a 2-semester option for EMT-Basic based on the National Standard Curriculum and New Mexico EMT-B scope of practice. Provides lab instruction to prepare the student to sit for New Mexico and National Registry testing.
Prerequisite: 114 and 140. Corequisite: 115. Restriction: program permission.

142. EMT-Basic Lab. (2)

Meets the 1998 EMT-Basic National Standard Curriculum requirements and incorporates New Mexico EMT-B scope of practice. Provides lab instruction to prepare the student to sit for New Mexico and National Registry testing.
Corequisite: 113. Restriction: program permission.

143. EMT-Intermediate Lab. (1)

Meets New Mexico requirements for EMT-Intermediate skills training, including intravenous fluid administration and pharmacology.
Prerequisite: 113 and 142. Corequisite: 180. Restriction: program permission.

151. EMT-I Clinical and Field Experience. (2)

Meets New Mexico requirements for EMT-Intermediate field and clinical training, including emergency department and prehospital experience.
Prerequisite: 113 and 142. Corequisite: 180 and 143. Restriction: program permission.

180. EMT-Intermediate. (5) [3]

Meets New Mexico requirements for EMT-Intermediate lecture content, including intravenous fluid administration and pharmacology.
Prerequisite: 113 and 142. Corequisite: 143. Restriction: program permission.

209. Introduction to Prehospital Advanced Life Support. (3)

Provides students with an understanding of foundational concepts in emergency medical services, including EMS systems, paramedic roles and responsibilities, and a review of anatomy and physiology.
Corequisite: 210 and 211 and 212 and 241 and 251. Restriction: program permission.

210. Prehospital Pharmacology. (3)

Provides the paramedic student with an overview of drug classes, actions, and metabolism, as well as an understanding of considerations in medication administration.
Corequisite: 209 and 211 and 212 and 241 and 251. Restriction: program permission.

211. Patient Assessment and Airway Management. (2)

Introduces the paramedic student to techniques of advanced airway management, patient history taking, and physical examination.
Corequisite: 209 and 210 and 212 and 241 and 251.

212. Cardiac and Respiratory Emergencies. (3)

Introduces the paramedic student to the assessment and management of patients with cardiac and respiratory problems. Includes cardiac rhythm interpretation.
Corequisite: 209 and 210 and 211 and 241 and 251. Restriction: program permission.

220. Medical Emergencies. (3)

Introduces paramedic students to the assessment and management of the adult patient with a variety of medical problems, including infectious illness, anaphylaxis, diabetes, and gastrointestinal emergencies.
Corequisite: 221 and 242 and 252. Restriction: program permission.

221. EMS Operations. (3)

Introduces the paramedic student to the operational aspects of prehospital emergency care, including rescue and extrication, hazardous materials response, disaster response, and incident command.
Corequisite: 220 and 242 and 252. Restriction: program permission.

230. Special Patient Populations in EMS. (3)

Provides an introduction to the prehospital emergency management of medical and traumatic problems in pediatric, geriatric, and pregnant patients.
Corequisite: 231 and 243 and 253. Restriction: program permission.

231. Trauma Emergencies. (3)

Introduces the paramedic student to prehospital advanced life support assessment and management of patients with traumatic injury.
Corequisite: 230 and 243 and 253. Restriction: program permission.

241. Paramedic Lab I. (2)

Provides instruction in and practice application of advanced life support skills in patient assessment, airway management, medication administration, and advanced cardiac life support.
Corequisite: 209 and 210 and 211 and 212 and 251. Restriction: program permission.

242. Paramedic Lab II. (2)

Provides instruction in and practice application of advanced life support skills in the assessment and management of patients with medical emergencies. Practice in vehicle extrication skills.
Corequisite: 220 and 221 and 252. Restriction: program permission.

243. Paramedic Lab III. (2)

Provides instruction in and practice application of advanced life support skills in the assessment and management of pediatric, geriatric, and pregnant patients, as well as in trauma management.
Corequisite: 230 and 231 and 253. Restriction: program permission.

251. Paramedic Clinical Rotation I. (3)

Facilitates paramedic students' progress toward entry-level clinical competence by providing the opportunity to integrate classroom knowledge and skills with professional practice under the supervision of clinical instructors.
Corequisite: 209 and 210 and 211 and 212 and 241. Restriction: program permission.

252. Paramedic Clinical Rotation II. (2)

Observation and supervised care of emergency patients in the emergency department, inpatient units, and prehospital setting.
Corequisite: 220 and 221 and 242. Restriction: program permission.

- 253. Paramedic Clinical Rotation III. (2)**
 Observation and supervised care of emergency patients in the emergency department, in-patient units, and prehospital setting.
 Corequisite: 230 and 231 and 243. Restriction: program permission.
- 254. Paramedic Field Internship. (4)**
 Paramedic students develop EMS team-leadership skills and learn to operate independently, under supervision, at entry-level competence.
 Prerequisite: 230 and 231 and 243 and 253. Restriction: program permission.
- 398. EMS Topics. (1-3 to a maximum of 15)** [1-3 to a maximum of 6] Δ
- 399. EMS Problems. (1-3 to a maximum of 6)** Δ
- 400. Advanced Assessment. (3)**
 Provides paramedics with an in-depth understanding of patient history and physical examination techniques.
 Prerequisite: 212 and 241 and 251. Restriction: program permission.
- 401. Adult Intensive Care Paramedic. [Mobile Intensive Care Paramedic.] (3)**
 Introduces the paramedic to advanced pathophysiology, procedures and critical thinking skills used in the critical care transport environment. Topics include advanced airway management and assessment, cardiac and hemodynamic monitoring and advanced 12 lead ECG interpretation.
 Prerequisite: 211 and 212 and 220 and 241 and 242.
 Restriction: program permission.
- 402. Pediatric and Neonatal Intensive Care Paramedic. (3)**
 Instructs students to perform as a member of highly specialized pediatric and neonatal critical care transport teams providing inter-facility transport of critically ill pediatric patients. Topics include ventilator management, congenital heart defects, and pharmacology.
 Prerequisite: 230 and 243. Restriction: program permission.
- 403. Mountain Medicine. (6)**
 The Mountain Medicine course is intended for medical professionals who participate in mountain recreation or are mountain professionals such as guides or Mountain Rescue personnel with a current EMT-Intermediate, Paramedic or Nurse license. Restriction: program permission.
- 407. Aeromedical EMS. (3)**
 Provides paramedics with an overview of rotary and fixed-wing air medical transport, including ground operations, flight physiology, and patient management.
 Prerequisite: 212 and 220 and 241 and 242.
- 410. EMS Administration. (3)**
 An introduction to all aspects of EMS service agency administration. Topics include political and regulatory structures, personnel management, and fiscal management.
 Prerequisite: 113 and 120 and 142.
- 421. EMS Education Internship. (3)**
 The student is assigned to an instructor mentor and will participate, under supervision, in the planning, implementation, and evaluation of EMS training programs.
 Prerequisite: 441.
- 441. Principles of EMS Education. (3)**
 This course covers the development, design, implementation, and evaluation of EMS training programs.
 Prerequisite: 143 and 153 and 180.
- 453. Aeromedical EMS Clinical Rotation. (1)**
 Practical application of content learned in EMS 403. Student will work under the preceptorship of a fixed-wing flight crew.
 Pre- or corequisite: 407.

- 470. EMS Research Analysis. (3)**
 This course provides the student with an overview of the research process and teaches skills in critical analysis of medical literature.
 Prerequisite: STAT 145.
- 471. EMS Research and Publication. (3)**
 The student designs an original research project under the guidance of department faculty. Emphasis is on literature review, research design, and completing institutional review board requirements.
 Prerequisite: 470.
- 472. EMS Research Independent Study. (1-3 to a maximum of 6)** Δ
 Designed as a follow-up to EMS 471. The student will continue with the project developed in EMS 471, including data collection and analysis.
 Prerequisite: 471.
- 473. EMS Journal Club. (1)**
 Seminar course involving reading, presentation, and discussion of emergency medicine literature.
 Restriction: program admission.
- 498. EMS Topics. (1-3 to a maximum of 15)** [1-3 to a maximum of 6] Δ
- 499. EMS Problems. (1-3 to a maximum of 6)** Δ

MEDICAL LABORATORY SCIENCES

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Introduction

The Medical Laboratory Sciences Program trains students to enter the fast paced world of the Medical Technologist (MT)/Clinical Laboratory Scientist (CLS). This career encompasses clinical testing in the fields of chemistry, hematology, microbiology, immunology, urinalysis, and blood banking. With the significant advances in medical research, health care has become increasingly dependent on a growing number of complex laboratory tests and procedures to diagnose and treat diseases. The MT/CLS student will become an important member of the health care team who will be responsible for providing this essential service.

The MT/CLS profession requires a broad general science background and specialized laboratory education to become proficient in the performance of laboratory procedures. After graduation, our students will be able to choose from a variety of career paths ranging from management to clinical bench work in a hospital or research laboratory. They will be responsible for the quality and accuracy of these lab results,

providing critical information for diagnosis and treatment of patients. Our trained professionals will find challenging opportunities for employment in hospitals and independent laboratories, physicians' offices, clinics, research, industry, and educational institutions.

Medical Laboratory Sciences Program

The Medical Laboratory Sciences Program at The University of New Mexico is offered through the Department of Pathology in the School of Medicine. The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 West Bryn Mawr Ave., Suite 670, Chicago, IL 60631, (773) 714-8880. Students who successfully complete the program are eligible to sit for the national certification examination given by the Board of Certification (ASCP).

The MLS Program may be taken as part of a four-year curriculum leading to the Bachelor of Science degree in Medical Laboratory Sciences from The University of New Mexico's School of Medicine *OR* as part of a degree from another four-year academic institution. The Program follows a prescribed curriculum which requires two and one half years of pre-professional academic study and one and one half years in the MLS Program.

Students earning a B.S. degree from an academic institution other than The University of New Mexico must meet the degree requirements established by that university in addition to the minimum educational requirements specified below for entering The University of New Mexico's MLS Program. Students register through The University of New Mexico for all MEDL courses.

Admission Requirements

Minimum education requirements are 69 semester hours of acceptable college credits from a college or university approved by a recognized accrediting agency including the required courses listed below. All credit hours must be acceptable towards a baccalaureate degree. A minimum grade point average of 2.00 in all subjects including a grade of C or better in each prerequisite biology, chemistry and math course is required.

Students coming from other universities or colleges who will earn their baccalaureate degree from their parent institutions or students who already have a baccalaureate degree must have the following prerequisites for admission to the Medical Laboratory Sciences Program at The University of New Mexico.

Total of 69 semester hours of credit including:

1. Biological Sciences—approximately 16 semester hours including courses in physiology and microbiology.
2. Chemistry—approximately 12 hours including one course in organic or biochemistry.
3. Mathematics—a minimum of one course in college level algebra or a higher math course.

NOTE: Remedial and survey courses are not acceptable. Other recommended courses are: anatomy and physiology, cell biology, parasitology, pathogenic bacteriology, biochemistry, psychology, sociology, computer science, communications, management and education.

Students can be admitted to the program at the beginning of the Spring semester, Summer session, or Fall semester. An application must be submitted to the Office of Medical Laboratory Sciences by the **October 15** deadline for January admission or the **March 15** deadline for June admission or **June 15** for August admission. Application may be made while enrolled in courses needed to complete the prerequisites. Official transcripts of all college course work must be sent directly from each institution. Admission is limited, with selection based on cumulative grade point average, science grade point average, letters of reference and a personal interview. A minimum cumulative grade point average of 2.5 is recommended. Selection of applicants will be made by the Medical Laboratory Sciences Admissions Committee. All

applicants will be notified of their admission status. Selection will be given to qualified persons regardless of race, color, religion, gender, national origin, age, qualified handicap or military involvement. Residents of New Mexico receive preference in admission.

Students earning their B.S. degrees from the School of Medicine at The University of New Mexico must follow the prescribed curriculum outlined below and should make their intentions known to a Medical Laboratory Sciences advisor as early in their student career as possible in order to receive proper advisement.

Pre-Medical Laboratory Sciences Curriculum

Biological Sciences:

Approximately 16 semester hours to include:

General: BIOL 123/124L (4 hrs.)

—*or*—

201/201L and 202/202L (8 hrs.)

Cell Biology: BIOL 201/201L (4 hrs.)

Anatomy and Physiology: BIOL 237 and 238 (6 hrs.)

Microbiology: BIOL 239L Microbiology for Health Sciences (4 hrs.)

—*or*—

BIOL 351/352L General Microbiology Lab (4 hrs.)

Chemistry:

Approximately 12 semester hours to include:

General: CHEM 121 and 123L
122 and 124L (8 hrs.)

—*or*—

CHEM 131L and 132L (9 hrs.)

Organic or Biochem: CHEM **301 and 303L Organic (4 hrs.)

—*or*—

CHEM 212 Integrated Organic & Biochemistry (4 hrs.)

Mathematics:

Minimum of 2 courses to include:

College Algebra: MATH 121 (3 hrs.)

Higher Math or Statistics: STAT 145 Introduction to Statistics (3 hrs.) is recommended.

English:

Competence in writing English as determined by the English Department or the following two English courses:

ENGL 101 Composition I: Exposition (3 hrs.)

ENGL 102 Composition II: Analysis and Argument (3 hrs.)

Interpersonal Communicative Skills:

One course from the following:

CJ 221 Interpersonal Communication (3 hrs.)

CJ 225 Small Group Communication (3 hrs.)

Management Theory:

One course on general management theory:

MGMT 113 Management: An Introduction (3 hrs.)

Computer Science:

One course.

CS 150L Computing for Business Students

The University of New Mexico Core Curriculum Courses: Courses must be taken to fulfill the core requirements in the following areas listed. A listing of acceptable courses can be found in this catalog.

Social and Behavioral Sciences (6 hrs.)

Humanities (6 hrs.)

Second Language (3 hrs.)

Fine Arts (3 hrs.)

Medical Laboratory Sciences Program Curriculum

The MLS Program begins each Spring semester, Summer session, or Fall semester. Courses may be taken as a part-time student allowing up to three years instead of the normal one and one half years to complete the program. Students

are assigned to an affiliated clinical laboratory for practical experiences in the rotation courses. Hospital and reference laboratories currently used are: SED Medical Laboratories, TriCore Reference Laboratories, and VA Medical Center and hospitals located throughout the state of New Mexico.

Medical Laboratory Sciences Program—63-64 semester hours

234	Introduction to Clinical Immunology	3
300L	Introduction to Medical Laboratory Sciences	2
310	Introduction to Clinical Chemistry	3
311L	Introduction to Clinical Chemistry Lab	2
315L	Clinical Serology	2
320	Introduction to Clinical Hematology/Hemostasis	4
321L	Clinical Hematology/Hemostasis Lab	2
330	Introduction to Clinical Microbiology	3
331L	Introduction to Clinical Microbiology Lab	2
340L	Introduction to Clinical Immunohematology	2
350L	Clinical Urinalysis	2
410L	Advanced Clinical Chemistry	3
420L	Advanced Clinical Hematology/Hemostasis	3
430	Advanced Clinical Microbiology	3
431L	Advanced Clinical Microbiology Lab	2
432L	Clinical Parasitology	2
440L	Advanced Clinical Immunohematology	2
445	Clinical Lab Management and Education	2
475	Interdisciplinary Case Studies (Elective)	1
		44-45

Clinical Rotation Courses:

351	Basic Clinical Chemistry Rotation	3
352	Basic Hematology/Hemostasis Rotation	3
355	Clinical Urinalysis Rotation	1
451	Advanced Clinical Chemistry Rotation	1
452	Advanced Hematology and Hemostasis Rotation	2
453	Clinical Microbiology Rotation	5
454	Clinical Immunohematology Rotation	4
		19

BIOM 508	Advanced Cell Biology	4
BIOM 555	Problem Based Research Bioethics	1
STAT 538	Biostatistical Methods Public Health/ Medical	3
MEDL 500	Selected Topics in Laboratory Medicine	2
MEDL 550	Laboratory Management Seminar	2
**Electives		6

Masters Degree Non-thesis Plan

MEDL 600	Non-thesis Apprenticeship in research/specialty clinical lab Cytology, Genetics & Cytometry, Biochemistry, Cell Biology or Immunology	10
Total:		36

****Elective Courses:**

Techniques:

BIOM 524	Electron Microscopy	1
BIOM 522	Experimental design and methods in Molecular/Cellular	3
BIOL 546	Advanced Techniques in Light Microscopy	4
CHEM 566	Spectroscopy	4

Neurosciences:

BIOM 509	Principles of Neurobiology	3
BIOM 532	Neurochemistry	3
BIOM 533	Neurophysiology and Neuroanatomy	4
BIOM 535	Neuroscience Seminar	1

Cell Biology/Physiology

BIOM 510	Physiology	3
BIOM 515	Cancer Biology	3
BIOM 516	Molecular Genetics and Genomics	3
BIOM 576	Molecular and Cellular Pharmacology	3
BIOM 580	General Toxicology	3
BIOM 644	Mechanisms of Gene Expression	3
BIOL 510	Genome and Computational Biology	3
BIOL 544	Genomes and Genomic Analyses	4

Immunology/Infectious Disease:

BIOM 514	Immunobiology	3
BIOM 652	Immunopathogenesis	2

Information Requests

Communications regarding information and applications should be addressed to the Director, Medical Laboratory Sciences, MSC09 5250, 1 University of New Mexico, Albuquerque, NM 87131-0001.

NOTE: Changes in the MLS Program could occur. Therefore, you will need to stay in touch with an MLS advisor.

Master of Science in Clinical Laboratory Science

Program Curriculum

The Master of Science in Clinical Laboratory Science degree program follows a required six-semester graduate level curriculum, which begins each year during the fall semester. Resources limit each class size to no more than 5 students. In addition to tuition, housing, books and other usual school expenses, student fees of \$500.00/semester cover lab supplies and special course fees. Fees are subject to change on a yearly basis. Students are responsible for transportation fees to and from externships at off campus sites. The CLS master's degree program is a professional degree that does not require a written thesis, but instead a one-year apprenticeship program with a mentoring laboratory, clinical or education site; provided mainly through the research/clinical/education faculty of the Department of Pathology at the University of New Mexico.

Prerequisites:

- CHEM 301 and 303L Organic Chemistry
- MATH 150 Pre-Calculus
- MATH162 Calculus

Core Requirements:

BIOM 511	Intensive Intro Biochemistry	4
BIOM 507	Advanced Molecular Biology	4

Program Requirements

Admission and Student Information

Formal admission to the University is an initial requirement for admission to the Master of Science in Clinical Laboratory Science Degree Program. Applications for graduate admission and information are available from the Program of Medical Lab Sciences, University of New Mexico, HSSB 217, 505-272-5434. Acceptance into the program will be based on the recommendations of the Department of Pathology and the Admissions Committee.

Up to 5 students are admitted each year into the Master of Science in Clinical Laboratory Science Program. A good academic record is essential, but it does not guarantee acceptance. Screening of applications for Fall/Spring admission will begin on July/October 15th each year. Applications received by these dates will be given first consideration for admission. Applications received after these dates but before the University deadline for the Fall/Spring semester will be considered on a space available basis only. Students are admitted once a year, with classes beginning in the Fall/Spring semester. Students must have a baccalaureate degree and have at least a 3.0 on the last 50 credits or total of their bachelor degree program. Six basic areas are considered in the selection process:

1. Earned baccalaureate degree
2. Certified Medical Technologist/Clinical Laboratory Scientist or equivalent work experience
3. The student's academic record
4. Three letters of Reference
5. Life Experiences
6. Personal Interview

Hard copy applications may be requested directly from the Office of Admissions or downloaded from the Graduate Studies Web site (<http://www.unm.edu/grad>). The Graduate Studies office holds application files for two years.

Deadline: Applications are due no later than June/October 15th. Admission is for the Fall/Spring semester of the same year of application. Those applicants who are provisionally selected will be notified in early July/November. However all applicants will be notified of their admission status. Selection will be given to qualified persons regardless of their race, color, religion, national origin, age, qualified disability or military involvement. Equal opportunity for admission is given to all qualified applicants.

Advisement and Interview sessions will be scheduled through the Program of Medical Lab Sciences.

Call the office at (505) 272-5434 for an appointment.

Graduation Requirements:

- Satisfactory completion of all graduate courses.
- Students who have completed graduate-level course work (at a B level or higher) at an accredited institution other than UNM may apply for the credit(s) to be transferred.
- Students must maintain a 3.00 GPA or higher.
- Students must complete the Master's Apprenticeship Requirement in an approved laboratory.
- All work toward a Master's degree, including transferred course work must be completed within a seven-year period.
- Students must inform their graduate unit and the Office of Graduate Studies in writing of their intention to graduate at the end of a particular semester by submitting a "Notification of Intent to Graduate" form.
- Unanimous recommendation for graduation by the full-time faculty of the Medical Lab Sciences Graduate Program, the Department of Pathology and the School of Medicine.

Medical Laboratory Sciences (MEDL)

121. Introduction to Medical Laboratory Sciences. (1)

Introduction to scope and practice of the Medical Technology profession. Basic terminology and a tour of a hospital laboratory are included. Weekly lectures will alternate with hour-long lab sessions covering blood bank, hematology, microbiology and urinalysis laboratory procedures. (Fall)

234. Introduction to Clinical Immunology. (3)

An introduction to the principles of human immune system function with emphasis on developing a general, basic background for those who have no previous experience in immunology or clinical medicine.

Prerequisite: BIOL 123/124L, or BIOL 201. (Summer)

300L. Introduction to Medical Laboratory Sciences. (2)

An orientation to the profession, blood collection, quality control, lab safety and lab techniques with an emphasis on review of math, statistics, cell biology and biochemistry pertinent to the medical laboratory profession. Library, computer and Internet use as well as educational issues are also included.

Restriction: must be enrolled in B.S.M.L.

310. Introduction to Clinical Chemistry. (3)

A study of metabolic reactions which involve the most common chemical analytes of blood and other body fluids. The principles and methods used in measuring the analytes including spectrophotometric, potentiometric and immunologic assays will be emphasized. Theory of basic instrumentation is also included.

Corequisite: 311L. Restriction: must be enrolled in B.S.M.L.

311L. Introduction to Clinical Chemistry Lab. (2)

Laboratory experiences for performing and/or evaluating the basic testing procedures used in a clinical chemistry laboratory.

Corequisite: 310.

315L. Clinical Serology. (2)

A study of principles and lab methods used in evaluation and diagnosis of the immune system and related diseases, aug-

mented by the use of case studies. Development of critical thinking and problem solving techniques is emphasized. Restriction: must be enrolled in B.S.M.L.

320. Introduction to Clinical Hematology/Hemostasis. (4)

A thorough study of the development, identification and abnormalities associated with blood cells and hemostasis. The principles of routine laboratory procedures and basic instrumentation will be included.

Corequisite: 321L. Restriction: must be enrolled in B.S.M.L.

321L. Clinical Hematology/Hemostasis Lab. (2)

Laboratory experiences in the performance and/or study of routine procedures and basic instrumentation of the clinical hematology and coagulation laboratory.

Corequisite: 320.

330. Introduction to Clinical Microbiology. (3)

A basic study of some of the most common medically important bacteria and fungi with an emphasis on techniques, methods and differential media used to isolate and identify pathogens.

Corequisite: 331L. Restriction: must be enrolled in B.S.M.L.

331L. Introduction to Clinical Microbiology Lab. (2)

Laboratory experiences in the performance of and/or study of procedures used in a clinical microbiology laboratory.

Corequisite: 330.

340L. Introduction to Clinical Immunohematology. (2)

Study of the basic theory of blood group systems, antibody detection and identification, compatibility testing and blood collection and component preparation. Includes laboratory practice of basic procedures performed in a clinical immunohematology lab.

Restriction: must be enrolled in B.S.M.L.

350L. Clinical Urinalysis. (2)

A study of kidney functions and the physicochemical and microscopic urine tests. Case studies, demonstrations and laboratory practice will enhance the development of critical thinking and problem solving skills needed in clinical urinalysis laboratory.

Restriction: must be enrolled in B.S.M.L.

351. Basic Clinical Chemistry Rotation. (3)

Supervised instruction in the performance of analytical procedures for the various chemical analytes of blood and other body fluids in an affiliated laboratory. Testing will include automated chemistry panels, common spectrophotometric, potentiometric and immunologic procedures of routine chemical analytes. **Offered on a CR/NC basis only.**

Prerequisite: 310 and 311L.

352. Basic Hematology/Hemostasis Rotation. (3)

Supervised instruction in the performance of hematological and coagulation procedures in an affiliated laboratory. **Offered on a CR/NC basis only.**

Prerequisite: 320 and 321L.

355. Clinical Urinalysis Rotation. (1)

Supervised instruction in the performance of urinalysis and special procedures in a urinalysis laboratory and of routine phlebotomy procedures in an affiliated clinical laboratory.

Prerequisite: 350L.

410L. Advanced Clinical Chemistry. (3)

Lecture and laboratory experiences on specialized and complex chemical analytes in blood and body fluids; disease patterns, interpretation and correlation of laboratory test results. Development of problem solving, critical thinking and evaluation techniques is emphasized.

Prerequisite: 310 and 311L.

420L. Advanced Clinical Hematology/Hemostasis. (3)

A study of the principles and practice of non-routine Hematology/Hemostasis procedures, with the development of problem solving and interpretive skills through the use of case studies and laboratory tests.

Prerequisite: 320 and 321L.

430. Advanced Clinical Microbiology. (3)

A continuation of the study of medically important bacteria and fungi with an emphasis on a thorough study of body systems and their related infections. A comprehensive study of normal flora of the body versus pathogenic flora and interpretation of representative cultures. Critical thinking and problem solving will be emphasized.

Prerequisite: 330 and 331L. Corequisite: 431L.

431L. Advanced Clinical Microbiology Lab. (2)

Laboratory experiences in the interpretation of cultures of the different areas of the body. Emphasizes interpretation of direct exams and cultures, differentiating normal flora from pathogens, as well as critical thinking and problem solving.

Corequisite: 430.

432L. Clinical Parasitology. (2)

A study of medically important parasites including staining and wet prep procedures, life cycles, morphologic identification and diseases. The major emphasis is on the appropriate methods of collection and handling of specimens, laboratory techniques and the microscopic appearance of the diagnostic stages of human parasites.

Restriction: enrolled in B.S.M.L.

440L. Advanced Clinical Immunohematology. (2)

Advanced study and development of problem solving abilities applied to blood group antigens and antibodies, compatibility testing and hemolytic anemias. Includes use of discussion groups and practice of advanced laboratory procedures.

Prerequisite: 340L.

445. Clinical Management and Education. (2)

The theory and principles for supervising a clinical laboratory with emphasis on problem solving techniques and current lab managerial methods. Also covers education methods for instruction in the lab or for presentations.

Restriction: must be enrolled in B.S.M.L.

451. Advanced Clinical Chemistry Rotation. (1)

Supervised instruction in the performance of analytical procedures for various chemical analytes and panels, including special chemistries, blood gas collection and immunochemistry, either in an affiliate chemistry lab or in the student lab on campus. Advanced rotation will include a quality assurance/control project.

Prerequisite: 351 and 410L.

452. Advanced Hematology and Hemostasis Rotation. (2)

Supervised instruction in the performance of routine and non-routine, complex hematological and coagulation studies, including evaluations of quality assurance and in introduction to management of a hematology lab, either in an affiliated laboratory or in the student lab on campus.

Prerequisite: 352 and 420L.

453. Clinical Microbiology Rotation. (5)

Supervised instruction in the performance of microbiological procedures in an affiliated laboratory.

Prerequisite: 430 and 431L.

454. Clinical Immunohematology Rotation. (4)

Supervised instruction in the performance of blood banking procedures in an affiliated laboratory.

Prerequisite: 440L.

475. Interdisciplinary Case Studies. (1)

Use of interdisciplinary case studies and group discussions for the development of critical-thinking and problem-solving skills. Offered as an elective only.

Restriction: Permission of clinical instructor.

498. Research Honors. (1 to a maximum of 3) Δ**499. Special Topics in Medical Laboratory Sciences. (2 to a maximum of 4) Δ**

Supervised experience in a variety of laboratory settings with increased responsibility or an independent study with tutorials as outlined by the program director. **Offered on a CR/NC basis only.**

Restriction: must be enrolled in B.S.M.L.

500. Selected Topics in Pathology. (2)

An advanced graduate-level course in which current information important in research techniques and administration of a research laboratory will be discussed. The course is a problem-based learning model given by multiple instructors.

550. Lab Management Seminar: Selected Topics. (1 to a maximum of 2) Δ

A graduate-level course in which current information important in laboratory techniques and administration of a private clinical laboratory will be discussed. The course is a problem-based learning model given by multiple Pathology Clinical and Research faculty.

600. Medical Lab Sciences Master's Degree Apprenticeship Program. (1-4 to a maximum of 10) Δ

This course will serve as the non-thesis culmination of the MLS master's degree. It will involve clinical or research apprenticeships in established laboratories either on the UNM campus or in the Albuquerque area.

OCCUPATIONAL THERAPY

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Lecturers

Heidi Sanders, M.A., OTR/L, The University of New Mexico
Gail Stockman, M.S., OTR/L, The University of New Mexico

Introduction

Occupational Therapy is a profession that therapeutically uses meaningful activities to increase independent functioning, enhance development and prevent disabilities. An occupational therapist is involved in helping people learn or relearn the skills necessary to carry out the daily occupations of self-care, work/productivity and play/leisure. Occupational therapists work in a variety of settings including hospitals, rehabilitation centers, nursing homes, public and private schools, community programs, mental health facilities, private practice and home health agencies. Occupational therapists work with people of all ages who have physical disabilities, emotional or behavioral problems, developmental delays or other disabilities. They also work to facilitate health and well being with people with and without disabilities.

The primary mission of The University of New Mexico's Occupational Therapy Graduate Program is to produce well-educated, competent, culturally sensitive and compassionate occupational therapists capable of meeting the occupational therapy health care needs of citizens in the state of New Mexico. The entry-level graduate degree program provides

broad-based, entry-level practice competencies with particular focus on rural, multicultural, community-based and interdisciplinary service delivery. Graduates are prepared to think critically and creatively in a variety of practice settings, to adapt to changing societal and individual needs, and to assume responsibility for their own professional growth. The graduate program (entry level professional Master's in Occupational Therapy) will consist of 21 months (four semesters) of professional academic preparation plus six months (2 semesters) of full-time fieldwork in the community. Upon successful completion of all requirements, the student is awarded a Master of Occupational Therapy (MOT) degree and is eligible to take the National Certification Examination for Registration as an Occupational Therapist Registered (OTR) administered by the National Board for Certification in Occupational Therapy (NBCOT) <http://www.nbcot.org>. In addition, many states including New Mexico require licensure in order to practice. State licenses usually are based on the results of the NBCOT Certification Examination. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure. The NBCOT pass rate for UNM students is close to 100%.

Accreditation

The Occupational Therapy Graduate Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), <http://www.aota.org>. ACOTE is located at 4720 Montgomery Lane, PO Box 31220 Bethesda, MD 20824-1220. AOTA's phone number is 301-652-AOTA. ACOTE accreditation is recognized by the World Federation for Occupational Therapists (WFOT), <http://www.wfot.org.au>.

Admission Requirements

Up to 24 students are admitted each year into the Occupational Therapy Graduate Program. A good academic record is essential, but it does not guarantee acceptance. The application deadline for Fall admissions is January 15. Students are admitted once a year, with classes beginning in the fall session. Students must have a baccalaureate degree and have at least a 3.0 on the last 50 credits or total of their bachelor degree program. Prerequisite courses must be completed within the past five years. Students may apply while enrolled in undergraduate courses to complete a baccalaureate degree or prerequisite courses if all courses will be completed by the end of the summer semester. Six basic areas are considered in the selection process:

1. Earned baccalaureate degree
2. The student's academic record (prerequisite grade point average and grade point average of at least 50 credits completed)
3. Three letters of reference (one from a health professional)
4. Life experiences including volunteer/work experience and community involvement
5. Writing ability
6. Personal interview

The top candidates will be invited to the Occupational Therapy Graduate Program for an interview and an extemporaneous sample of their writing ability. The selection process does not discriminate against any student on the basis of gender, marital or parental status, race, color, religion, age, sexual orientation, national origin or disability. If you wish to apply, applications to the Occupational Therapy Graduate Program and The University of New Mexico Graduate School (Office of Graduate Studies) are available from the Occupational Therapy Program Office (Health Sciences and Services Building, first floor, suite 140) during fall semester. These forms can also be downloaded directly from their respective Web sites: Occupational Therapy Graduate Program <http://hsc.unm.edu/som/ot/> and Office of Graduate Studies <http://www.unm.edu/ogshmpg/eforms/index.html>. There is a \$50.00 application fee for the Occupational Therapy Graduate Program and \$50.00 for the Office of Graduate Studies.

Pre-Professional Curriculum

Applicants must complete prerequisite courses with a minimum 3.0 grade prior to enrolling in MOT courses. These prerequisites must be current, within the past five years. Students may substitute higher level courses and/or experience to waive the five year limit or increase the grade on a prerequisite course. Prerequisites provide a general foundation in behavioral sciences and are essential for success in the Occupational Therapy Graduate Program.

Required Prerequisite Courses:	Credit
Statistics: STAT 145	3
Child/Developmental Psychology: PSY 220	3
Abnormal Behavior: PSY 332	3
Anatomy and Physiology I & II BIOL 237,247,238,248	8
Total	17

Professional Curriculum

Master of Occupational Therapy—82 credit hours

The Occupational Therapy Graduate Program offers the Master's Degree under Plan I (Thesis) and Plan II (Project). The student must submit a written research document that is approved by their committee, and complete the Occupational Therapy Student Performance Assessment (OTSPA). The Occupational Therapy course work is taken in a designated sequence.

Tuition and Fees

Tuition and fees are subject to change without notice. There will be additional expenses including program and course fees. These fees range between approximately \$200.00 to \$450.00 each year. Tuition is determined by the Board of Regents each April for the following school year beginning in Fall. To verify current tuition, log onto <http://www.unm.edu/~bursar/tuition.html>. For financial aid information we encourage you to contact the financial aid department at (505) 272-2041.

Scheduling

The Occupational Therapy Graduate Program offers a traditional 2.5-year schedule which involves an intensive, full-time load taken in a designated sequence. It is not recommended that students work while in the traditional program. Students who choose to work part-time need to understand that work schedules cannot conflict with required courses or fieldwork assignments.

The Part-time track is designed to be completed in 8 consecutive semesters (not including summer, except in cases when Fieldwork Level II is scheduled in summer). A maximum of 10 semesters is allowable. The required 6 months of Fieldwork Level II is included in the 10-semester maximum. Please note that the third year of the part-time track is essentially full-time, and that Fieldwork Level II must be completed on a full-time basis.

Core Professional Curriculum

Fall Year 1 (16 credits)

- Introduction to Occupation and Health (OCTH 514L) 4 credits – PBL
- Kinesiology of Occupation (OCTH 524L) 3 credits
- Introduction to Evidence Based Practice (OCTH 534) 3 credits
- Occupation Across the Life Span (OCTH 544L) 5 credits
- Graduate Seminar (OCTH 594/599) 1 credit

Spring Year 1 (13 credits)

- Person, Family, Systems Centered Care (OCTH 564L) 2 credits
- Applied Occupations I (OCTH 564L) 6 credits - PBL

- Neuroscience of Occupation (OCTH 634L) 1 credit
- Neuroanatomy (OCTH 522L) 3 credits
- Graduate Seminar (OCTH 594/599) 1 credit – CR/NC

Summer Year 1

- Plan II Elective OR OCTH 690 – 3 credits ** May be taken in any semester.
- Work on Thesis or Project

Fall Year 2 (16-17 credits)

- Applied Occupations II (OCTH 604L) 5 credits – PBL
- Applied Occupations III (OCTH 614L) 5 credits – PBL
- Advocacy, Communication and Leadership (OCTH 624L) 3 credits – CR/NC
- Organization and Administration (OCTH 654) 2 credits (will be offered either fall or spring)
- Graduate Seminar (OCTH 599/594) 1-2 credits – CR/NC

Spring Year 2 (13-14 credits)

- Applied Occupations IV (OCTH 664L) 6 credits – PBL
- Community Health (OCTH 674L) 4 credits – PBL
- Organization and Administration (OCTH 654) 2 credits (will be offered either fall or spring)
- Graduate Seminar (OCTH 599/594) 1-2 credits – CR/NC
- Master's examination, Occupational Therapy Student Performance Assessment (OTSPA)

Summer Year 2 (12-13 credits)

- Fieldwork Level II (OCTH 675) 12 credits – CR/NC
- Master's Thesis (OCTH 599) 1 credit – CR/NC, *, **

Fall Year 3 (12-13 credits)

- Fieldwork Level II (OCTH 675) 12 credits – CR/NC
- Master's Thesis (OCTH 599) 1 credit – CR/NC, *, **
- * Plan I Master's Thesis (6 credits, continuous enrollment in OCTH 599)
- ** Plan II Master's Project (3 credits of OCTH 594, plus 3 credits Elective)

Graduation Requirements

Successful completion of 82 credits including required didactic course work, assessments, and masters examinations. Students must complete all Office of Graduate Studies requirements including Plan I or Plan II requirements with a minimum 3.00 GPA.

- **Plan I Masters Thesis (students will be required to complete 82 credits if they select this option)**
52 Credits didactic course work
6 Credits Thesis OCTH 599
 - Continuous enrollment.
 - Masters Thesis must be completed prior to beginning Fieldwork Level II.
 - Defense of the Masters Thesis will be the culminating event in the last semester.
 - **24 Credits Fieldwork level II (two 12 week sessions)**
 - Additional Fieldwork Level II sessions may be taken up to 36 credits.
 - All required FW II must be completed within 24 months of completion of the academic courses.
 - Students are responsible for tuition, transportation to and from the fieldwork centers and living expenses while on fieldwork. Fieldwork opportunities will be available in New Mexico; however, students can travel to other states.
- Masters Examination: Occupational Therapy Student Performance Assessment (OTSPA)
- **Plan II Masters Project**
52 Credits didactic course work
3 Credits Project OCTH 594 (Additional Project 594 credits may be taken as needed).
 - Masters Project must be completed prior to beginning Fieldwork Level II (FWII).
 - Defense of the Masters Project will be the culminating event in the last semester.
 - **3 Credit Graduate Level Elective**
24 Credits Fieldwork level II (two 12 week sessions)

- Additional Fieldwork Level II sessions may be taken up to 36 credits.
 - All required FW II must be completed within 24 months of completion of the academic courses.
 - Each FW II placement is usually for three months (total of six months).
 - Students are responsible for tuition, transportation to and from the fieldwork centers and living expenses while on fieldwork. Fieldwork opportunities will be available in New Mexico; however, students can travel to other states.
- Masters Examination: Occupational Therapy Student Performance Assessment (OTSPA)

Additional Information

- Independent Study OCTH 690 may be taken any semester.

Fieldwork Level I and II is an important part of occupational therapy education. Short term fieldwork (FW I) is arranged in coordination with specific courses (OCTH 514L, 564L, 604L, 614L, 664L, 674L). Full-time Fieldwork II (OCTH 675) follows successful completion of didactic course work, Thesis/Project, and the OTSPA.

Occupational Therapy (OCTH)

499. Occupational Therapy Independent Study. (2-4)

Self-directed learning in occupational therapy with opportunity to explore an area of interest in depth. Develop experience with designing, revising and implementing a study or project. Students may only complete one independent study for credit.

508. Interdisciplinary Leadership in Family and Community Partnerships. (1)

Provides necessary information and practice to enable students to develop and maintain partnerships between health care practitioners, parents, families, and community organizations in order to ensure the best family-centered care for children with developmental disabilities. **Offered on a CR/NC basis only.**
Restriction: acceptance in LEND program and permission of instructor.

514L. Introduction to Occupation and Health. (4)

Introduction to understanding occupation and health as it relates to self, clients, and the occupational therapy assessment and intervention process. The emphasis is on richness of occupation including: motivation, meaning, roles, cultural factors and societal influences.

518. Interdisciplinary Leadership in Advocacy and Public Policy. (2)

This course offers an in-depth view of the operations of the State of New Mexico legislature and provides specific skills to advocate for persons with disabilities and other health care issues.

Restriction: acceptance in LEND program and permission of instructor.

522L. Neuroanatomy. (3)

Anatomy of the brain and spinal cord with emphasis on integration of sensory and motor systems. Synthesis of neuro-anatomical, neurochemical and neurophysiological basic science principles relevant to clinical practice in adult and pediatric neurorehabilitation.

Prerequisite: 521L.

524L. Kinesiology of Occupation. (3)

Apply the principles of kinesiology and biomechanics to the study of occupations. Arthrology, tissue mechanics, goniometrics, muscle strength testing, kinesiological and biomechanics analysis of occupations will be presented in lecture lab and problem-based learning formats.

528. Interdisciplinary Leadership in Research. (2-3)

Provides necessary information and practice to enable students to acquire knowledge and experience various aspects of research related to people with disabilities.

Restriction: acceptance in LEND program and permission of instructor.

534. Introduction to Evidence-Based Practice. (3)

Introduction to applied research for physical and occupational therapists. The central focus of this course is how information from physical and social science-based research is gathered, analyzed, reported and used to inform evidence-based practice.

538. Interdisciplinary Leadership in Neurodevelopmental Disabilities-Didactic. (3)

Provides the academic and theoretical grounding upon which the clinical practices are built for working with children with disabilities.

Restriction: acceptance in LEND program and permission of instructor.

544L. Occupation Across the Lifespan. (5)

Review of roles, occupational tasks, models of occupation and developmental theories from infancy to old age. Determinants of occupational performance including cultural influences; physical and social environment; physiological, sensory, neuromotor, cognitive and psychological dimensions are reviewed.

548. Interdisciplinary Leadership in Neurodevelopmental Disabilities-Practice. (1-3)

Provides experiential practice to enable students to acquire practical knowledge of and skills for working with children with disabilities. **Offered on a CR/NC basis only.**

Restriction: acceptance in LEND program and permission of instructor.

554L. Person, Family, and System Centered Care. (2)

Introduction to the importance of person-centered care in occupational therapy assessment and intervention services to develop an appreciation of the therapeutic relationship and skills to interact with clients holistically, recognizing cultural and psychosocial influences.

558. Interdisciplinary Leadership and Team Development. (2-3)

This interdisciplinary course provides information strategies and skill practice to enable students to develop and evaluate team functioning. Students also gain leadership skills through applying didactic and observational leadership activities. **Offered on a CR/NC basis only.**

Restriction: acceptance in LEND program and permission of instructor.

564L. Applied Occupations I. (6)

Application of occupational therapy concepts and principles to pediatric and adult populations with physical and orthopaedic conditions is covered along with theoretical foundations underlining person-centered occupations, job analysis and to increase participation in occupations.

594. Graduate Seminar. (1-3 to a maximum of 10) Δ

A three-semester seminar sequence that provides structure and support for graduate occupational therapy students as they work under the supervision of an assigned faculty to complete projects to meet Plan II Master's requirements. **Offered on a CR/NC basis only.** {Fall, Spring, Summer}

599. Master's Thesis. (1-6, no limit) Δ

A six-semester seminar sequence that provides structure and support for graduate occupational therapy students as they work under the supervision of an assigned faculty to complete thesis' to meet Plan I Master's requirements. **Offered on a CR/NC basis only.** {Fall, Spring, Summer}

604L. Applied Occupations II. (5)

Application of occupational therapy concepts to pediatric and adult populations with physical and neurological conditions, is covered, along with theoretical foundations underlining person-centered occupations, job analysis, and the OT process to increase participation in occupations.

614L. Applied Occupations III. (5)

This course covers psychosocial and behavioral dimensions of occupational therapy practice across the lifespan. This course gives students the opportunity to learn about psychological Occupational Therapy assessments and interventions related to performance.

624L. Advocacy, Communication and Leadership. (3)

Advocacy skills (grant writing, marketing and policy formation), communication skills and leadership skills (professional development, professional presentations and leadership roles) as they relate to occupational therapy are emphasized.

634L. Neuroscience of Occupation. (2)

This course emphasizes the application of systems-level, behavioral-level and cognitive-level neuroscience to understanding: a) occupational development across the lifespan and b) the practice of occupational therapy for persons with activity limitations caused by neuropathological conditions.

650L. Special Topics in Occupational Therapy. (2-6, to a maximum of 6) Δ

Various current topics in occupational therapy are offered. {Spring}

654. Organization and Administration. (2)

This course will enable students to practice effectively in an increasingly complex health care delivery system. Emphasis is on understanding of organizational systems, including program planning, management and reimbursement, as well as legislation and ethics.

664L. Applied Occupations IV. (6)

Application of the occupational therapy process to functional problems which interrupt or delay normal growth, development and maturation during infancy, childhood and adolescence. Occupational intervention strategies for children and their families are covered.

674L. Community Health. (4)

The purpose of this course is for the student to gain an increased knowledge of: community-based health considerations and issues; community health resources; partnerships with community services; interdisciplinary processes; and serving people in community settings.

675. Fieldwork II. (12 to a maximum of 36) Δ

Experiences with clients, occupational therapists and professionals in the community. Students must participate in two 12-week, full-time clinical internships. Fieldwork is carried out in various settings in New Mexico and surrounding states. **Offered on a CR/NC basis only.** {Summer, Fall, Spring}

690. Independent Study. (1-4, no limit) Δ

Self-directed learning in occupational therapy with opportunity to explore an area of interest in depth. Develop experience in occupational therapy under the supervision of a faculty mentor and community practitioners. {Fall, Spring, Summer}

PHYSICAL THERAPY

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Peg Wanta, P.T., D.P.T.

Lecturer

James Dexter, P.T., M.A.

Introduction

Physical Therapy is a health care profession whose primary purpose is the promotion of optimal human performance through the application of sound scientific principles to the prevention, evaluation and treatment of acute and chronic movement dysfunction.

For information about the profession of physical therapy and other accredited schools, contact the American Physical Therapy Association, 1111 North Fairfax Street, Alexandria, VA 22314, 1-800-999-2782.

Program

The Physical Therapy Program at the University of New Mexico consists of a three year curriculum of professional graduate course work and clinical training which leads to a Doctorate of Physical Therapy (DPT) degree. The program is accredited by the Commission of Accreditation in Physical Therapy Education (CAPTE). Applicants should contact the program or visit the program's Web site at <http://hsc.unm.edu/som/physither/> for specific information.

Admission Requirements

It is recommended that interested students attend an advisement session in the Physical Therapy Program during the summer or fall semesters. Students may sign up for one of these sessions either on-line or by phone. Students are admitted once a year, with classes beginning in the fall. The application deadline is December 1.

Instructions to submit applications are available on-line through the program's website <http://hsc.unm.edu/som/physither/>.

Applicants who appear to be best qualified will be invited for an interview. Final selection will be made from the group of candidates interviewed. The program's selection process does not discriminate against any student on the basis of gender, age, race, religion, creed or national group.

Information about general student services at the University of New Mexico, including financial aid, can be obtained by calling 1-800-CALLUNM (255-5866).

For further information, the program may be contacted at the address and phone number below:

The University of New Mexico School of Medicine
Physical Therapy Program
Attn: Admissions Chair
MSC09 5230
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 272-5755

Pre-professional Educational Requirements

Applicants to the program must have a degree at the baccalaureate level from an accredited university, including 35 credits of science prerequisites. Please contact the program or visit the program's website for specific course requirements. <http://hsc.unm.edu/som/physither/>

Only candidates with overall and prerequisite grade point averages of 3.0 or higher will be considered.

Professional Curriculum

The professional program is nine semesters in length and begins with the fall session each year. Students take 120 credits of professional courses in the theory and practice of physical therapy and affiliate at clinical sites for professional experiences that are correlated with classroom activities. **Professional courses are open only to those students that are admitted to the Physical Therapy Program.**

First Year		Credits
Fall Semester		
PT 505	Foundations I	5
PT 507L	Orthopedics I	7
PT 521L	Human Anatomy	6
		18
Spring Semester		
PT 508L	Orthopedics II	8
PT 512	Patient Management and Clinical Decision-Making I	1
PT 580	Prosthetics	2
PT 534	Introduction to Evidence-Based Practice	3
		14
Summer Semester		
PT 511	Clinical Internship I (8wks)	5
		5
Second Year		
Fall Semester		
PT 605	Foundations II	3
PT 607L	Neurologic Physical Therapy I	7
PT 612	Patient Management and Clinical Decision-Making II	1
PT 660	Health, Wellness, and Fitness	3
PT 544	Pathophysiology and Pharmacology	4
		18
Spring Semester		
PT 608L	Neurologic Physical Therapy II	7
PT 662L	Pediatrics	4
PT 670	Gerontology	3
PT 622	Psychosocial and Cultural Concepts	2
		16
Summer Session		
PT 610	Cardiopulmonary and Acute Care	5
PT 650	Advanced Differential Diagnosis	2
PT 632	Advanced Evidence-Based Practice	2
		9
Third Year		
Fall Semester		
PT 611	Clinical Internship II (8 wks)	5
PT 640	Women's Health	2
PT 680	Organization and Administration	2
PT 623	Psychosocial and Cultural Concepts II	2
PT 685	Advanced Spinal Manipulation	2
PT 691	Capstone Project	1
PT 651	Patient Management and Clinical Decision-Making III	3
		17
Spring Semester		
PT 691	Capstone Project	2
PT 652	Clinical Internship III (10 wks)	7
PT 654	Clinical Internship IV (10 wks)	7
		16
Summer Semester		
PT 653	Advanced Patient Management and Clinical Decision-Making IV	2
PT 681	Administration and Supervision II	1
PT 691	Capstone Project	3
PT 692	Board Preparation	1
		7

In addition to satisfactory completion of the didactic portion of the curriculum, students must successfully prepare and present a Capstone Project. Included in the curriculum are 36 weeks of full time clinical practice. Hospital and health care facilities throughout New Mexico and a limited number of facilities outside the state are utilized in the clinical education experiences.

Students in the Physical Therapy program pay tuition-based on full-time graduate status at UNM. Estimated tuition and course fee costs for resident students for three years is \$35,550.00 and for non-residents \$73,611.00. The estimated total for non-tuition expenses while in the program is approximately \$12,900 (includes required personal computer). The additional costs associated with all clinical education experiences, including transportation, room and board (approx-

mately \$1000/rotation), are borne by the student. Students are required to carry health and professionally liability insurance. Both types are available through the University for a reasonable fee.

DPT Completion Track

Graduates of the UNM Masters in Physical Therapy (MPT) degree program will be able to take the Degree Completion Track in order to earn their Doctorate in Physical Therapy (DPT) degree. Contact the Physical Therapy Program for details at either (505) 272-5755 or <http://hsc.unm.edu/som/physithe>.

Students will take a total of 16 credits, including 5 courses from the entry-level curriculum plus 4 additional courses.

PT 632 Advanced Evidence Based Practice	2 cr
PT 650 Advanced Differential Diagnosis	2 cr
PT 660 Health, Wellness and Fitness	3 cr
PT 670 Gerontology	2 cr
PT 690 Capstone Course	3 cr

Additional courses:

PT 690 Neuroscience	1 cr
PT 620 Understanding Medical Imaging	1 cr
PT 624 Cultural Awareness	1 cr
PT 630 Pharmacology in Rehabilitation	1 cr

Physical Therapy (PT)

351. Clinical Exercise in Physical Therapy. [Clinical Exercise Physiology.] (3)

The physiology of the human body during exercise with emphasis on the cardiopulmonary and neuromuscular systems. Overview of selected pathological conditions of these systems relevant to the practice of physical therapy. Prerequisite: BIOL 237 and BIOL 238.

Clinical Doctorate in Physical Therapy Courses

505. Foundations I. (5)

This course addresses foundations for patient care that will be further developed in subsequent courses. Content includes principles of exercise physiology, documentation, professionalism, ethics, kinesiology, pathology, pharmacology, imaging, learning styles, mind/body, and therapeutic interventions. Restriction: admission to DPT program.

507L. Orthopedics I. (7)

Philosophy, process and techniques of patient examination and evaluation, including patient interview, systems review, differential diagnosis and neuromusculoskeletal assessment. Therapeutic interventions, including modalities, orthotics, manual therapy and therapeutic exercise will be addressed. Restriction: admission to DPT program.

508L. Orthopedics II. (8) [7]

Continuation of Orthopedics I, addressing remaining regions of the body. Final practical examination verifies skills and competencies for both courses at a level adequate to proceed to clinical placements. Restriction: admission to DPT program.

511. Clinical Internship I. (5)

This course consists of one eight-week clinical internship. The student participates in examination, evaluation, formulation and implementation of the plan of care, discharge and documentation for patients/clients in an outpatient orthopedic setting. Offered on a CR/NC basis only. Restriction: admission to DPT program.

512. Patient Management and Clinical Decision Making I. (1)

This course allows the student to integrate recent clinical experiences with didactic knowledge and to foster inquiry and problem-solving in relation to patient cases. It will be conducted primarily in a small group discussion format. Restriction: admission to DPT program.

521L. Human Anatomy. (6)

Intensive study of the gross anatomy of the musculoskeletal, circulatory, respiratory, digestive, reproductive and nervous systems. Integration of anatomical information provided in dissection and palpation laboratory. Restriction: admission to DPT program.

534. Introduction to Evidence-Based Practice. (3)

Introduction to applied research for physical and occupational therapists. The central focus on this course is how information from physical and social science-based research is gathered, analyzed, reported and used to inform evidence-based practice. Restriction: admission to DPT program.

544. Pathophysiology and Pharmacology. (4) [2]

Study of the pathophysiology, clinical presentation and implications to physical therapy practice of common disease entities that affect the human body. Medical and pharmacological treatment and medication side effects will be addressed. Restriction: admission to DPT program.

580. Prosthetics. (2) [3]

This course provides students with knowledge and practical experience in the therapeutic area of prosthetics. Pathology and etiology of amputation as well as medical and therapeutic intervention for the amputee are included. Restriction: admission to DPT program.

605. Foundations II. (3)

The purpose of this course is to provide a framework in the areas of psychology, cultural competence, and neuroscience to prepare the students for the future second and third year curriculum. Restriction: admission to DPT program.

607L. Neurologic Physical Therapy I. (7)

The purpose of this course is to continue the student's education in neuroscience, add to their knowledge of various neurologic diseases and problems, and to explore the relationship of physical therapy to these neurological problems. Restriction: admission to DPT program.

608L. Neurologic Physical Therapy II. (7)

The purpose of this course is to enhance the student's knowledge of physical therapy examination, evaluation, goal setting and interventions related to specific patient populations with a neurological diagnosis. Restriction: admission to DPT program.

610. Cardiopulmonary and Acute Care. (5)

This course is designed to enable students to practice in an acute/critical care setting. Topics include cardiopulmonary rehabilitation and general acute care, including ICU management, lab values, pharmacology, evaluation, treatment and discharge planning. Restriction: admission to DPT program.

611. Clinical Internship II. (5)

This course consists of one eight-week clinical internship. The student participates in examination, evaluation, formulation and implementation of the plan of care, discharge and documentation for patients/clients in an acute care setting. Offered on a CR/NC basis only. Restriction: admission to DPT program.

612. Patient Management and Clinical Decision-Making II. (1)

This course allows the student to integrate recent clinical experiences with didactic knowledge and to foster inquiry and problem-solving in relation to patient cases. It will be conducted primarily in a small group discussion format. Restriction: admission to DPT program.

622. Psychosocial and Cultural Concepts I (2)

The purpose of this course is to develop the student's awareness of psychosocial and cultural issues of the health professional and the patient, necessary to provide optimal care to patients. Restriction: admission to DPT program.

623. Psychosocial and Cultural Concepts II. (2)

The purpose of this course is to further enhance the student's awareness of psychosocial and cultural issues of the health professional and the patient that are necessary to provide optimal care to patients.

Restriction: admission to DPT program.

632. Advanced Evidence-Based Practice. (2) [3]

This course utilizes the application of search strategies and critical appraisal of research, including statistical interpretation to answer foreground and background clinical questions.

Restriction: admission to DPT program.

640. Women's Health. (2)

The purpose of this course is to develop the student's knowledge of physical therapy evaluation, goal setting and treatments related to specific issues of women's health.

Restriction: admission to DPT program.

650. Advanced Differential Diagnosis. (2)

Evaluation of the complex patient. Emphasis is on the ability to integrate and critically analyze patient examination results to identify systemic origins of neuromusculoskeletal pain and determine the need for medical or other referral.

Restriction: admission to DPT program.

651. Patient Management and Clinical Decision Making III. (3)

This course focuses on integration of clinical and didactic knowledge; application of evidence-based practice; inquiry and problem-solving in relation to patient cases. It is conducted primarily in a small and large group discussion format.

Restriction: admission to DPT program.

652. Clinical Internship III. (7)

One ten-week clinical internship. The student participates in screening, systems review, examination, evaluation, development and implementation of a plan of care, discharge procedures, scheduling, coordination of patient care activities and supervision of support personnel. **Offered on a CR/NC basis only.**

Restriction: admission to DPT program.

653. Patient Management and Clinical Decision-Making IV. (2)

This course allows the student to integrate recent clinical experiences with didactic knowledge and to foster inquiry and problem-solving in relation to patient cases. It will be conducted primarily in a small group discussion format.

Restriction: admission to DPT program.

654. Clinical Internship IV. (7)

One ten-week clinical internship. The student participates in screening, systems review, examination, evaluation, development and implementation of a plan of care, discharge procedures, scheduling, coordination of patient care activities and supervision of support personnel. **Offered on a CR/NC basis only.**

Restriction: admission to DPT program.

660. Health, Wellness and Fitness. (3)

Application of current models of physical therapy management related to assessment and promotion of health, wellness and fitness throughout adulthood.

Restriction: admission to DPT program.

662L. Pediatrics (4)

Application of current models of physical therapy management, including assessment and intervention, for children with various neuromuscular or musculoskeletal conditions during infancy, childhood and adolescence.

Restriction: admission to DPT program.

670. Gerontology. (2 or 3).

In-depth study of evaluation and clinical management of the geriatric patient/client across the continuum of care.

Restriction: admission to DPT program.

680. Organization and Administration. (2)

This course will prepare students to practice in an increasingly complex health care delivery system. Emphasis includes personnel supervision, practice regulatory and legal requirement issues, reimbursement, litigation, and ethics related to service delivery.

Restriction: admission to DPT program.

681. Administration and Supervision II. (1)

This course engages the student in advanced administrative, professional and management concepts, including principles of financial management, establishment of a business plan, marketing and PR, professional advocacy, and involvement in the legislative and political processes.

Restriction: admission to DPT program.

685. Advanced Spinal Manipulation. (2)

This course will look at advanced spine evaluation and treatment with emphasis on diagnosis, muscle energy and thrust techniques as well as therapeutic exercise as it relates to mechanical spinal pain.

Restriction: admission to DPT program.

691. Capstone Project. (1-3 to a maximum of 6) Δ [3 or 6]

This course is the academic home for a comprehensive evidence-based practice project that definitively, and in a completely supported manner, answers a focused clinical question. A comprehensive paper and platform presentation are required. **Offered on a CR/NC basis only.**

Restriction: admission to DPT program.

692. Board Preparation. (1)

An intensive overview of test-taking and study strategies and review of all major content areas in the National Physical Therapy Exam. **Offered on a CR/NC basis only.**

Restriction: admission to DPT program.

DPT Completion Courses**609. Neuroscience. (1)**

This course will provide the basic science background of current concepts in CNS neurochemical anatomy, pain and pain management, neuroplasticity, neurodegeneration and neuroregeneration.

Restriction: admission to DPT program.

620. Understanding Medical Imaging. (1)

This course addresses recognition of basic types of medical imaging including radiographs, MRI, CT, US, and bone scan; and choosing the appropriate imaging for a variety of pathologies common to PT practice.

Restriction: admission to DPT program.

624. Cultural Awareness. (1)

The course emphasizes the topic of culture, including the disabled culture, and cultural competence. Also included are smaller sections combining prior topics such as cultural issues, and death and dying.

Restriction: admission to DPT program.

630. Pharmacology in Rehabilitation. (1)

Basic science background will provide the basis to understand the actions and side effects of specific medications that affect the CNS, muscle or endocrine systems, and how these may influence rehabilitation treatment strategies.

Restriction: admission to DPT program.

Master's Degree Courses**504L. Orthopedics II. (3)**

Continuation of Orthopedics I, addressing remaining regions of the body. Final practical examination verifies skills and competencies for both courses at a level adequate to proceed to clinical placements.

Prerequisite: 503L and 541 and 570L. Restriction: admission to MPT program.

570 HEALTH SCIENCES CENTER

506L. Therapeutic Procedures. (3)

Physiological effects and clinical applications of thermal and cryo agents, electrical currents and hydrotherapy. Electromyography, principles and techniques of spinal traction. Current and landmark literature as well as an in depth paper and presentation of pertinent material.

Prerequisite: 503L and 521L and 530 and 570L. Restriction: admission to MPT program.

510. Introduction to Physical Therapy. (2)

This course provides the student with an introduction to the profession of physical therapy. This broad introduction includes a variety of topics that the students are required to retain and integrate in future courses. Students are required to research/write and present a formal paper. The students teach these topics and also critique others presentation styles. Restriction: admission to MPT program.

522L. Neuroanatomy. (3)

(Also offered as OCHT 522L.) Anatomy of the brain and spinal cord with emphasis on integration of sensory and motor systems. Synthesis of neuroanatomical, neurochemical and neurophysiological basic science principles relevant to clinical practice in adult and pediatric neurorehabilitation.

Prerequisite: 521L. Restriction: admission to MPT program.

542. Survey of Medical Sciences II: Orthopaedic Pathology. (2)

Survey of orthopaedic conditions, pathophysiology, surgical indications and procedures and implications for rehabilitation. Format is guest lecture by orthopaedic surgeons. Students are expected to integrate current literature into clinical information presented by guest speakers.

Prerequisite: 521L and 541 and 570L. Restriction: admission to MPT program.

550L. Prosthetics, Orthotics and Cardiopulmonary–Principles of Patient Management. (3)

The evaluation and management of patients using orthotic and/or prosthetic devices, as well as, patients with cardiac and pulmonary diagnoses is addressed. This course utilizes laboratory, lecture, problem-based learning and clinical cases.

Prerequisite: 503L and 521L and 541 and 551L and 570L. Restriction: admission to MPT program.

572L. Clinical Education II. (2)

Supervised clinical experience in affiliated facilities with emphasis on integration of first year course work within a clinical setting, focusing on orthopedic evaluation and basic treatment. Students spend three full weeks/120 hours in clinic. **Offered on a CR/NC basis only.**

Prerequisite: 503L and 571L. Restriction: admission to MPT program.

599. Master's Thesis. (1-3, no limit) Δ

Supervised program of independent study of a selected topic. The course provides a research experience to foster in the student the ability to use outside sources to answer relevant questions and become an effective problem solver. **Offered on a CR/NC basis only.**

Prerequisite: 534 and 631. Restriction: admission to MPT program.

600. Development Across the Lifespan. (3)

Age associated changes in body systems with an emphasis on neuromusculoskeletal will be discussed. Additionally, current health care states, community service and future needs for the geriatric population will be explored.

Prerequisite: 521L and 522L and 550L and 570L. Restriction: admission to MPT program.

601L. Therapeutic Exercise III. (4)

The neurophysiological and developmental approaches for evaluation and treatment of patients with neuromusculoskeletal dysfunction. Review of the literature, comparison of national guidelines with recommended treatments, and analysis of current available interventions is expected.

Prerequisite: 503L and 504L and 506L and 522L and 551L and 550L and 570L. Restriction: admission to MPT program.

602L. Therapeutic Exercise IV. (3)

The course continues with principles of evaluation and treatment of specific patient populations. Included are: physical therapy procedures related to burn rehabilitation, spinal cord injury and women's health issues. The students will critique the literature to be able to determine appropriate interventions.

Prerequisite: 504L and 522L and 542 and 551L and 601L and 641. Restriction: admission to MPT program.

622. Psychosocial and Cultural Concepts I. (2)

The purpose of this course is to enhance the students awareness of psychosocial and cultural issues of the health professional and the patient, necessary to provide optimal care to patients.

Restriction: admission to DPT Program.

631. Research Practicum. (2)

Course is a continuation of PT 534 with further information on research design. The focus is on development of a thesis proposal.

Prerequisite: 534. Restriction: admission to MPT program.

641. Survey of Medical Sciences III: Neurology. (3)

This course provides a survey of the medical science of neurology through weekly lectures. In addition, during the seminar sessions for the physical therapy students (3 credit option), the students present case studies of patients with specific neurological problems and discuss goals and possible treatment techniques.

Prerequisite: 522L. Restriction: admission to MPT program.

662L. Pediatrics. (4)

Application of current models of physical therapy management, including assessment and intervention, for children with various neuromuscular or musculoskeletal conditions during infancy, childhood and adolescence.

Restriction: admission to MPT program.

671L. Clinical Education III and Seminar. (4)

Two full weeks of supervised clinical experience in affiliated facilities with emphasis on integration of senior year course work. Weekly problem-based learning seminars supplemented by lecture and laboratories focus on initial orthopedic patient management.

Prerequisite: 571L and 572L. Restriction: admission to MPT program.

672L. Clinical Education IV and Seminar. (4)

Four weeks of supervised clinical experience pertaining to pediatric, acute care and neurological diagnoses, with increased responsibility for evaluation, treatment planning and patient care. Problem-based learning seminars emphasize issues in treatment progression and discharge planning.

Prerequisite: 571L and 572L and 671L. Restriction: admission to MPT program.

675L. Clinical Education V. (3-12 to a maximum of 21) Δ

Supervised clinical experience consisting of three eight-week full-time placements in various clinical settings. Increased responsibility in all areas of patient care, with progression to independence as an entry-level practitioner by the end of each placement. **Offered on a CR/NC basis only.**

Prerequisite: 571L and 572L and 671L and 672L. Restriction: admission to MPT program.

680. Administration and Supervision I. (2)

This course will prepare students to practice in an increasingly complex health care delivery system. Emphasis includes personnel supervision, practice regulatory and legal requirement issues, reimbursement, litigation, and ethics related to service delivery.

Restriction: admission to MPT program.

690. Directed Study. (1-3 to a maximum of 9) Δ

Supervised independent study addressing a question or topic of relevance to physical therapy. May include, but not limited to, working with current faculty research, researching and addressing a question relative to evidence-based practice, completing an extensive case review or clinical outcome study.

Offered on a CR/NC basis only.

Prerequisite: 534 and 631. Restriction: admission to MPT program.

695. Topics in Physical Therapy. (1-3 to a maximum of 9) Δ

Content varies, students may be registered for several sections concurrently. Registration by approval of the Physical Therapy Program director. (Offered upon demand). Restriction: admission to MPT program.

PHYSICIAN ASSISTANT STUDIES

Nikki Katalanos, PhD, PA-C, Director
The University of New Mexico School of Medicine
Department of Family and Community Medicine
MSC09 5040
1University of New Mexico
Albuquerque, NM 87131-0001
(505) 272-9678
e-mail: paprogram@salud.unm.edu

For more information about the PA profession and programs contact:

American Academy of Physician Assistants
950 North Washington Street
Alexandria, VA 22314-1552
Phone: (703) 836-2272
FAX: (703) 684-1924
Web site: <http://www.aapa.org>

New Mexico Academy of Physician Assistants
Web site: <http://www.nmapa.org>

For information on financial aid contact:

The Office of Student Financial Aid
Allied Health Financial Aid Coordinator
The University of New Mexico
Albuquerque, NM 87131-2081
(505) 272-8008

The Physician Assistant Profession

Physician Assistants (PAs) are health professionals licensed to practice medicine with physician supervision. PAs are qualified by graduation from an accredited Physician Assistant educational program and certification by the National Commission on Certification of Physician Assistants. Within the physician/PA relationship, PAs exercise autonomy in medical decision-making and provide a broad range of diagnostic and therapeutic services. The clinical role of PAs includes primary and specialty care in medical and surgical practice settings in rural and urban areas. Physician Assistant practice is centered on patient care and may include educational, research and administrative activities.

Physician Assistant Studies Program

The PA program's mission is to educate Physician Assistants to practice primary care in medically underserved and rural areas of New Mexico.

This is a program housed in the Department of Family and Community Medicine within the School of Medicine. Instruction is provided by various departments and faculties of the Health Sciences Center. The professional curriculum is based on the principle of problem-based learning in small group tutorials. The program is 25 months in length and consists of didactic and clinical instruction. Students can expect to have clinical clerkships in rural and underserved areas of New Mexico. A Master of Science in Physician Assistant Studies degree will be awarded upon successful completion of the curriculum. Entry into this program is very competitive.

Program Accreditation Status

The program has been fully accredited by the Accreditation Review Commission on Education for the Physician Assistant since 1999. Graduation from an accredited program is required to sit for the National Commission on Certification of Physician Assistants exam.

Program Prerequisites

Applicants must have a BA/BS degree or higher by the start of the program. They must complete all prerequisites prior to the application deadline and receive a grade of C or higher. A minimum grade point average of 2.75 on a 4.0 scale as well as a science grade point average of at least 3.0 are required. Course numbers listed below refer to the University of New Mexico courses.

Science:

General Biology with lab (123 and 124L) 4 credits
General Chemistry with lab
(121 and 123L and 122 and 124L or 131L and 132L) 8 credits

Human Anatomy and Physiology I & II for the
Health Sciences with lab (BIOL 237, 247L and
BIOL 238, 248L)

General Psychology (105) 8 credits

3 credits

Mathematics:

STAT 145 3 credits
-or-
PSY 200

Communication Skills:

(all English courses must be taken in the U.S.)
English (writing or literature) 6 credits

Highly Recommended for All:

- Regional language
- Biochemistry
- Organic chemistry
- Integrated organic and biochemistry
- Nutrition
- Microbiology

Clinical/Community Experience

We strongly recommend that applicants have worked a minimum of six months in either a patient care setting or a significant community care environment. Hands-on patient care experience is preferred.

Application for admission is made through the Central Application Service for Physician Assistants (CASPA) at <https://portal.caspaonline.org>. The application and all supporting documents must be received at CASPA by September 1 each year for the class starting the following June. Applicants are encouraged to check the status of their CASPA application on a weekly basis. Apply early as CASPA may take up to five weeks to verify and process the application.

For questions or technical assistance call CASPA at (617) 612-2080, Monday through Friday, 9:00 am to 5:00 pm eastern time or e-mail to caspaonline@caspaonline.org. The University of New Mexico Physician Assistant Program will send a supplemental application after the CASPA application is submitted, if all requirements are met. A separate application to the University of New Mexico is required upon acceptance into the program, if not currently enrolled. Admission to the Physician Assistant Program is based on evaluation of those applicant qualities and experiences which advance the program's mission. For this reason residents of New Mexico are given primary consideration for admission. The criteria for evaluation also include academic and personal record, letters of recommendation and, if selected, a personal interview.

PA Program Professional Curriculum

SUMMER	Credits
PAST 501 FMS I Population Health	1
PAST 502 FMS I Foundations of Research Methodology	1
PAST 535 Clinical Seminar I	1
PAST 540 ICM I Dermatology	2
PAST 541 ICM I Orthopedics	2
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	7
FALL	
PAST 510 FMS II Pediatric & Adolescent Medicine I	2
PAST 515 FMS II Adult & Geriatric Medicine I	2
PAST 520 FMS II Pharmacology I	2
PAST 530 FMS II Clinical Skills I	2
PAST 542 ICM I Human Structure, Function and Development	4
PAST 543 ICM I Mechanisms of Disease-Genetics and Neoplasia	2
PAST 544 ICM I Mechanisms of Disease-Infection & Immunity	2
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	16
SPRING	
PAST 511 FMS III Pediatric & Adolescent Medicine II	2
PAST 516 FMS III Adult & Geriatric Medicine II	2
PAST 521 FMS III Pharmacology II	2
PAST 531 FMS III Clinical Skills II	1
PAST 536 Clinical Seminar II	1
PAST 545 ICM II Neurosciences	4
PAST 547 ICM II CV-Pulmonary-Renal	4
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	16
SUMMER	
PAST 560 Clerkship Family Medicine	3
PAST 562 Clerkship Pediatrics	3
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	6
FALL	
PAST 525 FMS IV Emergency Medicine	2
PAST 512 FMS IV Pediatric and Adolescent Medicine III	2
PAST 517 FMS IV Adult and Geriatric Medicine III	2
PAST 522 FMS IV Pharmacology III	2
PAST 532 FMS IV Clinical Skills III	1
PAST 550 ICM III GI/Nutrition/Metabolism	4
PAST 552 ICM III Human Sexuality, Reproduction, Endocrine	4
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	17
SPRING	
PAST 564 Clerkship Emergency Medicine	3
PAST 561 Clerkship Women's Health & Prenatal Care	3
PAST 563 Clerkship Behavioral Medicine-Psychiatry	3
PAST 565 Clerkship General Internal Medicine	3
PAST 566 Clerkship Elective	1
PAST 537 Clinical Seminar III	1
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	14
SUMMER	
PAST 568 Clerkship Surgery	3
PAST 575 Clerkship LTC & Primary Care	5
PAST 600 Program to Practice	2
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	10
PAST 610 Independent Study	1-14 possible credits
Clerkship and preceptorship credits	27
Professional curriculum credits	59
Total semester credits	86

Physician Assistant Studies (PAST)

501. Foundations of Medical Science I– Population Health. (1).

This course is an orientation to population health. Topics include: public health, epidemiology, health promotion and disease prevention, health policy, intervention, models for change, and rural health.
Restriction: admitted to PAST program.

502. Foundations of Medical Science I– Foundations of Research Methodology. (1)

An overview of evidence-based medicine (EBM), medical informatics, and medical research methodologies. It includes accessing and critically evaluating the medical literature as well as the structuring of research studies.
Restriction: admitted to PAST program.

510. Foundations of Medical Science II– Pediatrics and Adolescent Medicine I. (2)

An introduction to the major biological principles of pediatric and adolescent health care including embryology, anatomy, normal physiology, pharmacology and pathophysiology. Behavioral perspectives emphasize the effect of health and disease on children and families.
Restriction: admitted to PAST program.

511. Foundations of Medical Science III– Pediatric and Adolescent Medicine II. (2)

This course continues with the principles of pediatric and adolescent health care. Emphasis is on the presentation, evaluation and treatment of the common neurologic, psychiatric, cardiovascular, pulmonary and renal disorders seen in this age group.
Restriction: admitted to PAST program.

512. Foundations of Medical Science IV– Pediatric and Adolescent Medicine III. (2)

This course continues with the principles of pediatric and adolescent health care. Emphasis is on the presentation, evaluation and treatment of the common nutritional, metabolic, gastrointestinal, endocrine and reproductive system disorders seen in this age group.
Restriction: admitted to PAST program.

515. Foundations of Medical Science II– Adult and Geriatric Medicine I. (2)

This course begins with the major biological principles of adult and geriatric health care, including anatomy, normal physiology, pharmacology and pathophysiology. Behavioral and population perspectives are addressed.
Restriction: admitted to PAST program.

516. Foundations of Medical Science III– Adult and Geriatric Medicine II. (2)

This course continues with the principles of adult and geriatric health care. Emphasis is on the presentation, evaluation and treatment of common neurologic, psychiatric, cardiovascular, pulmonary and renal disorders seen in this age group.
Restriction: admitted to PAST program.

517. Foundations of Medical Science IV– Adult and Geriatric Medicine III. (2)

This course continues with the principles of adult and geriatric health care. The emphasis is on the presentation, evaluation and treatment of the common nutritional, metabolic, gastrointestinal, endocrine and reproductive system disorders.
Restriction: admitted to PAST program.

520. Foundations of Medical Science II– Pharmacology I. (2)

This course provides a basic foundation in pharmacology through selected prototype drugs and a more thorough understanding of pharmacotherapeutics. The emphasis will be on clinical application of prototype drugs, their therapeutic effects and toxicities.
Restriction: admitted to PAST program.

521. Foundations of Medical Science III– Pharmacology II. (2)

This course continues to provide a foundation in pharmacology through selected prototype drugs and a more thorough understanding of pharmacotherapeutics.
Restriction: admitted to PAST program.

522. Foundations of Medical Science IV– Pharmacology III. (2)

This course focuses on selected prototype drugs and an emphasis on the drug class, the generic names of drugs, organ system effects, including drug metabolism, elimination and drug-drug interactions.
Restriction: admitted to PAST program.

525. Foundations of Medical Science IV– Emergency Medicine. (2)

This course is designed to prepare students to evaluate and treat common patient problems seen in emergency departments.

Restriction: admitted to PAST program.

530. Foundations of Medical Science II– Clinical Skills I.

This course begins with an introduction to basic exam skills and a focus on orthopedic skills and continues as a shared course with the M.D. program's Foundations of Clinical Practice.

Restriction: admitted to PAST program.

531. Foundations of Medical Science III– Clinical Skills II. (1)

This course serves as a platform for the demonstration of skills learned in Clinical Skills I. It includes competency exams in Neurosciences and Cardiovascular/Pulmonary/Renal Medicine and a 1/2 day/week clinical experience.

Restriction: admitted to PAST program.

532. Foundations of Medical Science IV– Clinical Skills III. (1)

This course continues with the demonstration of skills learned in Clinical Skills I & II. It includes competency exams in GI/Nutrition/Metabolism and Endocrinology/Human Sexuality and Reproduction, and a 1/2 day/week clinical experience.

Restriction: admitted to PAST program.

535. Clinical Seminar I. (1)

This course introduces the student to the physician assistant profession including the history of the profession and current trends, the PA-MD-patient relationship, scope of practice, and an overview of the professional and political PA organizations.

Restriction: admitted to PAST program.

536. Clinical Seminar II. (1)

This course focuses on issues relevant to the practice of medicine: special patients, critical thinking, electronic medical record, case presentations, delivery of health care to rural/underserved patient populations and substance abuse.

Restriction: admitted to PAST program.

537. Clinical Seminar III. (1)

This course focuses on two broad areas of interest: 1) transition to medical practice from student to licensed PA and 2) health policy and legal issues relevant to PA practice.

Restriction: admitted to PAST program.

540. Introduction to Clinical Medicine I– Dermatology. (2)

This course focuses on the major biological principles of dermatology including anatomy, normal physiology, pharmacology and pathophysiology.

Restriction: admitted to PAST program.

541. Introduction to Clinical Medicine I– Orthopedics. (2)

This course focuses on the major biological principles of the musculoskeletal system including anatomy, normal physiology, pharmacology and pathophysiology.

Restriction: admitted to PAST program.

542. Introduction to Clinical Medicine I– Human Structure, Function and Development. (4)

This course focuses on human anatomy, histology and embryology.

Restriction: admitted to PAST program.

543. Introduction to Clinical Medicine I– Mechanisms of Disease Genetics and Neoplasia. (2)

This course provides an overview of broad mechanistic concepts providing a conceptual structure for approaching disorders of the organ systems related to genetics and neoplasia.

Restriction: admitted to PAST program.

544. Introduction to Clinical Medicine I– Mechanisms of Disease Infection and Immunity. (2)

This course provides an overview of broad mechanistic concepts providing a conceptual structure for approaching disorders of the organ systems related to infection and immunity.

Restriction: admitted PAST program.

545. Introduction to Clinical Medicine II– Neurosciences. (4)

This course provides a foundation in the basic medical and clinical science of the nervous system. Focus is on neurology, psychiatry, and behavioral medicine.

Restriction: admitted to PAST program.

547. Introduction to Clinical Medicine II– CV-Pulmonary-Renal. (4)

This course provides a foundation in the basic medical and clinical science of the cardiovascular, pulmonary, and renal systems, including the pathophysiology associated with common disorders of these organ systems.

Restriction: admitted to PAST program.

550. Introduction to Clinical Medicine III– GI-Nutrition-Metabolism. (4)

This course provides a foundation in the basic medical and clinical science of the gastrointestinal (GI) tract, including the pathophysiology associated with common disorders of this organ system.

Restriction: admitted to PAST program.

552. Introduction to Clinical Medicine III– Human Sexuality, Reproduction, Endocrine. (4)

This course provides a foundation in the basic medical and clinical science of the endocrine and human reproductive systems, including the pathophysiology associated with common disorders of these organ systems.

Restriction: admitted to PAST program.

560. Clerkship Family Practice. (3)

This supervised clerkship is a first-year field experience and covers the health care needs of patients across the life span. The course surveys major aspects of primary health care.

Restriction: admitted to PAST program.

561. Clerkship Women's Health and Prenatal Care. (3)

This supervised clerkship focuses on the management of women's health care in a family practice setting. Clerkship activities include evaluation and management of common gynecological conditions/disorders and routine prenatal care.

Restriction: admitted to PAST program.

562. Clerkship Pediatrics. (3)

This supervised family practice-pediatric clerkship focuses on the development of skills in the health care of pediatric and adolescent patients.

Restriction: admitted to PAST program.

563. Clerkship Behavioral Medicine-Psychiatry. (3)

This supervised clerkship focuses on the healthcare of patients with behavioral health problems commonly seen in the primary care setting. Field experience may be in the office setting as well as clinic/in-patient settings.

Restriction: admitted to PAST program.

564. Clerkship Emergency Medicine. (3)

This supervised clerkship focuses on the triage, evaluation and management of patients in the emergency setting.

Restriction: admitted to PAST program.

565. Clerkship General Internal Medicine. (3)

This supervised clerkship focuses on the care of the adult patient in both the outpatient and inpatient setting. It is the foundation for subspecialty (elective) courses such as cardiology, endocrinology, etc.

Restriction: admitted to PAST program.

566. Clerkship Elective. (1)

This supervised clerkship provides an opportunity for the student to choose a clinical field experience in an area of personal interest.

Restriction: admitted to PAST program.

568. Clerkship Surgery. (3)

This supervised clerkship focuses on the care of the surgical patient. Activities include experience in the operating room as well as pre- and post-operative care and assessment of the patient in the office setting.
Restriction: admitted to PAST program.

575. Clerkship Long Term Care and Primary Care. (5)

This supervised clerkship incorporates elements of patient care gained from the Family Practice and specialty clerkships. The student will learn to function at a higher level in the clinical management of the patient.
Restriction: admitted to PAST program.

600. Program to Practice. (2)

This course prepares the student for clinical practice. Topics range from medical coding to state medical practice laws. It also includes the final graduate-level capstone projects and oral/written summative evaluations.
Restriction: admitted to PAST program.

610. Independent Study. (1-14, may be repeated once)

Δ
This course is designed to develop specialized skills, which may include: research, development of a particular interest and development of an overseas or cultural clerkship.
Restriction: admitted to PAST program and permission of instructor.

Bachelor's Courses

All courses require admission to the PA Program. No PAST course may be challenged or preempted based on clinical or academic experiences.

301. Foundations of Medical Science I– Population Health. (1)

An orientation to population health. Topics covered include: history of community and public health, basic epidemiology and health promotion/disease prevention.
Restriction: admitted to PAST program.

302. Foundations of Medical Science II– Adolescent and Pediatric Medicine I. (1)

An overview of clinical issues in health care from the prenatal period through adolescence.
Restriction: admitted to PAST program.

303. Foundations of Medical Science III– Adolescent and Pediatric Medicine II. (2)

A continuation of the clinical issues in health care from the prenatal period through adolescence.
Restriction: admitted to PAST program.

304. Foundations of Medical Science I– Research Methods. (1)

An overview of evidence-based medicine, informatics and review of the medical literature.
Restriction: admitted to PAST program.

305. Foundations of Medical Science II– Adult and Geriatric Medicine I. (1)

An overview of clinical issues in health care from the young adult through elder years.
Restriction: admitted to PAST program.

306. Foundations of Medical Science II– Clinical Skills I. (2)

Introduction to clinical examination skills. Focus is on the patient interview, physical examination, and writing skills essential to clinical practice.
Restriction: admitted to PAST program.

307. Foundations of Medical Science II–Pharmacology I. (1)

An introduction to pharmacology and pharmacotherapy in disorders commonly encountered in primary care medicine.
Restriction: admitted to PAST program.

308. Foundations of Medical Science III– Adult and Geriatric Medicine II. (2)

A continuation of the clinical issues in health care from the young adult through elder years.
Restriction: admitted to PAST program.

309. Foundations of Medical Science III– Pharmacology II. (2)

A continuation of pharmacology and pharmacotherapy in disorders commonly encountered in primary care medicine.
Restriction: admitted to PAST program.

310. Foundations of Medical Science III– Clinical Skills II. (1)

Supervised experience in a one-half day per week clinical setting. Students also develop focused clinical skills correlating with first year academic blocks of study.
Restriction: admitted to PAST program.

311. Foundations of Medical Science IV– Emergency Medicine. (2)

Overview of common problems encountered in emergency medicine and medical procedures.
Restriction: admitted to PAST program.

312. Foundations of Medical Science IV– Adolescent and Pediatric Medicine III. (2)

A continuation of the clinical issues in health care from the prenatal period through adolescence.
Restriction: admitted to PAST program.

313. Foundations of Medical Science IV– Adult and Geriatric Medicine III. (2)

A continuation of the clinical issues in health care from the young adult through elder years.
Restriction: admitted to PAST program.

314. Foundations of Medical Science IV– Pharmacology III. (2)

A continuation of pharmacology and pharmacotherapy in disorders commonly encountered in primary care medicine.
Restriction: admitted to PAST program.

315. Foundations of Medical Science IV– Clinical Skills III. (1)

Continuation of supervised experience in a one-half day per week clinical setting. Students also develop focused clinical skills correlating with second year academic blocks of study.
Restriction: admitted to PAST program.

316. Introduction to Clinical Medicine I– Dermatology. (2)

This course focuses on dermatology and introduces the student to an integration of the biological, behavioral and population aspects of medicine through a series of lectures, problem-based learning tutorials and laboratories.
Restriction: admitted to PAST program.

317. Introduction to Clinical Medicine II – Neuroscience. (5)

This course focuses on neuroscience and introduces the student to an integration of the biological, behavioral and population aspects of medicine through a series of lectures, problem-based learning tutorials and laboratories.
Restriction: admitted to PAST program.

318. Introduction to Clinical Medicine I– Orthopedics. (2)

This course focuses on orthopedics and introduces the student to an integration of the biological, behavioral and population aspects of medicine through a series of lectures, problem-based learning tutorials and laboratories.
Restriction: admitted to PAST program.

319. Introduction to Clinical Medicine I– Human Structure. (5)

This course focuses on anatomy, embryology and histology and introduces the student to an integration of the biological, behavioral and population aspects of medicine through a series of lectures, problem-based learning tutorials and laboratories.
Restriction: admitted to PAST program.

321. Introduction to Clinical Medicine II– CV-Pulmonary-Renal. (5)

This course focuses on pulmonary medicine and cardiovascular/renal disease and introduces the student to an integration of biological, behavioral and population aspects of medicine lectures, problem-based learning tutorials and laboratories.

Restriction: admitted to PAST program.

322. Introduction to Clinical Medicine I– Genetics and Neoplasia. (3)

This course focuses on genetic and neoplastic mechanisms of human disease production and integrates their biological, behavioral and population health aspects through lectures, problem-based tutorials and laboratories.

Restriction: admitted to PAST program.

323. Introduction to Clinical Medicine I– Infection and Immunity. (2)

This course focuses on infectious and immunologic mechanisms of human disease production integrating their biological, behavioral and population health aspects through lectures, problem-based tutorials and laboratories.

Restriction: admitted to PAST program.

401. Clerkship Family Medicine. (4)

Supervised clinical clerkship in Family Medicine. This clinical experience introduces the student to the evaluation of patients in a broad primary care setting. Problems addressed include acute and chronic care and preventive healthcare maintenance.

Restriction: admitted to PAST program.

402. Primary Care Preceptorship. (6)

Six-week supervised clinical clerkship serves as the student's culminating experience in primary care medicine. Students function at advanced level in care of patients in both outpatient and inpatient settings.

Restriction: admitted to PAST program.

403. Clerkship Emergency Medicine. (4)

Supervised clinical clerkship in Emergency Medicine. This clinical experience introduces the student to patient care in an emergency and acute care setting. The student will additionally gain experience in procedures commonly employed in emergency medicine.

Restriction: admitted to PAST program.

404. Clerkship Surgery. (4)

Supervised clinical clerkship in General Surgery. This clinical experience introduces the student to the pre-operative and post-operative care of the general surgical patient in the office and hospital setting. Additionally students will assist in surgery.

Restriction: admitted to PAST program.

405. Clerkship Pediatrics. (4)

Supervised clinical clerkship in Pediatric Medicine. This clinical experience introduces the student to health assessment and anticipatory guidance in pediatrics from newborn through adolescence in a family practice setting.

Restriction: admitted to PAST program.

406. Clerkship Women's Health. (4)

Supervised clinical clerkship in Women's Healthcare. This clinical experience introduces the student to the assessment of the female patient from family planning and pregnancy through menopause.

Restriction: admitted to PAST program.

407. Clerkship Behavioral Medicine. (4)

Supervised clinical clerkship in Behavioral Medicine. This clinical experience provides students with the opportunity to care for patients with behavioral/psychiatric problems commonly encountered in the primary care setting.

Restriction: admitted to PAST program.

408. Clerkship General Internal Medicine. (4)

Supervised clinical clerkship in Internal Medicine. This clinical experience introduces the student to the acute and chronic

care of adult patients in the hospital setting with a focus on internal medicine.

Restriction: admitted to PAST program.

409. Clerkship Elective. (0)

Supervised clinical clerkship. This clinical experience allows the student an opportunity to elect an area of clinical practice. Students may choose a specialty area of personal interest or an area not covered by other clerkships. **Offered on a CR/NC basis only.**

Restriction: admitted to PAST program.

418. Introduction to Clinical Medicine III– GI-Nutrition-Metabolism. (3)

This course focuses on the pathophysiology associated with common disorders of the gastrointestinal system. Additionally the student will be introduced to human nutritional requirements and the physiology of metabolism of proteins, fats and carbohydrates.

Restriction: admitted to PAST program.

420. Clinical Seminar I. (0)

Clinical Seminar I focuses on professional practice issues. Topics include the history of medicine and the PA profession and issues of importance in the emerging health care system. **Offered on a CR/NC basis only.**

Restriction: admitted to PAST program.

421. Clinical Seminar II. (0)

Clinical Seminar II continues with professional practice issues. Topics include medical ethics, patient counseling, coping with illness and injury, responses to death and dying and advance directives. **Offered on a CR/NC basis only.**

Restriction: admitted to PAST program.

422. Clinical Seminar III. (0)

Clinical Seminar III continues in the presentation of professional practice issues. Topics include health policy, reimbursement, HIPAA rules and regulations. Additional sections continue during phase III to include issues of importance to a new graduate PA. **Offered on a CR/NC basis only.**

Restriction: admitted to PAST program.

423. Independent Study. (1-14 to a maximum of 14) Δ

This variable credit course will focus on a formal research project conducted by the PA student with faculty supervision.

Restriction: admitted to PAST program.

425. Introduction to Clinical Medicine III– Human Sexuality and Reproduction and Endocrinology. (5)

This course focuses on human sexuality and reproduction and endocrinology and integrates the biological, behavioral and population aspects of medicine through a series of lectures, problem-based learning tutorials and laboratories.

Restriction: admitted to PAST program.

RADIOLOGIC SCIENCES

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Lecturer III

Rebecca Blankley, M.F.A., R.T., (R) (M) (CT)
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Introduction

Five options are listed for students seeking certification and/or a degree in Radiologic Sciences in either Nuclear Medicine or Radiography.

- 1) Nuclear Medicine Imaging Certificate Program
- 2) Bachelor of Science in Radiologic Sciences—Concentration in Nuclear Medicine
- 3) Radiography Advanced Imaging Certificate Programs
- 4) Bachelor of Science in Radiologic Sciences—Concentration in Radiography
- 5) Associate of Science in Radiography (in moratorium)

Tuition and Fees

Tuition and fees are subject to change without notice. Books and uniforms (for those students attending clinical) will cost approximately \$500.00. There will be additional expenses including equipment, program and course fees. These will be determined in the fall following the selection of students each year. These fees range from approximately \$300.00 to \$500.00. Tuition is determined by the board of Regents each April for the following school year beginning in fall. To verify current tuition, log onto <http://www.unm.edu/~bursar/tuitionrates.html>. For financial aid information we encourage you to contact the financial aid department at <http://www.unm.edu/~finaid>.

Programs in Nuclear Medicine**Nuclear Medicine Imaging Certificate Program****Introduction**

Nuclear Medicine Technologists require a wider base of skills with which to compete in today's job market. The goal of the Nuclear Medicine Program is to provide the technologist with skills necessary to perform the complex diagnostic procedures involved with this field.

This North Central Association of Colleges and School (NCA) accredited program in Nuclear Medicine imaging provides the student with the knowledge and skills necessary to perform complex diagnostic procedures involving the in vitro and in vivo use of radiopharmaceuticals and state-of-the-art nuclear instrumentation. Enrollment is limited to two - eight students each year. The course of study begins in the summer and ends after four consecutive semesters of clinical and didactic experience at The University of New Mexico Hospital, Presbyterian Hospital and Veterans Administration Medical Center.

Upon successful completion of the program, the student receives a certificate in Nuclear Medicine imaging and is eligible to sit for national certifying examinations given by the American Registry of Radiologic Technologists and the Nuclear Medicine Technology Certification Board.

The PET/CT Certificate Program at the University of New Mexico is a certificate program designed to prepare those individuals interested in sitting for the:

- 1) Nuclear Medicine Technologist Certification Board (NMTCB) Positron Emission Tomography (PET) specialty exam.
- 2) America Registry of Radiologic Technologists Computed Tomography (CT) specialty exam.

Admission Requirements

1. Applicant must meet The University of New Mexico admission requirements (refer to UNM Catalog).

2. While competitive grade point averages are usually higher, each applicant must have a minimum cumulative grade point average of 2.5 in post-secondary coursework.
3. A completed application, three letters of recommendation, three reference forms, and official transcripts must be received by January 31st of each year for acceptance into the program the following summer (Nuclear Medicine Certificate), fall (PET/CT).
4. Students participating in the PET/CT Certificate Program must be certified by the American Registry of Radiologic Technologists (ARRT), or the Nuclear Medicine Technologist Certification Board (NMTCB).
5. The program selection committee will conduct a personal interview with each qualified student candidate.
6. Applicant must have a baccalaureate degree with course work in physics, chemistry, anatomy and physiology and/or ethics; or hold certification as a Radiologic Technologist, Registered Nurse or Medical Technologist; or undergraduate applicant must complete the prerequisites described under Pre-professional Curriculum prior to entry into the program.
7. Employment reference checks may be required for application process. A background check will be performed through the State of New Mexico upon acceptance into the program.
8. If completing the Bachelor of Science in Radiologic Sciences, Concentration Nuclear Medicine, coursework will be determined based upon prior courses completed.
9. The University of New Mexico and the Radiologic Sciences Program does not discriminate against any applicant based on sex, age, race, religion, creed, or national origin.

Required Prerequisites**Basic Sciences**

Biology:	
BIOL 123/124L	4 w/lab
Anatomy/Physiology:	
BIOL 237 and 247L, 238 and 248L	8 w/lab
MATH 150	3
Physics, General:	
PHYC 151	3
Chemistry:	
CHEM 121 and 123L	4
CHEM 122 and 124L	4
and/or CHEM 212 Integr Org Chem + Bioch	
Microbiology:	
BIOL 239L	4

Liberal Arts

English:	
ENGL 101 and 102	6
Professional Ethics:	
PHIL 245 or 102	3
General Psychology:	
PSY 105 or Soc 101	3
Computer Science:	
CS 150L or 201	3

Nuclear Medicine Imaging Certificate Program***Program Curriculum****Summer Semester**

NUCM 315	Radiation Safety	2
HSCI 381	Medical Language Systems Review	1
HSCI 330	Patient Care	2
HSCI 331	Patient Care Lab	1
		6

Fall Semester

NUCM 320	Clinical Nuclear Technology I	4
NUCM 354	Clinical Radiopharmacy	3
NUCM 375	Nuclear Physics and Instrumentation	3
NUCM 360	Imaging Instrumentation I	3
HSCI *480	Human Cross Sectional Anatomy	3
		<hr/> 16

Spring Semester

NUCM 365	Clinical Nuclear Technology II	4
NUCM 385	Imaging Instrumentation II	3
NUCM 390	In Vitro Nuclear Medicine	2
NUCM 392	Pathology Seminar	4
NUCM 396	Essentials of Nuclear Medicine Imaging I	3
		<hr/> 16

Summer Session

NUCM 400	Clinical Nuclear Technology III	4
NUCM 412	Nuclear Radiation Biology	2
NUCM 415	Essentials of Nuclear Medicine Imaging II	2
		<hr/> 8

* These courses may only be taken by students approved by the Radiologic Sciences Program.

Positron Emission Tomography and Computed Tomography Imaging Certificate Program

Program Curriculum

Those eligible for this program are active NMTCB, ARRT(N), or CAMRT(RTNM) certified. This program is a part-time or full-time program of clinic and classroom instruction. Students must apply and are admitted once a year. The program is accredited by the North Central Association of Colleges and Schools. The PET/CT certificate program provides the student with the knowledge and skills required to perform the necessary diagnostic procedures. For those who have already completed a certified Nuclear Medicine Program, this course work is required to be transferable from another institution.

Fall Semester

RADS 410	Physics of Computed Tomography	3
RADS 420	CT Clinical I	3
NUCM 360	Imaging Instrumentation I	3
		<hr/> 9

Spring Semester

NUCM 420	PET/CT Clinical I	3
NUCM 430	Essentials of PET/CT Imaging	2
		<hr/> 5

Summer Semester

NUCM 440	PET/CT Clinical II	4
		<hr/> 4

Bachelor of Science in Radiologic Sciences—Concentration in Nuclear Medicine

Admission Requirements

Students choosing the Bachelor of Science degree path must first complete the first two years of course work listed in the degree plan. In the spring semester of the second year, application is made to the Radiologic Sciences department for acceptance into the Bachelor of Science degree program.

Individuals who have completed a certified Nuclear Medicine Imaging program may also apply for admission to complete the degree requirements for the Bachelor of Sciences degree. Applicants must complete a departmental application, an application to the University of New Mexico, be accepted and submit copies of all transcripts to the Radiologic Sciences Department.

Program Curriculum

Hours required for graduation: 135

NOTE: To count towards graduation credit hours, the minimum grade point average must be 2.50 and each course must be completed with a grade of "C" or better (does not include "C-"). Courses may be taken in a different order with approval from the student's advisor.

First Year—Fall Semester

ENGL 101	Composition I: Exposition	3
MATH 150	Pre-Calculus Mathematics	3
BIOL 123-	Biology for Health Related Sciences	
124L	and Non-Majors/Lab	4
PSY 105	General Psychology	3
ECON 105	Introductory Macroeconomics	3
		<hr/> 16

Spring Semester

ENGL 102	Composition II: Analysis and Argument	3
CS 150L	Computing for Business Students	3
BIOL 237	Human Anatomy and Physiology I for the Health Sciences	3
BIOL 247L	Human Anatomy & Physiology Laboratory I	1
PHIL 245	Professional Ethics	3
—or—	PHIL 102 Current Moral Problems	
ECON 106	Introductory Microeconomics	3
		<hr/> 16

Second Year—Fall Semester

BIOL 238	Human Anatomy and Physiology II for the Health Sciences	3
BIOL 248L	Human Anatomy & Physiology Laboratory II	1
CHEM 121-		
123L	General Chemistry	4
PHYC 151	General Physics	3
	Hum/Fine Arts/Lang elective	3
	Free elective (UNM Core Curriculum)	3
		<hr/> 17

Spring Semester

BIOL 239L	Microbiology for Health Sciences	4
CHEM 122-		
124L	General Chemistry	4
—or—	CHEM 212 Integrated Organic Chemistry and Biochemistry	
ENGL 219	Technical and Professional Writing	3
	Hum/Fine Arts/Lang elective (UNM Core Curriculum)	3
		<hr/> 14

NOTE: At this point, the student's completed and proposed course work must be approved by the selection committee prior to continuing in this program.

Third Year—Summer Semester

HSCI 381	Medical Language Systems Review	1
NUCM 315	Radiation Safety	2
HSCI 330	Patient Care	2
HSCI 331	Patient Care Lab	1
		<hr/> 6

Fall Semester

NUCM 320	Clinical Nuclear Technology I	4
NUCM 354	Clinical Radiopharmacy	3
NUCM 375	Nuclear Physics and Instrumentation	3
NUCM 360	Imaging Instrumentation I	3
HSCI *480	Human Cross Sectional Anatomy	3
		<hr/> 16

Spring Semester

NUCM 365	Clinical Nuclear Technology II	4
NUCM 385	Imaging Instrumentation II	3
NUCM 390	In Vitro Nuclear Medicine	2
NUCM 392	Pathology Seminar ¹	4
NUCM 396	Essentials of Nuclear Medicine Imaging I	3
		<hr/> 16

Fourth Year—Summer Semester

NUCM 400	Clinical Nuclear Technology III	4
NUCM 412	Nuclear Radiation Biology	2
NUCM 415	Essentials of Nuclear Medicine Imaging II	2
		<hr/> 8

NOTE: When all of the above coursework has been satisfactorily completed, the student is eligible to take the certification examinations from the American Registry of Radiologic

Technologists (ARRT) and the Nuclear Medicine Technology Certification Board (NMTCB). The student is strongly encouraged to take these examinations at this point.

Fourth Year–Fall Semester

CJ 221	Interpersonal Communication	3
MGMT 308	Ethical, Political and Social Environment	3
HSCI 378	Current Problems I	3
ECON 335	Health Economics	3
		<hr/> 12

Spring Semester

CJ 344	Interviewing	3
HSCI 399	Current Problems II	3
HSCI 405	Medical Imaging Theory II	3
	Hum/Fine Arts/Lang elective	3
		<hr/> 12

Programs in Radiography

Introduction

The Profession. Radiographers provide patient services using imaging techniques that assist the physician radiologist in disease and injury diagnosis and investigation. While performing complex radiographic procedures, they limit radiation exposure to patients, themselves, and to others. Radiographers exercise discretion and judgement in the performance of medical imaging procedures by adapting technical parameters to various techniques, exposure factors, anatomical structures, positioning and condition of the patient. They examine radiographs to evaluate pertinent technical qualities and they initiate lifesaving first aid and basic life support procedures as necessary during medical emergencies.

Admission Procedure for Computed Tomography or Magnetic Resonance Imaging

Individuals who have completed the Associate of Science degree program in Radiography can also choose to complete the baccalaureate degree with a concentration in radiography. They have a choice of two emphases. 1) Magnetic Resonance Imaging; or 2) Computed Tomography. of two emphases. 1) Magnetic Resonance Imaging; or 2) Computed Tomography.

Students choosing the Bachelor of Science degree path must first declare Radiologic Sciences as their major at the time of University admission. The application deadline for admittance into the Computed Tomography or Magnetic Resonance Imaging program is June 1st of each year. Program information is provided upon request from the Radiologic Sciences Department at the UNM School of Medicine. Application submission is required directly to the Radiologic Sciences Program to include: references and official transcripts from all prior colleges attended. A selection committee may choose 6-8 students for each program. The program's selection process does not discriminate against any applicant based on sex, age, race, religion, creed, or national origin.

Individuals who have completed a certified Radiography program and hold certification as a Radiologic Technologist by the American Registry of Radiologic Technologies (ARRT) may apply for admission to complete the certificate in computed tomography or magnetic resonance imaging. Applicants must submit copies of all transcripts to The University of New Mexico Office of Admissions.

Computed Tomography Imaging Certificate Program

Introduction

This 12-month program is an advanced specialty course intended for advanced imaging specialists who desire specific training in CT. The CT Certificate Program at the University of New Mexico is a certificate program designed to prepare those individuals interested in sitting for the:

- 1) America Registry of Radiologic Technologists Computed Tomography (CT) specialty exam.

Fall Semester

RADS 410	Physics of Computed Tomography	3
RADS 420	Computed Tomography Clinical I	3
HSCI *480	Human Cross Sectional Anatomy	3
		<hr/> 9

Spring Semester

RADS 411	CT Physics	3
RADS 421	Computed Tomography Clinical II	3
		<hr/> 6

Summer Semester

RADS 412	Physics Review	1
RADS 422	Computed Tomography Clinical III	3
		<hr/> 4

Magnetic Resonance Imaging Certificate Program

Introduction

This 12-month program is an advanced specialty course intended for advanced imaging specialists who desire specific training in MRI. The MRI Certificate Program at the University of New Mexico is a certificate program designed to prepare those individuals interested in sitting for the:

- 1) America Registry of Radiologic Technologists MRI specialty exam.

Fall Semester

RADS 450	Physics of Magnetic Imaging I	3
RADS 460	MRI Clinical I	3
HSCI *480	Human Cross Sectional Anatomy	3
		<hr/> 9

Spring Semester

RADS 451	Physics of Magnetic Resonance Imaging II	3
RADS 461	MRI Clinical II	3
		<hr/> 6

Summer Semester

RADS 452	MRI Physics Review	1
RADS 462	Computed Tomography	3
		<hr/> 4

Bachelor of Science in Radiologic Sciences—Concentration in Radiography

Hours required for graduation: 129

NOTE: To count towards graduation credit hours, the minimum grade point average must be 2.50 and each course must be completed with a grade of "C" or better (does not include "C-"). Courses may be taken in a different order with approval from the student's advisor.

First Year–Fall Semester

ENGL 101	Composition I: Exposition	3
MATH 121	College Algebra	3
BIOL 123	Biology for Health Related and 124L Sciences and Non-Majors	4
PSY 105	General Psychology	3
ECON 105	Introductory Macroeconomics	3
		<hr/> 16

Spring Semester

ENGL 102	Composition II: Analysis and Argument	3
CS 150L	Computing for Business Students	3
BIOL 237	Human Anatomy and Physiology I for the Health Sciences	3
BIOL 247L	Human Anatomy & Physiology Laboratory I	1
PHIL 245	Professional Ethics	3
—or—	PHIL 102 Current Moral Problems	
ECON 106	Introductory Microeconomics	3
		<hr/> 16

NOTE: At this point, the student's completed and proposed coursework must be approved by the selection committee prior to continuing in this program.

Second Year–Summer Session

HSCI 331	Patient Care Lab I	1
HSCI 381	Medical Language Systems Review	1
		<hr/>
		2

Second Year–Fall Semester

BIOL 238	Human Anatomy and Physiology II for the Health Sciences	3
BIOL 248L	Human Anatomy & Physiology Laboratory II	1
RADS 250	Introduction to Radiography	3
RADS 260	Radiographic Procedures I	3
HSCI 330	Patient Care	2
		<hr/>
		12

Spring Semester

RADS 271	Radiographic Procedures II	6
HSCI 399	Current Problems II	3
		<hr/>
		Hum/Fine Arts/Lang Elective
		3
		<hr/>
		12

Third Year–Summer Semester

RADS 275	Clinical Radiography I	5
RADS 290	Principles of Radiographic Imaging	4
		<hr/>
		9

Fall Semester

RADS 355	Clinical Radiography II	6
RADS 382	Special Procedures	3
HSCI *480	Human Cross Sectional Anatomy	3
ECON 335	Health Economics	3
		<hr/>
		15

Spring Semester

RADS 352	Radiologic Physics	3
RADS 365	Clinical Radiography III	6
RADS 391	Radiographic Pathology/Biology	4
		<hr/>
		13

Fourth Year–Summer Session

RADS 390	Clinical Radiography IV	5
RADS 399	Comprehensive Radiography Reviews	2
		<hr/>
		7

NOTE: When all of the above coursework has been satisfactorily completed, the student is eligible to take the certification examination from the American Registry of Radiologic Technologists (ARRT) in Radiography. The student is strongly encouraged to take this examination at this point.

Management Emphasis

Fourth Year–Fall Semester

CJ elective from list	3	
HSCI 406	Medical Imaging Theory III	
HSCI 378	Current Problems I	
Hum/Fine Arts/Lang elective	3	
		<hr/>
		12

Spring Semester

CJ elective from list	3	
HSCI 405	Medical Imaging Theory II	
HSCI 406	Medical Imaging Theory III	
Hum/Fine Arts/Lang elective	3	
Hum/Fine Arts/Lang elective	3	
		<hr/>
		15

Magnetic Resonance Imaging Emphasis

Fourth Year– Fall Semester

CJ elective from list	3	
RADS 450	Physics of Magnetic Imaging I	
RADS 460	MRI Clinical I	
HSCI 406	Medical Imaging Theory III	
		<hr/>
		12

Spring Semester

CJ elective from list	3	
RADS 461	MRI Clinical II	
RADS 451	Physics of Magnetic Resonance Imaging II	
HSCI 405	Medical Imaging Theory II	
HSCI 406	Medical Imaging Theory III	
		<hr/>
		15

Summer Semester

RADS 452	MRI Physics Review	1
RADS 462	MRI Clinical III	3
		<hr/>
		4

Computed Tomography Emphasis

Fourth Year - Fall Semester

CJ elective from list	3	
RADS 410	Phys Computed Tomography	
RADS 420	Computed Tomography Clinical I	
HSCI 406	Medical Imaging Theory III	
		<hr/>
		12

Spring Semester

CJ elective from list	3	
RADS 421	Computed Tomography Clinical II	
HSCI 405	Medical Imaging Theory II	
HSCI 406	Medical Imaging Theory III	
RADS 411	CT Physics	
		<hr/>
		15

Summer Semester

RADS 412	Physics Review	1
RADS 422	Computed Tomography	3
		<hr/>
		4

Please note:

HSCI and RADS courses may be taken only by those enrolled in the Radiologic Sciences program.

Students are expected to have completed some of these courses before entering the program. They are listed here to show total credits. All required general education courses should be completed by the Radiography student by the end of the first spring semester.

Associate of Science in Radiography*

*A moratorium has been placed on admission of new students in the entry level Radiography Program (associate degree).

First Year–Fall Semester

RADS 250	Introduction to Radiography	3
RADS 260	Radiographic Procedures I	3
HSCI 330	Patient Care	2
HSCI 381	Medical Language Systems Review	1
		<hr/>
		9

Spring Semester

RADS 271	Radiographic Procedures II	6
		<hr/>
		6

Summer Session

RADS 275	Clinical Radiography I	5
RADS 290	Principles of Radiographic Imaging	4
HSCI 381	Medical Language Systems Review	
		(either Summer or Fall semester)
		<hr/>
		9 (10)

Second Year–Fall Semester

RADS 355	Clinical Radiography II	6
RADS 382	Special Procedures	3
		<hr/>
		9

Spring Semester

RADS 352	Radiologic Physics	3
RADS 365	Clinical Radiography III	6
RADS 391	Radiographic Pathology/Biology	4
		<hr/>
		13

Summer Session

RADS 390	Clinical Radiography IV	5
RADS 399	Comprehensive Radiography Reviews	2
		<hr/>
		7

Health Sciences (HSCI)

330. Patient Care. (2) Faculty

This course acquaints the student with nursing procedures and techniques emphasizing the role of the diagnostic imager as a member of the health care team.

Restriction: enrolled in Radiologic Sciences Program.

331. Patient Care Lab. (1) Faculty
This course covers the laboratory activities associated with 330.

Restriction: permission of instructor.

378. Current Problems I. (3) Faculty
Topics pertinent to management of a Radiology department including personnel relations, scheduling issues, budget and inventory, purchasing and general paperwork.

Restriction: enrolled in Radiologic Sciences Program.

381. Medical Language Systems Review. (1) Faculty
This self-study course reviews the major systems of the human body, using a programmed textbook/workbook. The workbook format is combined with simple, non-technical explanations of medical terms and descriptions of anatomy, physiology and pathology.

Restriction: enrolled in Radiologic Sciences Program.

399. Current Problems II. (3) Faculty
Continuation of 378. Can also be taken concurrently with 378. Emphasis on development of problem solving skills for radiology supervisors using guided independent and group activities.

Restriction: enrolled in Radiologic Sciences Program.

405. Medical Imaging Theory II. (3) Faculty
Study of research methodologies used in medicine, written analysis of selected topics in medical imaging ethics and basic teaching skills pertinent to supervision in a radiology department.

Restriction: enrolled in Radiologic Sciences Program.

406. Medical Imaging Theory III. (3 to a maximum of 9) Δ Faculty

Independent study course used for students completing upper-level baccalaureate coursework for the purpose of expanding on material covered in those courses.

Restriction: enrolled in Radiologic Sciences Program and permission of instructor.

***480. Human Cross Sectional Anatomy. (3)** Faculty
Course examines three dimensional relationships of skull, brain, CNS, thorax, abdomen and pelvis correlating this information with imaging modalities (CT, MRI, Nuclear Medicine).

Restriction: enrolled in Radiologic Sciences Program.

Nuclear Medicine Imaging (NUCM)

315. Radiation Safety. (2) Faculty
An introduction to radiation protection topics which are common to Radiography and Nuclear Medicine. Topics to be covered include, radiation units, radioactivity, radiation sources, background radiation, biological effects of radiation, dose limits, radiation shielding, methods of dose reduction and regulations.

Restriction: enrolled in Radiologic Sciences Program.

320. Clinical Nuclear Technology I. (4) Faculty
Practical experience in the performance of clinical nuclear medicine studies under direct supervision of certified technologists and staff physicians. Includes competency examinations, patient care assessment, radiopharmaceutical reconstitution, oral exams and CPR certification. {Fall}

Restriction: enrolled in Radiologic Sciences Program.

354. Clinical Radiopharmacy. (3) Faculty
Review of basic chemistry; principles of radiopharmacy/radiochemistry including radiopharmaceutical preparation dose calculation, quality control and federal/state regulations. {Fall}

Restriction: enrolled in Radiologic Sciences Program.

360. Imaging Instrumentation I. (3) Faculty
A study of the physical properties of nuclear medicine and the spectroscopy and instrumentation utilized in tomographic imaging. Emphasis on instrumentation for radiation detection and measurement in a nuclear pharmacy or nuclear medicine environment.

Restriction: enrolled in Radiologic Sciences Program.

365. Clinical Nuclear Technology II. (4) Faculty
A continuation of student assigned rotations for clinical practicum at our affiliate facilities.

Prerequisite: 320. Restriction: enrolled in Radiologic Sciences Program.

375. Nuclear Physics and Instrumentation. (3) Faculty
Principles of nuclear physics, ionization chambers, G-M tubes, scintillation and solid state detectors, associated electronics and quality control procedures. {Fall}

Restriction: enrolled in Radiologic Sciences Program.

385. Imaging Instrumentation II. (3) Faculty
Foundations of single photon emission computed tomograph (SPECT), magnetic resonance imaging (MRI), positron emission tomography (PET), and magnetic source imaging (MSI). {Spring}

Prerequisite: 360. Restriction: enrolled in Radiologic Sciences Program.

390. In Vitro Nuclear Medicine. (2) Faculty
Principles and practical aspects of performing radioimmunoassay and competitive protein-binding assays, ferrokinetics, blood volumes, RBC survival, G.I. blood loss and Schilling's studies.

Restriction: enrolled in Radiologic Sciences Program.

392. Pathology Seminar. (4) [2] Faculty
An interactive interdisciplinary case study seminar in film interpretation integrating x-ray, CT, MRI, sonography and nuclear medicine.

Restriction: enrolled in Radiologic Sciences Program.

396. Essentials of Nuclear Medicine Imaging I. (3) Faculty
Basic anatomy and pathophysiology, methods of localization, radiopharmaceuticals, nuclear instrumentation and imaging techniques. {Spring}

Restriction: enrolled in Radiologic Sciences Program.

400. Clinical Nuclear Technology III. (4) Faculty
A continuation of student rotation through the division of nuclear medicine at The University of New Mexico Hospital, Presbyterian Hospital, and Veterans Administration Medical Center. {Summer}

Prerequisite: 365. Restriction: enrolled in Radiologic Sciences Program.

412. Nuclear Radiation Biology. (2) Faculty
Interaction of alpha, beta, electromagnetic and high LET particle radiations from nuclear interactions and disintegrations with biologic material. {Summer}

Restriction: enrolled in Radiologic Sciences Program.

415. Essentials of Nuclear Medicine Imaging II. (2) Faculty
Continuation of 396. {Summer}

Prerequisite: 396. Restriction: enrolled in Radiologic Sciences Program.

420. Positron Emission Tomography and Clinical Tomography Clinical I. (3) Faculty
Course provides clinical instruction in positron emission tomography and computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition.

Restriction: enrolled in Radiologic Sciences Program.

430. Essentials of PETCT Imaging. (2) Faculty
Course provides instruction in anatomy and pathophysiology relevant to the practice of PET/CT. Course covers methods of localization, radiopharmaceuticals, nuclear PET/CT instrumentation and imaging techniques.

Restriction: enrolled in Radiologic Sciences Program.

440. Positron Emission Tomography and Computed Tomography Clinical II. (4) Faculty
A continuation of clinical instruction in positron emission tomography and computed tomography, including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition.

Restriction: enrolled in Radiologic Sciences Program.

Radiography (RADS)**250. Introduction to Radiography. (3)**

Principles of radiographic equipment and exposure factors; Radiation protection; medical and professional ethics; patient care concepts and techniques. {Fall}
Restriction: enrolled in Radiologic Sciences Program.

260. Radiographic Procedures I. (3)

Radiographic positioning, anatomy and topographic landmarks. Role-playing of the basic radiographic positions of the appendicular skeleton. {Fall}
Restriction:enrolled in Radiologic Sciences Program.

271. Radiographic Procedures II. (6)

Continuation of RADS 260. Review of skeletal/radiographic anatomy; radiographic positioning of the structures of the human body; to include the axial skeleton and abdominal organs. {Spring}
Restriction: enrolled in Radiologic Sciences Program.

275. Clinical Radiography I. (5)

Patient care related activities; practice in the principles of radiographic technique; radiographic positioning under the direct supervision of program staff and faculty.
Restriction: enrolled in Radiologic Sciences Program.

290. Principles of Radiographic Imaging. (4)

Principles and theory of radiographic technique and imaging. Instrumentation; image processing and quality assurance concepts.
Restriction: enrolled in Radiologic Sciences Program.

352. Radiologic Physics. (3)

Basic principles of radiation physics; instrumentation of imaging systems; production and characteristics of radiation.
Restriction: enrolled in Radiologic Sciences Program.

355. Clinical Radiography II. (6)

Continuation of RADS 275.
Restriction: enrolled in Radiologic Sciences Program.

365. Clinical Radiography III. (6)

Continuation of RADS 355. {Spring}
Restriction: enrolled in Radiologic Sciences Program.

382. Special Procedures. (3)

Study of the physical principles of advanced medical imaging modalities. Lecture and imaging lab format will include Diagnostic Radiography, CT, MRI, Nuclear Medicine Imaging, Mammography, Interventional Imaging, PET, and MSI.
Restriction: enrolled in Radiologic Sciences Program.

390. Clinical Radiography IV. (5)

Continuation of RADS 365; final clinical competency testing.
Restriction: enrolled in Radiologic Sciences Program.

391. Radiographic Pathology/Biology. (4)

Study of the nature and the cause of diseases and the changes that occur with disease and injury, radiation biology concepts. {Spring}
Restriction: enrolled in Radiologic Sciences Program.

399. Comprehensive Radiography Reviews. (2)

Intensive preparation for national board certifying examination; comprehensive review sessions on all aspects of radiography.
Restriction: enrolled in Radiologic Sciences Program.

410. Physics of Computed Tomography. (3) Faculty

Course provides instruction in physics and instrumentation related to computed tomography including the history of the development of computed tomography, system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition/reduction.
Restriction: enrolled in Radiologic Sciences Program.

411. Physics of Computed Tomography II. (3) Faculty

A continuation of RAD 410 further providing advance instruction in physics and instrumentation related to computed tomography, including the history of the development of

computed tomography, system operation and components, image formation and reconstruction.

Prerequisite: 410. Restriction: enrolled in Radiologic Sciences Program.

412. Computed Tomography Physics Review. (1) Faculty

Comprehensive examinations and topic review will take place throughout the semester. The registry review examinations will encompass the listed topics for students to demonstrate a basic knowledge of computed tomography and physics.
Restriction: enrolled in Radiologic Sciences Program.

420. Computed Tomography Clinical I. (3) Faculty

Course provides clinical instruction in computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition/reduction.
Restriction: enrolled in Radiologic Sciences Program.

421. Computed Tomography Clinical II. (3) Faculty

Course is a continuation of RADS 420 and provides additional clinical instruction in computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition/reduction. {Spring}
Prerequisite: 420. Restriction: enrolled in Radiologic Sciences Program.

422. Computed Tomography Clinical III. (3) Faculty

Course is a continuation of RAD 420 and RAD 421. Course provides additional clinical instruction in computed tomography including the system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition/reduction.
Prerequisite: 420 and 421. Restriction: enrolled in Radiologic Sciences Program..

450. Physics of Magnetic Resonance Imaging I. (3) Faculty

Course provides additional instruction in physics and instrumentation related to magnetic resonance imaging including the history of the development of magnetic resonance imaging, system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition/reduction. {Fall}
Restriction: enrolled in Radiologic Sciences Program.

451. Physics of Magnetic Resonance Imaging II. (3) Faculty

Course is a continuation of RADS 450. {Spring}
Prerequisite: 450. Restriction: enrolled in Radiologic Sciences Program.

452. MRI Physics Review. (1) Faculty

Comprehensive examinations and topic review will take place throughout the semester. The registry review examinations will encompass the listed topics for students to demonstrate a basic knowledge of Magnetic Resonance Imaging and physics.
Restriction: enrolled in Radiologic Sciences Program.

460. MRI Clinical I. (3) Faculty

Course provides clinical instruction in magnetic resonance imaging including system operation and components, image formation and reconstruction, characteristics of image quality, and artifact recognition/reduction.
Corequisite: 450. Restriction: enrolled in Radiologic Sciences Program.

461. MRI Clinical II. (3) Faculty

Course is a continuation of RADS 460.
Prerequisite: 460. Restriction: enrolled in Radiologic Sciences Program.

462. MRI Clinical III. (3) Faculty

Practical experience in the performance of Magnetic Resonance Imaging studies under direct supervision of certified technologists and staff radiologists. Includes competency examinations, image evaluation, patient-care assessment, imaging protocols, and safety issues.
Prerequisite: 461. Restriction: enrolled in Radiologic Sciences Program.



COLLEGE OF NURSING

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Introduction

Mission Statement

The mission of the College of Nursing is to provide nursing education, research, service and leadership. The focus of the College's efforts in education, research, service and leadership is on the delivery and analysis of health care, as well as the design and management of health care delivery systems.

Vision Statement

The College of Nursing's vision is to identify the most important nursing questions pertaining to human health in our communities through education, scholarship and service, with commitment to the Health Science Center's (HSC) core values.

College of Nursing Programmatic Goals

- I. Become a full participant in the HSC and The University of New Mexico structure such that our mission, vision and strategic directions are aligned with the larger goals of the institution.
- II. Provide high quality educational programs to a diverse student population both on and off campus.
- III. Develop a scholarship base consistent with a Doctoral/Research University—Extensive standing consistent with the flagship graduate program in the state.
- IV. Expand nursing practice to develop faculty and provide statewide leadership in nursing practice.

HSC Vision

In concert with the larger institution, the College of Nursing is committed to the HSC vision of identifying and solving the most important questions of human health in our communities through education, scholarship and service with commitment to the HSC core values.

HSC Core Values

The College of Nursing supports the HSC core values of:

- Integrity, accountability and decisiveness in commitment to excellence;
- Compassion and respect in our interactions with students, patients and colleagues;
- Diversity in people and thinking;
- Effective utilization of our resources; and
- Advancement of our institutional mission while supporting professional and personal growth.

HSC Mission

The HSC mission is to provide added value to health care through leadership in:

- providing innovative, collaborative education;
- advancing frontiers of science through research critical to the future of health care;
- delivering health care services that are at the forefront of science; and
- facilitating partnerships with public and private biomedical and health enterprises.

The College of Nursing is fully accredited until 2012 by the Commission on Collegiate Nursing Education and is approved by the New Mexico Board of Nursing. The Nurse-Midwifery concentration is accredited through 2017 by the American College of Nurse-Midwives' Division of Accreditation, 8403 Colesville Road, Suite 1550, Silver Spring, MD 20910-6374, (240) 485-1800.

Degree Programs

The College of Nursing offers the bachelor of science in nursing (B.S.N.) degree through three distinct options: basic entry option, second undergraduate degree (2nd degree) option, and R.N. to B.S.N. degree completion option.

The graduate program offers degrees leading to the Master of Science in Nursing (M.S.N.) and the Doctor of Philosophy (Ph.D.) with a major in nursing. Dual degree programs are available leading to the Master of Science in Nursing (Administration concentration) and a Master of Public Administration, and a Master of Science in Nursing (Community Health concentration) and a Masters in Public Health. Post-Master's certificates in nursing are also available through the College. Graduate nursing students are subject to general University policies set forth earlier in this catalog, as well as specific College of Nursing policies.

The upper-division and beginning graduate nursing courses are offered on a schedule that includes three equal length sessions per year, as listed below (dates subject to change):

Summer 2010	May 13 - August 23
Fall 2010	September 9 - December 18
Spring 2011	January 13 - April 25
Summer 2011	May 12 - August 22

Students in the nursing program are subject to the general policies and procedures described in the appropriate sections of this catalog and the specific regulations included in the College of Nursing section. All students are responsible for compliance with rules and regulations set forth in this catalog.

All services concerned with student welfare and activities are under the coordinating supervision of the Vice President for Student Affairs (see Student Services section of this catalog). In the College of Nursing, the Undergraduate or Graduate Committee provides for coordination and facilitation of student activities within the College.

Athletic, cultural, recreational, religious and social activities of the University are available to all students. Students in the College of Nursing are eligible for membership in the National Student Nurses' Association through the New Mexico Student Nurses' Association or The University of New Mexico College of Nursing Student Nurses' Association (SNA) and Graduate Student Nurses' Association (GSNA).

Academic advisors are available to students in the nursing program. Students contemplating entry to the program should contact the College of Nursing Student Advisement Office.

Students are responsible for their own transportation to and from clinical agencies and for their own living arrangements (see Student Housing Section of this catalog). Students should be aware that clinical experiences may be arranged in a variety of agencies and may include evening, night, or weekend scheduling.

High School Preparation. It is important that the high school student who wishes to enter the nursing program at The University of New Mexico chooses courses leading toward

this goal at the earliest possible time. It is recommended that the student who intends to obtain a Bachelor of Science in Nursing take the following subjects in high school: one year of chemistry, one year of biology, one year of physics, three years of mathematics (one of which should be algebra) and four years of English. These are recommended courses, **not** requirements for admission.

Financial Assistance. There are several financial assistance programs for qualified students, including scholarships, loans, grants, and student work. Certain scholarships from local and national organizations and from public and private sources are available specifically for nursing students (see listing under Financial Aid section of this catalog). Information regarding scholarships and loans may be obtained from the financial aid officer at the College of Nursing and the Student Financial Aid Office of the University. Please check the College of Nursing website at <http://hsc.unm.edu/consq/> for additional information.

Educational Facilities. All of the University libraries are available to students. The Health Sciences Center Library houses an extensive collection of books, journals and other multimedia learning aids appropriate to nursing and health science. A wide variety of nursing and health sciences literature is also available through the library's Web site.

Most nursing classes are held in the Nursing/Pharmacy Building and Domenici Center. In addition, students have clinical experiences in a variety of settings.

Clinical Facilities. Clinical facilities are located in the greater Albuquerque area and include University Hospital, local private hospitals, Veterans Affairs Medical Center, Bernalillo County Mental Health Center, Maternal-Infant Care Clinics, Public Health Agencies, Indian Health Service health care facilities, the Geriatric Education and Health Maintenance Clinic, the Maternity Infant and Family Health Clinic, and other facilities in outlying areas in New Mexico. Distance students are placed with clinical agencies in or near their home communities.

Special learning opportunities such as field trips to other agencies may be arranged. Many clinical agencies make libraries and classrooms available to nursing students.

Health Requirements. Students in the College of Nursing follow the health requirements described in the Admission and Registration section of this catalog and may use the health services described in the Student section of this catalog. Nursing students are urged to carry insurance for hospitalization and medical care. Students who do not have health insurance will find that an adequate policy may be purchased through the University at time of registration. Students in clinical care courses will automatically be charged for blood borne pathogen needlestick insurance by the University.

Professional Documentation. Students must present the following documentation prior to beginning a nursing clinical course:

1. Up-to-date immunizations as specified by the College of Nursing.
2. Annual certification of competency in administering cardio pulmonary resuscitation (CPR).
3. Blood Borne pathogen annual training.
4. HIPAA compliance annual training.
5. Fingerprinting and criminal background check.

The annual tuberculin test or T.B. screening and the required immunizations can be obtained at the Student Health Center. A copy of the result must be filed with the College of Nursing and updated annually prior to enrolling in clinical courses.

In the case of pregnancy, the student must assume complete responsibility for her own safety and welfare.

Uniforms. Undergraduate students are responsible for obtaining appropriate uniforms to be worn during clinical practice periods. Information regarding uniforms may be obtained in the College of Nursing Student Handbook or course syllabi.

Fees. Students enrolled in nursing courses will often be expected to pay a fee. Laboratory and instructional material fees are subject to change. Fees may be charged for standardized nursing achievement tests and certain technological delivery. Information about other fees and expenses may be obtained from the *Schedule of Classes*.

Professional Conduct. The nursing profession requires high standards of legal, ethical and moral accountability from its practitioners. Nursing students are expected to behave in compliance with the professional standards of nursing. Conduct not in keeping with professional standards may lead to enrollment cancellation following appropriate due process.

Deadlines. If a deadline falls on a weekend or a holiday for which the University is closed, the deadline will automatically be moved to the next business day.

Licensure Of Graduates

Graduates of the basic and second degree options are eligible to take the National Council Licensure Examination to become licensed to practice as registered nurses. Graduates of the advanced practice concentrations of the graduate program are eligible for their respective certification exams.

Baccalaureate Program

The goals of the baccalaureate program are to prepare graduates who:

1. Engage in life-long learning to maximize high-quality nursing care through increased understanding of human responses to health and illness.
2. Apply evidence-based practice in providing nursing care.
3. Provide culturally appropriate, patient-centered nursing care to individuals, families, and communities.
4. Collaborate with interdisciplinary teams to improve the quality of health care.
5. Apply leadership principles in varied professional nursing practice roles.
6. Apply critical thinking in the development, implementation, and evaluation of standards for professional nursing practice.
7. Incorporate appropriate technologic advances into high quality nursing care.

Admission Requirements

All students seeking acceptance to the College of Nursing must meet requirements for admission to the University. See the section in this catalog on the Undergraduate Program for information on University admission requirements.

Applications are only accepted through an online application process. Check the College of Nursing website at <http://hsc.unm.edu/consq/> for application information. This application is in addition to the application for admission to the University as an undergraduate.

Screening for admission to the College is conducted at periodic intervals. All applications, fees and official transcripts must be received by the deadline. Students should submit applications early to allow for adequate advisement and processing of applications.

Requirements for Admission. It is the goal of the College to admit a diverse student body who will serve the health care needs of New Mexico. To be considered for acceptance into the College of Nursing the student must have:

1. Submitted application and required academic records by deadline dates;
2. Successfully completed all prerequisite classes, with a "C" or better, by the date specified in the current application packet for each option.
3. For entry into the basic entry or second degree options, maintained a cumulative grade point average of at

least 3.0 based on all college work and at least 3.0 in science courses. For entry to the R.N.-B.S.N. option, maintained a cumulative grade point average of at least 2.5 based on all college work.

4. Competency in basic computer skills including: general computer knowledge, word processing, data inquiry (databases and search engines), communication (e-mail), and searching the World Wide Web using the internet.
5. Additional information may be utilized to rank applicants; examples may include grade point average, goal statements and life experiences.

NOTE: Preference is given to New Mexico residents.

The College of Nursing reserves the right to request the student to supply any additional information as necessary. Students are expected to be fluent in the English language.

Application Deadlines (Basic Entry and 2nd Degree Entry)

Fall term	February 15
Spring term	September 15
Summer term	February 15 and September 15 (basic entry and 2nd degree options, as space available)

Note: Applicants should consult the College of Nursing Web site immediately prior to an application deadline to check for any deadline extensions. RN to BSN degree completion applications are reviewed on a "rolling basis" through June 1 for fall admission, November 1 for spring admission, and April 16 for summer admission. Early application is recommended, however, as enrollment in courses may be limited.

Basic Entry Option

The basic entry option is an accelerated program of studies in which students are admitted to the College of Nursing to complete the upper-division nursing courses in 16 months. Sixteen credit hours of science courses (graded "C" or better), as delineated in the current College of Nursing curriculum worksheet, must be completed before submitting application. All freshman and sophomore classes must be completed prior to the start of Level 1.

Second Undergraduate Degree (2nd Degree) Option

The 2nd degree option is a program with the same upper division curriculum as the basic entry option. The 2nd degree option allows persons holding prior baccalaureate degrees to be admitted to the College of Nursing under a reduced number of prerequisite science courses. Six credits of anatomy and physiology are strongly recommended. The undergraduate degree and nine credits of the required or recommended sciences must be completed before submitting application. The science courses must have been taken within the ten years preceding the term of admission.

R.N. to B.S.N. Degree Completion Option for Registered Nurse (R.N.) Students

The R.N. to B.S.N. Degree Completion Option is available primarily through online courses. Individual arrangements are made for clinical hours. See College of Nursing for advisement details.

All registered nurses seeking entrance into the College of Nursing must meet requirements for admission to the University and to the College of Nursing. Also needed are: a valid R.N. license (which must be kept current throughout enrollment) and at least 26 hours of college course work applicable to the B.S.N. degree.



A requirement of the College of Nursing is that all students complete ENGL 102, *Composition II: Analysis and Argument* prior to enrolling in any upper-division nursing courses. The Acceleration Challenge Exam (ACE) II must be taken within two terms of enrollment in upper-division nursing course work.

College credit earned in associate degree nursing programs or in hospital-based diploma schools of nursing is transferable to the University, provided the original program was offered in a regionally accredited institution and the nursing program was accredited by the National League for Nursing. Such credit may be applied toward meeting the graduation requirements for a Bachelor of Science in Nursing. See *Transfer of Credit*.

R.N. students are allowed to progress through the upper-division major according to individual capacity based upon a credit by examination process and enrollment in required nursing courses. Each R.N. student must demonstrate achievement of the outcomes expected of all College of Nursing baccalaureate students.

Each registered nurse student is counseled individually to help clarify career goals and to plan an educational program which will be of greatest benefit in meeting those goals.

Prospective registered nurse students are urged to contact the College of Nursing Student Advisement Office prior to registration. The College of Nursing supports career mobility for nurses.

M.S.N. Course Substitution Mechanism for Registered Nurse Students and Second Undergraduate Degree Students

This program allows academically qualified R.N. to B.S.N. students and 2nd degree students to take substitution courses in the Master's program while completing the B.S.N., on a space available basis. The program is intended for the student whose career goals extend beyond the B.S.N. and whose professional experiences and capabilities indicate a potential for success in advanced study. Other courses are then selected to complete the M.S.N. degree.

A qualified student may be able to substitute NURS 503 and NURS 505 for other courses. Students who complete the substitution courses for graduate credit with grades of B or better will have these courses waived (but not the credits) as part of their program of studies for the Master's degree. Graduation from the B.S.N. program occurs upon completion of all requirements with the substitution courses listed above. Graduation from the M.S.N. program occurs upon completion of all requirements for the degree and concentration. Students apply in writing for permission to enroll in substitution courses. A grade point average of at least 3.00 and senior standing is required for permission to take the substitution courses. The courses are waived if the M.S.N. is completed within 7 years from the date of enrollment in the first substitution course.

Departmental Honors Program

The purposes of the Departmental Honors Program are: 1) to utilize knowledge in nursing and related fields in the study process; and 2) to provide the honors student a full opportunity for participating in scholarly activities in small-group discussion and written and oral expression.

Requirements for Departmental Honors are as follows: 1) a University of New Mexico grade point average of at least a 3.50 prior to enrollment in the required course; 2) 6 hours in honor study (N498 and N499); 3) at least 60 hours earned at the University; and 4) application for honors with approval of the faculty.

Dean's List. At the end of each term the names of students who have outstanding academic records are put on the Dean's List, which is made available to University and outside news media. To qualify for the Dean's List in the College of Nursing, a student must have carried at least 12 academic hours and made a grade point average of 3.50 or better for that term.

Academic Regulations for Baccalaureate Degree

Students in the nursing program are subject to the general regulations of the University and, in addition, to the specific regulations in the College of Nursing.

Students in the College of Nursing must be enrolled in nursing courses and/or progressing toward the Bachelor of Science in Nursing. Students failing to meet this requirement are subject to administrative enrollment cancellation.

Because of constraints in clinical facilities, a student must notify the College of Nursing in writing of his or her intent to return, even if an absence in enrollment has been for one term. Notice must be received by March 1 for return in the Summer or Fall term and by November 1 for the Spring term. College of Nursing students who do not enroll in the University for three terms or more must reapply for admission to the College of Nursing. Because a returning student is subject to the regulations of the catalog in effect at the time of readmission, a re-evaluation of the student's academic standing is done. The student must receive academic advisement prior to registration.

Prior to entering Level 1, students are required to document and verify competency in basic nursing skills. These skills may be obtained through work experience or completion of basic nursing skills course(s).

Because clinical spaces are limited, all students are expected to preregister for clinical courses prior to the end of the current term. Priority for clinical space is given to full-time students who are progressing satisfactorily, then to part-time progressing students with a pre-approved plan of studies, and last to students who are repeating or returning after an absence from the program.

The passing grade for all core, prerequisite, and nursing courses is "C" (not C-). Students who do not earn a grade of "C" or better in any upper-division Nursing course on the second attempt are not allowed to progress. Students receiving a grade less than a "C" in any two upper-division required nursing courses are also not allowed to progress in the College of Nursing. Prior to repeating a nursing course the student's record is reviewed by the academic advisor; progress will be monitored by the advisor.

Probation and Suspension

An undergraduate student will be placed on academic probation when the overall grade point average drops below 2.00. The student is subject to suspension if the cumulative grade point average does not rise during the first probationary period or if the cumulative grade point average is less than 2.00 at the end of the second term of the probationary period. Students who do not earn a grade of "C" or better must have an approved learning plan for progression.

Failure and Readmission Policy

Students may reapply to the College of Nursing after three calendar years. An evaluation of the student's application is done. Should the student gain readmission, the student will be subject to the regulations of the catalog at the time of readmission. The student must receive academic advisement prior to registration. If a student is readmitted, they will be required to start at the beginning of the program.

Requirements for Graduation

The Bachelor of Science in Nursing is granted to students admitted to the basic entry option upon fulfillment of the following:

1. Completion of 128 semester hours of course work of the prescribed curriculum (130 credits with NURS 223).
2. Completion of The University of New Mexico Core Curriculum.
3. Completion of at least 63 semester hours of upper-division course work. Such courses are numbered 300 or above.
4. Compliance with the minimum residence requirements, as stated in the General Academic Regulations section of this catalog.
5. Maintenance of an overall grade point average of 2.00 minimum.
6. Unanimous recommendation for the degree by the faculty of the College of Nursing.

The Bachelor of Science in Nursing is granted to 2nd degree students upon fulfillment of the following requirements:

1. Completion of 58 semester hours of upper-division course work in the prescribed curriculum. Such courses are numbered 300 or above.
2. Compliance with the minimum residence requirements, as stated in the General Academic Regulations section of this catalog.
3. Maintenance of an overall grade point average of 2.00 minimum.
4. Unanimous recommendation for the degree by the faculty of the College of Nursing.

The Bachelor of Science in Nursing is granted to R.N. to B.S.N. degree completion students upon fulfillment of the following requirements:

1. Completion of 128-131 semester hours of course work of the prescribed curriculum.
2. Completion of The University of New Mexico Core Curriculum.
3. Completion of 64-66 semester hours of upper-division course work. Such courses are numbered 300 or above.
4. Compliance with the minimum residence requirements, as stated in the General Academic Regulations section of this catalog.
5. Maintenance of an overall grade point average of 2.00 minimum.
6. Unanimous recommendation for the degree by the faculty of the College of Nursing.

Curriculum for Basic Entry and Second Degree Options

"First Year" and "Second Year" course work, which applies only to basic entry students, should be completed before beginning Level 1. It is strongly recommended that students take Sociology, Anthropology, or Psychology to meet the Social/Behavioral Sciences core requirement.

Students admitted under the 2nd degree option follow the same upper-division curriculum (Levels 1, 2, 3, 4) as basic entry option students, except upper-division electives or honors are not required for second degree entry students.

First Year		
ENGL 101	Composition I: Exposition	3
ENGL 102	Composition II: Analysis and Argument	3
	Social/Behavioral Sciences (Core Area 4)	6
	Humanities (Core Area 5)	6
CHEM 111L	Elements of General Chemistry	4
BIOL 123/124L	Biology for Health Related Sciences and Non-Majors/Lab	4
MATH 120	CR/NC; (prerequisite for STAT 145) may be waived by Math department	(3)
STAT 145	Introduction to Statistics	3
Fine Arts	(Core Area 7)	3
		32 (35)

Second Year

BIOL 237	Human Anatomy and Physiology I for the Health Sciences	3
BIOL 238	Human Anatomy and Physiology II for the Health Sciences	3
BIOL 239L	Microbiology for Health Sciences	4
	Foreign Language (Core Area 6)	3
	Writing/Speaking (Core Area 1)	3
NURS 224	Application of Concepts of Human Growth and Development to Health Care Delivery	3
NURS 239	Pathophysiology I	3
NURS 240	Pathophysiology II	3
NURS 238	Pharmacology in Nursing and the Health Professions	3
NUTR 244	Human Nutrition	3
Electives		2
		33

The four levels of the upper-division nursing curriculum are delivered on a schedule that includes three equal length sessions per year. One level is completed each term, with the four levels completed in 16 months. The curriculum for the upper-division nursing major follows:

Pre-level 1: 1) validation of electronic literacy skills and 2) basic nursing skills competencies or completion of NURS 223 *Introduction to Nursing Skills and Concepts*.

Level 1

NURS 311L	Nursing Skills and Assessment	5
NURS 312L	Nursing Practicum I	4
NURS 313L	Nursing Practicum II	1
NURS 351	Health & Illness Concepts I	3
NURS 390	Professional Nursing Concepts I	3
		16

Level 2

NURS 314L	Nursing Practicum III	4
NURS 315L	Nursing Practicum IV	3
NURS 331L	Principles and Application, Community Assessment	2
NURS 332	Introduction to Nursing Research and Evidence Based Practice	3
NURS 352	Health & Illness Concepts II	3
		15

Level 3

NURS 411L-416L	Clinical Intensive I w/seminar	4
NURS 411L-416L	Clinical Intensive II w/seminar	4
NURS 453	Health & Illness Concepts III	3
NURS 491	Professional Nursing Concepts II	3
	Elective (3 credits)	
	-OR-	
NURS 498	Honors Study in Nursing I (If eligible and seek departmental honors)	3
		17

Level 4

NURS 411L-416L	Clinical Intensive III w/Seminar	4
NURS 419L	Capstone Clinical	3
NURS 454L	Nursing Synthesis	3
NURS 492	Professional Nursing Concepts III	3
	Elective (2 credits)	
	-OR-	
NURS 499	Honors Study in Nursing II (If eligible and seek departmental honors)	3
		15(16)

The grade of C or better is required in all courses.

Contact the College of Nursing Academic Advisement Office for curricular planning.

Students who participate in the University Honors Program may apply General Studies seminars to satisfy appropriate requirements upon approval by the Dean, College of Nursing.

Students who wish to make substitutions or exceptions to the program may present their request to the Executive Dean.

See The University of New Mexico online *Schedule of Classes*, <http://www.unm.edu/~unmreg/> for further information prior to registration.

It is the student's responsibility to meet all departmental requirements.

R.N. to B.S.N. Degree Completion Option

Curriculum for R.N. to B.S.N. Degree Completion Option
UNM Core Curriculum Areas and Required Credits (37 credits)

ENGL 101	3
ENGL 102	3
Writing course	3
STAT 145 (has MATH 120 as prerequisite)	3
Physical/Natural Sciences	7
Social/Behavioral Sciences	6
Humanities	6
Foreign Language	3
Fine Arts	3
Lower-Division Electives	21-23
NURS 239 Pathophysiology I	3
NURS 240 Pathophysiology II	3
Upper-Division credits from A.C.E. II exam	34
Upper-Division Nursing Required Courses:	
NURS 340 Advancement of Professional Nursing	3
NURS 332 Introduction to Nursing Research and Evidence Based Practice	3
NURS 431L Community Assessment	3
NURS 441 Evidence Based Application of Health Assessment Skills	4
NURS 442 Nursing Leadership in Health Policy and Health Care Systems	3
NURS 447L Family and Community Health Practicum	4
NURS 448 Application of Health and Illness Concepts	4
Upper-Division Elective in Nursing (when available; otherwise, unrestricted)	3
Upper-Division Elective (unrestricted)	3
Total:	128 credits required for the BSN degree

Graduate Program

All students seeking admission to graduate studies must meet the University and College of Nursing requirements set forth in this catalog. Please check the College of Nursing website at <http://hsc.unm.edu/consol/> for application information.

Graduate Course Work Without a License to Practice Nursing

Students may take graduate courses without a clinical component even if they are not licensed to practice nursing in the state of New Mexico. This may apply to non-degree students prior to application for admission to the program, individuals awaiting licensure by examination or reciprocity, individuals taking Web courses or individuals from other disciplines taking graduate nursing courses as electives. For any course having a required clinical component, the student must be licensed in the state in which they are completing the clinical experience.

Academic Regulations

Graduate students must maintain a grade point average of at least 3.0 to stay in good academic standing. No more than 6 credit hours of course work graded C, C+, or CR may be credited toward the graduate degree. Individual graduate nursing concentrations may impose more rigorous academic standards for their clinical courses. Graduate students who do not earn a passing grade or better (as defined by the concentration) in any graduate nursing course on a second attempt are not allowed to progress. Graduate nursing students receiving less than a passing grade in any two nursing courses are also not allowed to progress in the College of

Nursing. Students must wait one year before reapplying to the College of Nursing. Courses taken during the year cannot be counted in the program of studies. Prior to repeating a nursing course, the graduate student's record is reviewed by an academic advisor. Progress will be monitored by an academic advisor.

NOTE: A grade of "B" or better is required for courses taken in non-degree status or at another university in order to be applied to the program of studies.

Online Master's Degree Concentrations

Students may choose to obtain a master's degree from The University of New Mexico College of Nursing by taking all courses on the Web, in the following concentrations: Nursing Administration, Community Health, and Nursing Education.

Students will discuss with their concentration advisor clinical requirements during course work. For any clinical experience, including the Fieldwork experience, out of state students will submit the resumes of two to three individuals, master's prepared in Nursing at a minimum, who have expressed willingness to serve as a preceptor. The student and faculty advisor will then decide on the appropriate preceptor and, when necessary, a contract between the College of Nursing and the agency or institution will be prepared in advance.

NOTE: These contracts sometimes take 12-16 weeks to prepare so advance planning is needed.

If site visits are required for any reason for out-of-state students, costs of such visits will be borne by the student and not the College of Nursing.

Priority for Enrollment in Web Courses

Priority for enrollment in master's level Web courses will be given to students who have been accepted into the College of Nursing's degree programs. Only students who have been accepted into the College of Nursing degree programs will be allowed to enroll in any of the online core courses.

Drop Policy for Master's Level Courses

At the discretion of the faculty teaching the course, students who do not appear in class or log into a Web course or who have not made prior arrangements with faculty during the first week of the term may be dropped.

Minor in Nursing (Master's Level Only)

The minor consists of 12 credits in non-clinical nursing courses, at least 6 credits of which must be core courses. Students may select the remaining 6 credits of non-clinical nursing courses with the approval of a College of Nursing faculty advisor.

Master of Science in Nursing (M.S.N.)

Concentrations: nursing administration, community health, nursing education, acute care nurse practitioner (ACNP), family nurse practitioner (FNP), pediatric nurse practitioner (PNP) and nurse-midwifery (NM).

NOTE: A minimum enrollment is required for a concentration, emphasis, or course to be offered.

The College of Nursing offers the Master of Science in Nursing under either Plan I (with thesis) or Plan II (without thesis). Students must meet the general University requirements for Plan I or Plan II as set forth earlier in this catalog. Plan I requires a minimum of 30 credits (including 6 credits for thesis) in nursing and related subjects. Under Plan II a minimum of 32 credits in nursing and related subjects is required. Under both plans the student must complete the

courses required for the chosen concentration. Although some concentrations may require many credits beyond the minimum, individual review of records may allow waiver of some of the concentration courses. The minimum credit requirement for Plan I (30) or Plan II (32) must be met by all degree-seeking candidates regardless of any course waivers. Requirements for individual concentrations are available from the concentration coordinators or the College of Nursing Advisement Office. Some concentrations require full time study. Students should expect a minimum of three hours per week per credit for clinical involvement when taking clinical nursing courses.

The M.S.N. Program Objectives

Once completed, the graduate will be prepared to:

1. Analyze theoretical formulations as a basis for nursing practice, education and administration.
2. Apply and/or participate in research about health/illness and the practice of nursing.
3. Utilize advanced clinical knowledge and skill to promote, maintain and/or restore optimum wellness to client systems.
4. Assume leadership roles in nursing practice, education or administration.
5. Assume responsibility for developing health care policy relative to social, ethical, legal, economic and political issues that impact on nursing.
6. Organize and develop collaborative relationships for the improvement of health care on an agency, organizational or legislative level.
7. Synthesize knowledge from the biophysical, social and nursing sciences which affects health/illness behavior or client systems as a basis for nursing practice, education and administration.

Application Deadlines

Spring term Nursing Administration, Nursing Education: October 15
 Summer term (Note: the FNP, PNP, NM, and ACNP concentrations accept applications for summer term only)
 FNP: January 15
 PNP: January 15
 Nurse-Midwifery: October 1, first consideration; January 15, final consideration
 ACNP: January 15

NOTE: Early application is recommended. Clinical courses cannot be taken until the student is accepted into the program and is eligible to be licensed as a registered nurse in New Mexico and/or state where clinical work will be done.

Admission Requirements

All students seeking acceptance to the College of Nursing graduate program must meet requirements for admission to the University. See the section in this catalog on the Graduate Program for information on University admission requirements.

Applications are only accepted through an online application process. Check the College of Nursing website at <http://hsc.unm.edu/consq/> for current application information. This application is in addition to the application for admission to the University as a graduate student.

Screening for admission to the College is conducted at periodic intervals. All applications, fees, official transcripts, and required documents must be received by the deadline. Students should submit applications early to allow for adequate advisement and processing of applications.

To be considered for acceptance into the graduate program, in nursing, applicants must:

1. Hold a bachelor's degree (e.g., B.S.N.) from an accredited college or university, with an upper-division major in nursing. (Graduates from non-accredited programs [N.L.N. or C.C.N.E.] and R.N.s with a baccalaureate

degree in non-nursing fields are considered on an individual basis.) R.N.s with non-nursing baccalaureate have one opportunity to pass a Community Health test prior to the application deadline. Results of the exam must be received within 5 days of application deadline.

2. Have a minimum grade point average for baccalaureate work of B (3.0) or better.
3. Submit the application, required academic records, and documents by deadline dates. See the College of Nursing website at <http://hsc.unm.edu/consq/> for further details.
4. Submit evidence of RN licensure (which must be kept current throughout enrollment in the program). If NCLEX results are pending at the time of application, applicant should indicate this in the personal statement, with copy of RN license submitted within the first term enrolled and prior to any clinical experience. Note: Active RN license is required for the state in which any lab or clinical work (inpatient or community) will be done. An active New Mexico RN license is required for students holding teaching or research assistantships.
5. An interview may be required for admission.

NOTES: Preference is given to New Mexico residents. (See College of Nursing home page for any updates.) Physical assessment skills are required for clinical nursing courses. An upper-division statistics course is recommended as a prerequisite to the nursing research course (NURS 503).

College of Nursing graduate students can only apply 9 credits of non-degree course work to their program of studies.

MSN Degree Requirements

Core courses for all MSN students:

NURS 501	Theoretical Foundations of Advanced Nursing	3
NURS 503	Research in Nursing	3
NURS 505	Health Care Policy, Systems, and Financing For Advanced Practice Roles	3
NURS 504	Evidence-Based Practice in Nursing and Healthcare	3
Total MSN Core		12

Required clinical core courses for all students in advanced practice concentrations (ACNP, FNP, PNP, NM):

NURS 526	Pathophysiology in Advanced Practice Nursing	3
NURS 539	Advanced Pediatric Health and Developmental Assessment (PNP)	
—or—		
NURS 540	Advanced Health Assessment and Diagnostic Reasoning (ACNP, FNP, NM)	4
NURS 543	Pharmacological Principles of Clinical Therapeutics	3
Total Clinical Core		10

Students must also complete the requirements for their chosen concentration, as well as a professional paper, applied examination or thesis. If students choose to do a thesis, they will enroll in six credits of NURS 599 Thesis instead of one credit of NURS 596 Professional Paper or one credit of NURS 597 Applied Examination. The paper or examination is completed in the last semester of study.

Acute Care Nurse Practitioner (ACNP)

NURS 560	Differential Diagnosis for Advanced Practice	3
NURS 561	ACNP Applications to Practice I	5
NURS 562	Complex Patient Analysis and Treatment	3
NURS 563	ACNP Applications to Practice II	5
NURS 566	Advanced Diagnostic and Therapeutic Skills	3
NURS 567	Health Promotion, Disease Prevention, and Ethical Considerations	1
NURS 568	ACNP Clinical Topics I:	3
NURS 569	ACNP Clinical Topics II:	3

590 COLLEGE OF NURSING

NURS 594	Advanced Practice Seminar	1
NURS 595	Advanced Nursing Fieldwork	4
NURS 596	Professional Paper	1
-or-		
NURS 597	Applied Examination	1
Total		32
Total for ACNP Concentration		54
Family Nurse Practitioner (FNP) (full time enrollment required)		
NURS 541	Antepartum/Postpartum	2
NURS 542	Ambulatory Pediatrics I	4
NURS 548	Women's Health	3
NURS 535	Adult Health I	3
NURS 536	Adult Health II	5
NURS 546	Ambulatory Pediatrics II	4
NURS 594	Advanced Practice Seminar	1
NURS 595	Advanced Nursing Fieldwork	7
NURS 596	Professional Paper	1
-or-		
NURS 597	Applied Examination	1
Total		30
Total for FNP Concentration		52
Pediatric Nurse Practitioner (PNP) (full time enrollment required)		
NURS 542	Ambulatory Pediatrics I	4
NURS 546	Ambulatory Pediatrics II	4
NURS 547	Pediatric Chronic Illness/Special Needs	5
NURS 549	Adolescent Health	3
NURS 594	Advanced Practice Seminar	1
NURS 595	Advanced Nursing Fieldwork	7
NURS 596	Professional Paper	1
-or-		
NURS 597	Applied Examination	1
Total		25
Total for PNP Concentration		47
Nurse-Midwifery (NM) (full time enrollment required)		
NURS 544	Antepartum/Postpartum	7
NURS 548	Women's Health	4
NURS 550	Intrapartum Care	9
NURS 551	Newborn Care	3
NURS 552	Evidence-Based Practice in Nurse Midwifery	1
NURS 553	Nurse-Midwifery Professional Practice	1
NURS 595	Advanced Nursing Fieldwork	7
NURS 596	Professional Paper	1
-or-		
NURS 597	Applied Examination	1
Total		33
Total for NM Concentration		55
Community Health		
NURS 514	Nursing Administration in Health Institutions and Agencies	3
NURS 516	Advanced Community Health Nursing I	3
NURS 517	Advanced Community Health Nursing II	3
NURS 522	Applied Epidemiology to Community Problems	3
Elective		3
NURS 595	Advanced Nursing Fieldwork (fieldwork alternative available)	4
NURS 596	Professional Paper	
-or-		
NURS 597	Applied Examination	1
Total		20
Total for CH Concentration		32
Nursing Administration		
NURS 514	Nursing Administration in Health Institutions and Agencies	3
NURS 512	Resource Management in Nursing Administration	3
NURS 513	Administration to Facilitate Quality Clinical Care	3
NURS 595	Advanced Nursing Fieldwork	4
Electives		6
-or-		
NURS 597	Applied Examination	1
Total		20
Total for Admin Concentration		32

Nursing Education

NURS 558	Brain and Behavioral Correlates of Health and Illness	3
NURS 559	Physiologic Concepts in Health and Illness	3
NURS 509	Teaching Nursing	3
NURS 510	Educational Program Development and Evaluation	3
NURS 515	Faculty Roles and Professional Issues	3
NURS 595	Advanced Nursing Fieldwork	4
NURS 596	Professional Paper	1
-or-		
NURS 597	Applied Examination	1
Total		20
Total for Education Concentration		32

Post-Master's Certificate in Nursing

The Post-Master's Certificate, also known as the Nursing Certificate Program (NURCP), offers students who hold a master's degree in nursing an opportunity to specialize in an area of nursing not covered in their initial master's program.

The program of studies consists of specialty courses in the chosen area (at least 15 graduate credit hours) to be designated by the Concentration Advisor or faculty in the specialty area, with approval from the Senior Associate Dean for Academic Affairs. Course work must be completed within three years and a 3.0 (B) average is required. Contact concentration coordinator for admission and curriculum details.

Dual Degree Program in Nursing (M.S.N.) and Public Health (M.P.H.)

The dual degree plan in Nursing and Public Health prepares nurses interested in leadership careers for professional Community Health Nursing and Public Health positions. Nurses will be prepared to perform the core functions of Assessment, Assurance, Surveillance and Health Policy in the public health arena.

The program of studies in the two disciplines enables nurses with baccalaureate preparation to further develop skills necessary to assess and plan health care delivery systems within the public health system. The detailed plan of studies satisfies the core curriculum in both areas. Either the thesis option or the non-thesis option may be chosen. Applicants must satisfy the admission and other academic requirements.

Dual Degree Program in Nursing (M.S.N.) and Public Administration (M.P.A.)

The College of Nursing and Public Administration dual degree prepares nurses interested in leadership careers for professional and management policy positions in health care delivery systems. The program of studies enables students to develop skills necessary to assess health care delivery systems, determine goals, planning strategies and evaluation methods and to become capable and effective leaders within health care systems, planning organizations and service agencies. Either the thesis option or the non-thesis option (both requiring 56 credit hours) may be chosen.

Doctor of Philosophy in Nursing (Ph.D.)

Note: The Ph.D. program in nursing is offered under a part time plan, requiring students to enroll in six credit hours each term (summer, fall, spring).

Note: RWJ Fellows follow a full-time plan of studies.

The doctoral program prepares individuals who can assume leadership roles in academia, including the scholarship of teaching, research and professional service activities. The program focuses on nursing education and knowledge development in the provision of care for multicultural, rural

and underserved populations; the improvement of nursing care outcomes of individuals, families and systems, with a special emphasis on women of all ages and children. The Ph.D. in Nursing Program at the University of New Mexico focuses on the health care needs of vulnerable women, youth, and families. Other priorities include rural health, disease prevention, and health promotion.

The Ph.D. Program is delivered online with a required annual 1-week summer residency and attendance at the annual Western Institute of Nursing Research Conference.

Graduates of the program will demonstrate the following competencies:

- Assume the role of the doctorally prepared nurse in teaching, scholarship, leadership, and service.
- Accept the responsibility for self-directed scholarly development in an ongoing research program focused on patient care improvement especially for women, children, and families.
- Conduct independent formal inquiry pertaining to health care, reflective caring practice, critical synthesis of existing knowledge, and generation of new knowledge and theory.
- Practice nursing reflectively, guided by theory based on best evidence and integrating creative and critical thinking.
- Cultivate research expertise relative to a particular population setting or human response to health or illness
- Evaluate and critique social policy relevant to the organization and delivery of health care.

Application Deadlines

Admissions are annually, with new classes beginning each summer term.

Application deadline is February 1.

The program is planned for part-time study. The part-time program is expected to take four to five years of part-time study after obtaining a master's degree. Students will be required to complete 6 credit hours of prescribed courses in the first summer term, and then 6 credit hours of prescribed courses each term (fall, spring, summer) until completion of the coursework. Options exist for students who wish to complete the program faster. On acceptance into the program, each student will be required to commit to a program of studies.

Note: RWJ Fellows follow a full-time plan of studies.

Admission Requirements

General requirements for the Doctor of Philosophy degree are set forth in the University of New Mexico catalog. Specific requirements for the College of Nursing's Ph.D. program are:

1. A Master of Science in Nursing degree (MSN) from an accredited nursing program (National League for Nursing or Commission on Credentialing of Nursing Education through the American Association of Colleges of Nursing). Students with a Bachelor of Science in Nursing (BSN) and a master's degree in another field will be considered on an individual basis.
2. A grade-point average of at least 3.0 on a 4.0 scale. Preference will be given to students with a grade-point average of 3.5 or higher.
3. A signed statement indicating knowledge of computer literacy skills that include word processing, sending and receiving e-mail communications, and searching Web sites.
4. Three letters of recommendation from persons who know the applicant professionally and can attest to his/her academic ability. These letters must be submitted directly to the College of Nursing.
5. Submission of a writing sample that demonstrates evidence of scholarly ability and the potential for scholarly growth. Examples include, but are not limited to, a thesis, a published or unpublished scholarly paper, or written creative work.

6. A one-page statement of the applicant's experiences in the discipline of nursing, which highlights experiences with underserved or vulnerable populations.
7. A letter of intent that addresses professional and personal goals.
8. A brief two-to-three page resume that summarizes educational and professional background.
9. A graduate-level statistics course completed within 3 years of the date of admission is highly recommended.
10. After initial screening, a select group of priority candidates will be interviewed. Interviews for admission will be conducted either in person or through interactive video technology.
11. Health requirements prescribed by the College of Nursing must be in compliance by the date of enrollment.
12. A valid R.N. license from any U.S. state, territory, or foreign country, which must be kept current throughout the program. Note that students holding teaching or research graduate assistantships must have an active New Mexico R.N. license.
13. Exceptions to any program admission criterion will be considered on an individual basis and are at the discretion of the Ph.D. Subcommittee with recommendation to the Research Team Leader.

Doctoral Committee on Studies/ Dissertation Committee

Each doctoral student is required during the first year of study to assemble a committee on studies to assist in planning a program of studies. This program should be designed to foster a fundamental knowledge of the major field, both in depth and breadth. The Committee on Studies consists of: Three College of Nursing faculty with tenure or tenure-track positions and holding regular graduate faculty approval. One of these members is typically designated as the Dissertation Committee Chair.

See requirements stated earlier in the catalog for steps in appointment of the committee.

Additionally, for the Dissertation committee, members typically include the Committee on Studies members plus:

- 1) A required external member who holds a tenure or tenure-track appointment outside the student's unit/department. This member may be from The University of New Mexico (must have regular graduate faculty approval) or from another accredited institution (must be approved by the Dean of Graduate Studies).
- 2) An optional fifth member of the committee may be a non-faculty expert in the student's major research area or a doctorally prepared member of the College of Nursing Clinical Educator Track with regular graduate approval.

Curriculum Plan

The curriculum consists of a core of doctoral courses on philosophy of science, theory, statistics, and research design. Students additionally choose from a selection of research methods courses, substantive area courses, and electives.

Required Core Courses – 24 credits

All students are required to take the following core courses: N690 Doctoral Seminar, NURS 600 Philosophy Of Science; NURS 601 Theory I: Methods/Process of Nursing Knowledge Development; NURS 602 Theory II: Contemporary Substantive Nursing Knowledge; NURS 620 Advanced Health Care Statistics I; NURS 621 Advanced Health Care Statistics II; NURS 606 Quantitative Methods In Nursing Research; NURS 607 Qualitative Methods In Nursing Research

Substantive Area Courses – 9 credits

All students are required to select at least three of the following four substantive area courses:

NURS 608 Nursing Environments of Human Health; NURS 609 Family Nursing: Concepts, Issues, Outcomes; NURS 610 Nursing Education: Pedagogy and Roles; NURS 611 Rural and Cultural Health

Methods Courses – 6 credits

All students are required to select at least two of the following four methods courses: NURS 612 Clinical Nursing Therapeutics and Outcomes; NURS 613 Advanced Research Methods: Mixed Research Methods; NURS 614 Instrumentation; NURS 627 T: Qualitative Data Analysis

Electives – 12 credits

Student will take at least four elective courses (12 credits) in the student's area of interest approved in advance for the program of studies by the Committee on Studies. Subject to the approval of the Committee on Studies, up to six credits of electives may be taken as independent study as part of the program of studies; however, no more than three credits of independent study in Nursing may be applied to the degree requirements.

Dissertation

Students must complete 18 credits of Dissertation. The Application for Candidacy must be approved by the Committee on Studies prior to completion of the doctoral comprehensive exam. Once the Doctoral comprehensive examination is passed the student must enroll in a minimum of 6 credit hours of dissertation (i.e., NURS 699) each term until the dissertation is completed.

Total Program:	51 credit hours of course work
	18 credit hours of dissertation
Total Credits:	69 credits total

Concentration in Health Policy

Students wishing to have a Ph.D. in Nursing with a Concentration in Health Policy must take Nursing 640, Evidence, Health Policy and Politics and Nursing 641 Health Disparities and Policy. Students must also take 9 credits of electives in health policy related courses.

Transfer of Courses

A limited number of courses may be considered for transfer to The University of New Mexico. To be transferable, course work must be no more than five years old at the time of application for candidacy and the transfer of credits must be approved by the student's Committee on Studies.

Nursing (NURS)**129. Topics. (1-3)**

An opportunity for nurses to update their knowledge and skills in nursing process in maintenance of preventive, therapeutic and restorative health care.

223. Introduction to Nursing Skills and Concepts. (2)

The goal of this course is to facilitate acquisition of the basic nursing skills of communication, safety, body mechanics, medical asepsis, comfort and hygiene, impaired mobility management, oral intake, elimination, specimen collection, and hot and cold therapy.

Restriction: admission to B.S.N. program.

224. Application of Growth and Development to Health Care. (3)

Presentation of theories of psychosocial and biological growth and development across the life span. Stresses application of concepts to health care delivery.

225. Electronic Literacy for Nursing. (1)

The development and application of computer and digital literacy skills for applications in nursing research and web-based learning.

Restriction: permission of advisor.

229. Topics. (1-6 to a maximum of 6) Δ

Courses related to preparation for a career in nursing. Variety of topic courses may be offered based upon demand.

238. Pharmacology in Nursing and the Health Professions. (3)

Introduction to pharmacologic principles, application of these principles to major classes of drugs, common drugs and their use in the clinical setting.

Pre- or Corequisite: 239 or 240.

239. Pathophysiology I. (3)

An introduction to human pathophysiology. The course focuses on forming a basic understanding of pathophysiology for nursing students.

Pre- or Corequisite: BIOL 237 and BIOL 247L and BIOL 239L.

240. Pathophysiology II. (3)

This course is a continuation of Pathophysiology I. The course focuses on forming a basic understanding of Pathophysiology for nursing students.

Pre- or Corequisite: 238 and BIOL 238 and BIOL 248L.

297. Independent Study. (1-3, no limit) Δ

Restriction: permission of advisor. {Fall, Spring}

311L. Nursing Skills and Assessment. (5)

The application of the nursing process in health assessment and performance of psychomotor skills. Focus on clients across the lifespan.

Corequisite: 312L and 313L and 351 and 390. Restriction: admission to B.S.N. program.

312L. Core Nursing Practicum I. (4)

Introduction to clinical nursing care of patients in the inpatient hospital setting. Clinical hours may include days, evenings, nights, and/or weekends.

Corequisite: 311 and 313 and 351 and 390. Restriction: admission to B.S.N. program.

313L. Nursing Practicum II. (1)

Introduction to clinical nursing care of patients in the community, outpatient setting. Clinical hours may include days, evenings, nights, and/or weekends.

Corequisite: 311L and 312L and 351 and 390. Restriction: admission to B.S.N. program.

314L. Core Nursing Practicum III. [Core Nursing Practicum II.] (4)

Delivery of clinical nursing care to clients in the inpatient setting. Clinical may include days, evenings, nights and/or weekend experiences.

Prerequisite: 311L and 312L and 351 and 390.

315L. Core Nursing Practicum IV. [Core Nursing Practicum III.] (3)

Delivery of clinical nursing care for parenting families in various health care settings in the community. Clinical experiences will include individuals and families, and may include days, evenings, nights and/or weekend experiences.

Prerequisite: 311L and 312L and 351 and 390.

329. Topics. (1-6 to a maximum of 6) Δ

Courses related to preparation for a career in nursing. Variety of topic courses may be offered based upon demand.

331L. Principles and Application, Community Assessment. (2)

Application of the principles of community assessment related to the role of the community health nurse. Identification of health disparities, recognition of cultural diversity, and interdisciplinary work will be emphasized.

Prerequisite: 311L and 312L and 351 and 390.

332. Introduction to Nursing Research and Evidence-Based Practice. (3)

This course emphasizes the development of skills needed to critically read and evaluate research for its application to clinical practice. Emphasis is on the identification of clinical questions, critique of evidence, and application of finds to nursing practice. Writing Intensive.

Restriction: admission to B.S.N. program.

340. Advancement of Professional Nursing. (3)

Self evaluation of nursing knowledge and professional development goals. Topics: contemporary nursing roles and issues; exploration of intellectual skills and strategies used by nurses; personal philosophy of nursing professionalism; leadership; conflict management skills. Writing intensive. Prerequisite: ENGL 101 and ENGL 102.

351. Health and Illness Concepts I. (3)

Introductory course involving concepts associated with an individual's physical health and illness requiring nursing care. Concept categories covered include health and health maintenance, regulation and homeostasis, activity, protection, comfort, social interactions, and emotions. Corequisite: 311L and 312L and 313L and 390. Restriction: admission to B.S.N. program.

352. Health and Illness Concepts II. (3)

This is the 2nd of 3 courses involving concepts associated with an individual's physical health and illness that require nursing care. Concept categories include regulation and homeostasis, oxygenation/hemostasis, activity, social interactions, and cognition. Prerequisite: 311L and 312L and 351 and 390.

390. Professional Nursing Concepts I. (3)

Addresses fundamental concepts associated with understanding oneself and others in the context of professional nursing practice. Corequisite: 311L and 312L and 313L and 351. Restriction: admission to B.S.N. program.

391. Nursing Roles and Values. (3)

Addresses the roles and values and the art and science of the nursing profession. Writing intensive. Corequisite: 311L and 312L and 351.

392. Nursing Leadership Strategies. (3)

Addresses professional practice strategies including conflict management, decision making, interdisciplinary practice and working with teams. Legal principles of documentation. Application of standards of care to risk management and the organization of care delivery. Prerequisite: 311L and 312L and 351 and 391. Corequisite: 314L and 352.

397. Independent Study. (1-3, no limit) Δ

Upper-division standing. Restriction: permission of advisor. {Fall, Spring}

411L. Child Clinical Intensive. (4)

Clinical practicum and didactic that focuses on the nursing knowledge and skills relevant to the care of children in various health care settings. Clinical may include days, evenings, nights and/or weekends. Prerequisite: 314L and 315L and 331L and 332 and 352. Restriction: permission of advisor.

412L. Maternal-Newborn Clinical Intensive. (4)

Clinical practicum and didactic that focus on the nursing knowledge and skills relevant to the care of pregnant women and their newborns in various health care settings. Clinical may include days, evenings, nights and/or weekends. Prerequisite: 314L and 315L and 331L and 332 and 352. Restriction: permission of advisor.

413L. Gerontology Clinical Intensive. (4)

Clinical practicum in nursing care of older adults in health care and community settings. Didactic will develop specialty knowledge and skills relevant to specific settings and situations. Clinical may include days, evenings, nights and/or weekends. Prerequisite: 314L and 315L and 331L and 332 and 352. Restriction: permission of advisor.

414L. Mental Health Clinical Intensive. (4)

Clinical practice and didactic in nursing care of clients with mental health problems in various health care settings. Clinical may include inpatient and outpatient settings and days, evenings, nights and/or weekend experiences. Prerequisite: 314L and 315L and 331L and 332 and 352. Restriction: permission of advisor.

415L. Specialty Focus Clinical Intensive Special Topics. (4)

Clinical practice and didactic in nursing care of clients in various health care settings. Clinical may include inpatient and outpatient care and days, evenings, nights and/or weekend experiences. Prerequisite: 314L and 315L and 331L and 332 and 352. Restriction: permission of advisor.

416L. High Acuity Nursing Clinical Intensive. (4)

Clinical practice and didactic in nursing care of clients in various high acuity health care settings. Clinical may include inpatient and outpatient care and days, evenings, nights and/or weekend experiences. Prerequisite: 314L and 315L and 331L and 332 and 352. Restriction: permission of advisor.

419L. Capstone Clinical. (3)

After successfully passing the HESI exam, students have clinical practice with preceptor in various health care settings. Clinical may include inpatient and outpatient care; and days, evenings, nights and/or weekend experiences. Prerequisite: 453 and 491.

421. Nurse Intern Professional Knowledge Development. (1 to a maximum of 2) Δ

This course will assist currently enrolled students who have secured a position as a nurse intern to increase competence in the professional role of the nurse. This seminar will examine student identified learning issues. Restriction: admission to B.S.N. program.

422. Nurse Intern Professional Role Development. (1 to a maximum of 2) Δ

This course will assist students who have secured a position as a nurse intern to increase competence in professional nursing. This seminar will examine communication problems in the current health care setting.

***429. Topics. (1-6, no limit) Δ**

{Offered upon demand}

431L. Community Assessment. (3)

Addresses community as client; determinants and indicators of community health. Student groups partner with communities to assess the health of a defined population and share planning for an evidence-based intervention for an identified problem. Prerequisite: 314L and 332 and 352 and 392.

441. Evidence-Based Application of Health Assessment Skills. (4)

Validation of core physical assessment skills is followed by development of holistic assessment strategies for clients across the lifespan. Application of evidence base and nursing judgment in selecting assessment strategies, diagnosis, and intervention planning. Pre- or corequisite: 340.

442. Nursing Leadership in Health Policy and Systems. (3)

Evaluation of health care systems, processes, and practice environments. Power, politics, and health policy; professional nursing roles in improving health systems. Legal principles of documentation. Standards of care and risk management strategies. Writing intensive. Pre- or corequisite: 340.

447L. Family and Community Health Practicum. (4)

Focus on nursing roles working with families and communities as clients. Clinical experiences in case management and other community health roles will focus on understanding overall population health through contact with individuals and families. Pre- or corequisite: 340.

448. Application of Health and Illness Concepts. (4)

Allows R.N. to B.S.N. students opportunity to explore in depth select concepts associated with an individual's physical health and illness. Concept categories include regulation and homeostasis, oxygen and hemostasis, protection, maladaptive behavior, emotions, and cognition. Pre- or corequisite: 340.

453. Health and Illness Concepts III. (3)

This course is the final course involving concepts associated with an individual's physical health and illness that require nursing care. Concept categories include regulation and homeostasis, sexual reproductive, protection, comfort, sensory perceptual, coping-stress, and behavior.
Prerequisite: 314L and 315L and 331L and 332 and 352.

454L. Nursing Synthesis. (3)

This course is a synthesis of professional nursing and health and illness concepts. Clusters of concepts will be applied in simulation and other learning activities.
Prerequisites: NURS 453 and NURS 491.

462. Special Populations in Pediatrics. (3)

This course explores issues relevant to the nursing care of special pediatric populations. It builds on content presented in previous nursing courses, including biophysical and psychosocial concepts, growth and development principles, and evidence-based practice.
Prerequisites: 314L and 315L and 331L and 332 and 352. Pre- or Corequisite: 340.

463/573. Wound Care Management. (3)

This course introduces the student to the concepts of prevention, evaluation and treatment of various types of wounds based on national certification criteria.

470. Rural Health Interdisciplinary Program. (2)

Students from various health professions participate in a problem-based, community-oriented curriculum to gain understanding and appreciation for the expertise each health discipline brings to working with health problems of rural New Mexico communities.

471. Nursing Care of the Breastfeeding Family. (3)

Utilizing principles from anatomy and physiology, biochemistry, immunology, social sciences, and research, the student will apply the nursing process while supporting the breastfeeding family in normal situations and families experiencing common problems with breastfeeding.

472. Victimology. (3)

This course examines the wide range of victimization experiences from the perspective of the victim, the offender, the families, and society. Assessment and intervention with victims, perpetrators and the community are explored.

473. End of Life Care. (3)

Exploration of end of life care with focus on symptom management, pain management, and social, cultural and emotional issues. Themes include family, nurse as advocate, culture, and interdisciplinary care.
Restriction: Admitted to College of Nursing.

474. Patient Education. (3)

Intensive exploration of the role of nurse as educator. Review adult learning principles and application of principles to patients in clinical settings.
Restriction: permission of advisor.

475. Perinatal Nursing Management. (3-4)

Students examine the nursing management of the perinatal client. Topics covered include the normal physiology of pregnancy, birth, postpartum and the pathophysiology of disease or disorders with a potential for maternal or fetal complications.
Restriction: permission of advisor.

476/576. Critical Care Nursing. (3)

This didactic course will introduce the student to the problems most commonly encountered in critical care units.

491. Professional Nursing Concepts II. (3)

Addresses concepts associated with nursing roles and behaviors in the delivery of health care and the application of these in multiple settings.
Prerequisites: 314L and 315L and 331L and 332 and 352.

492. Professional Nursing Concepts III. (3)

Addresses concepts related to health care organizations and health care systems. Prerequisites: NURS 453 and NURS 491.

493. Analysis and Evaluation of Health Care Systems. (3)

Evaluation of health care systems, processes, and ethical-practice environments. Power, politics, and health policy; the role of professional nursing advocacy in improving health systems. Nursing practice self-evaluation strategies; self-development planning. Writing intensive.
Prerequisite: 392.

494. Reflective Nursing Practice Seminar. (2)

Reflective strategies for coping and for analysis of own practice; development of personal philosophy of professional nursing; development of career plan for post-graduation. Writing intensive.
Corequisite: 419, enrollment in final semester of nursing program.

497. Independent Study. (1-3, no limit) Δ

Restriction: permission of advisor. {Fall, Spring}

498. Honors Study in Nursing I. (3)

First of two departmental honors courses. Small groups apply the scientific inquiry process to selected nursing problems. Knowledge synthesis is demonstrated by developing a community-based intervention or scholarly paper addressing the problem of interest.
Prerequisite: 311L and 312L and 351 and 391. Restriction: permission of advisor.

499. Honors Study in Nursing II. (1-3, may be repeated once) Δ

Second of two departmental honors courses. Small groups apply the scientific inquiry process to selected nursing problems. Knowledge synthesis is demonstrated by developing a community-based intervention or scholarly paper addressing the problem of interest.
Prerequisite: 498. Restriction: permission of advisor.

501. Theoretical Foundations of Advanced Nursing. (3)

Examines selected theories in nursing and health. Approaches to the analysis, critique and utilization of theories in nursing practice and scholarship are emphasized. Students develop and apply a theory and analysis to an area of interest.
Restriction: admission to MSN program.

503. Research in Nursing. (3)

Examines methods used to research nursing problems and measure outcomes of therapeutic interventions. Emphasis on problem generation, framing problem theoretically, research designs and data measurement and analysis.
Restriction: admission to M.S.N. program.

504. Evidence-Based Practice in Nursing and Health Care (3)

Systematic examination and application of health-related research in relation to advanced nursing practice, including: clinical practice, nursing education, nursing and health care administration, community and public health, or health policy.
Prerequisite: 503. Restriction: admission to M.S.N. program.

505. Health Care Policy, Systems and Financing for Advanced Practice Roles. (3)

Provides opportunity for in-depth discussion of concepts related to advanced practice. Focus in on issues affecting-scope of practice, health policy, economics of health care, ethical decision making and advanced nursing roles and collaborative practice.
Restriction: admission to M.S.N. program.

509. Teaching in Nursing. (3)

Focuses on development of teaching strategies to enhance learning in academic nursing education, continuing education, staff development, and patient teaching. Students analyze educational philosophies, learning theories, educational

principles, and instructional processes in nursing educational programs.
Prerequisite: 501 and 503.

510. Educational Program Development and Evaluation. (3)

Explores educational program development and evaluation in health related courses. Students analyze the curricular process, develop a philosophy, examine characteristics of the graduate, develop level/course objectives, and evaluate both courses and program outcomes.
Prerequisite: 501 and 503.

511. Assessment and Evaluation in Community and Health Care Systems. (3)

Overview of concepts and strategies relevant to the assessment, planning and evaluation of health care delivery systems. Focus is on the community and culturally appropriate health care. Content based on community-based theories and approaches.

512. Resource Utilization in Nursing. (3)

This course focuses upon the issues surrounding human and material resource management. The student uses knowledge of the health care delivery environments and institutional requirements to explore issues regarding personnel and budgetary management.

513. Administration to Facilitate Quality Clinical Care. (3)

Focuses on quality care in health institutions. Explores nursing practice issues for their organizational factors. Reviews methods of assessing clinical outcomes. Explores relationship of quality care with values, ethics, philosophies and models of care.

514. Nursing Administration in Health Institutions/Agencies. (3)

Focuses on understanding the forces and trends which impact health care organizational behavior. Concepts from organizational, management and nursing administrative frameworks which serve as the basis for practice are investigated.

515. Faculty Roles and Professional Issues. (3)

Roles and competencies of nurse educators are examined within the context of various educational settings and philosophical perspectives. Current political, social, cultural, ethical, and pedagogical issues affecting the nurse educator are explored.
Prerequisite: 501 and 503.

516. Advanced Community Health Nursing I. (2-3)

Investigation of contemporary health problems for rural and urban populations from epidemiological perspective. Emphasis on assessing communities, defining and prioritizing health problems.
Pre -or corequisite: graduate-level epidemiology course and 514. (Three hours lab per week.) {Offered upon demand}

517. Advanced Community Health Nursing II. (3)

Examines the role of nurses working with aggregates including using epidemiological methods and developing strategies for intervention and evaluation. Implementation of the refined intervention strategies is a course expectation.
Prerequisite: 516. (Three hours lab per week.) {Offered upon demand}

522. Applications of Epidemiology to Community Health Problems. (3)

Prepares students to utilize principles and methods of epidemiology in analyzing community health problems. {Offered upon demand}

526. Pathophysiology in Advanced Practice Nursing. (3)

Application of analytical reasoning and problem solving based on pathophysiology and clinical presentations of a broad variety of diseases of children and adults across the life span.

535. Adult Health I. (3)

This course focuses on management of common primary health care problems of the young, middle, and older adult.
Prerequisite: 526 and 540 and 543. Restriction: admitted to graduate program in nursing.

536. Adult Health II. (5)

This course focuses on management of complex primary health care problems of the young, middle, and older adult. Clinical component is specialty-specific.
Prerequisite: 535. Restriction: admitted to graduate program in nursing.

539. Advanced Pediatric Health and Developmental Assessment. (4)

This course builds on basic health assessment skills and presents a systematic approach to the advanced physical and developmental assessment of children (newborns through adolescents).
Pre- or corequisite: 526.

540. Advanced Health Assessment and Diagnostic Reasoning. (4)

Presents theoretical principles of health assessment throughout the life cycle. Topics include methodologies of data gathering and data analysis essential to comprehensive health assessment. Principles of diagnostic reasoning are presented to enhance critical thinking skills.

541. Antepartum-Postpartum for FNP. (2)

This course will provide students with the skills necessary to conduct antepartum/postpartum visits in primary health care settings.
Prerequisite: 526 and 540. Pre- or corequisite: 543. Corequisite: 548. Restriction: admitted to graduate program in nursing.

542. Ambulatory Pediatrics I. (4)

This course will provide students with the skills necessary to conduct well child visits in primary health care settings and will focus on management of common health care problems of children from birth through adolescence.
Prerequisite: (526 and 543) and (539 or 540). Restriction: admitted to graduate program in nursing.

543. Pharmacological Principles of Clinical Therapeutics. (3)

Course focuses on the application of advanced pharmacological and pharmacokinetic principles of drug categories commonly used in health care across the life span. Modules are completed specific to focus of major for portion of course.

544. Antepartum and Postpartum Care. (1-7, may be repeated once) Δ

Primary Care students study, analyze and apply concepts of management process to ante/postpartum periods. Within cultural and rural context, health maintenance preventive care and health policy throughout the life span is covered. Twelve hours lab per week.
Prerequisite: 526 and 540. Restricted: admitted to graduate program in nursing.

546. Ambulatory Pediatrics II. (4)This course focuses on the management of complex primary health care problems of children from birth through adolescence, with a strong emphasis on the importance of health education, prevention, culturally and developmentally appropriate care.
Prerequisite: 542. Restriction: admitted to graduate program in nursing.

547. Pediatric Chronic Illness/Special Needs. (5)

This course focuses on assessment, diagnosis, and evidence-based management of children with chronic illness and special needs and their families. Emphasis is on primary, secondary, and tertiary prevention.
Prerequisite: 549 and 542 and 543. Corequisite: 546.

548. Women's Health. (1-4, may be repeated once) Δ

Theories and concepts applied in the promotion of the health of adolescent and adult women. Clinical component is specialty-specific.
Prerequisite: 526 and 540. Restriction: admitted to graduate program in nursing.

549. Adolescent Health. (3)

This course builds on basic health and developmental assessment skills and emphasizes health promotion, anticipatory guidance, and prevention of illness for adolescents. Content includes assessment and management of illnesses affecting adolescents and their families.
Prerequisite: 539.

550. Intrapartum Care. (1-9, may be repeated once) Δ

Management of labor and birth, triage of complications and cultural dimensions foundational to the nurse-midwifery model of intrapartum care are studied. Clinical component is specialty-specific.
Prerequisite: 526 and 540 and 544 and 548.

551. Newborn Care. (1-3)

Study of the normal neonate within the cultural structure of the family. Common physiological, pathological problems and their management by nurse-midwife emphasized.

Prerequisite: 526 and 540. Clinical component is specialty-specific.

Restriction: Advanced Clinical Nursing Practice concentration students.

552. Evidence-Based Care in Nurse Midwifery. (1)

This course focuses on skill-building in the assessment of the quality and relevance of clinical research in obstetrics and midwifery. Evaluation of the current science base and identification of biases and weaknesses therein are required to articulate and support options in women's health care. Current research topics are explored from historical and scientific perspectives.

Prerequisite: 544, 548. Corequisite: 550, 551.

553. Nurse-Midwifery Professional Practice. (1)

This advanced class in nurse-midwifery standards of professional practice analyzes variations based upon populations, geography, practice teams and delivery systems. Historical and ethical frames are used in the analysis of clinical, organization and international issues.

558. Brain and Behavioral Correlates of Health and Illness. (3)

Examines the application of biopsychosocial concepts in patient care delivery settings. Provides a broad systems perspective of nursing practice by building on these concepts as they influence decision-making toward health and illness.

559. Physiologic Concepts in Health and Illness. (3)

Focus on biophysical concepts (lifespan) by examining application in context of patient-care delivery settings providing student with a broad systems perspective of nursing practice by building upon physiologic correlates of health and illness.

560. Differential Diagnosis for Advanced Practice. (3)

Concepts of developing differential diagnosis related to health problems in acutely ill adults with system specific health problems. Diagnostic reasoning and critical thinking skills will be incorporated into the patient evaluation process.

Prerequisite: 566. Corequisite: 561. Restriction: admitted to graduate program in nursing.

561. ACNP Applications to Practice I. (5)

Health problems in acutely ill adults focusing on system specific health problems seen in clinical practice. Emphasis is placed on critical thinking, application of pathophysiology concepts, and development of plan of care for patient presentations.

Prerequisite: 566. Corequisite: 560. Restriction: admitted to graduate program in nursing.

562. Complex Patient Analysis and Treatment. (3)

This course will cover content related to continued refinement of differential diagnosis development, diagnostic tests, and making a management plan for increasingly complex clients, with multiple acute and chronic health problems.

Prerequisite: 560 and 561. Corequisite: 563.

Restriction: admitted to graduate program in nursing.

563. ACNP Applications to Practice II. (5)

Complex health problems in acutely ill adults focusing on system specific multisystem health problems seen in clinical practice. Multi-faceted, multi-system disease processes will be discussed as pertain to acutely ill/complex patients.

Prerequisite: 560 and 561. Corequisite: 562. Restriction: admitted to graduate program in nursing.

566. Advanced Diagnostic and Therapeutic Skills. (3)

Focuses on diagnostic and technical skills used to diagnose, sustain, or stabilize acutely ill patients. Includes electrocardiogram interpretation, ACLS, fluid and electrolyte imbalances, ABG interpretations, laboratory values, splinting, casting, suturing, x-ray interpretation.

Prerequisite: 501 and 503 and 505 and 540 and 543. Pre- or corequisite: 526. Corequisite: 567. Restriction: admitted to graduate program in nursing.

567. Health Promotion, Disease Prevention, and Ethical Considerations. (1)

This course will cover content related to acute health problems in adults focusing on health promotion, disease prevention, and ethical considerations associated with advanced practice nursing.

Prerequisite: 501 and 503 and 505 and 526 and 540 and 543.

Corequisite: 566. Restriction: admitted to graduate program in nursing.

568. ACNP Clinical Topics I. (3 to a maximum of 12) Δ

Covers content related to areas of advanced practice that require specialized training and skills. Student chooses from operating room R.N. first assistant, flight nursing, disaster management, or specialized acute care topics approved by the instructor. Restriction: admitted to graduate program in nursing.

569. ACNP Clinical Topics II. (3 to a maximum of 12) Δ

Builds on ACNP Clinical Topics I. The student continues in the chosen topic of operating room R.N. first assistant, flight nursing, disaster management, or in the specialized acute care topic approved by the instructor.

Prerequisite: 568. Restriction: admitted to graduate program in nursing.

573/463. Wound Care Management. (3)

This course introduces the student to the concepts of prevention, evaluation and treatment of various types of wounds based on national certification criteria.

576/476. Critical Care Nursing. (3)

This didactic course will introduce the student to the problems most commonly encountered in critical care units.

591. Graduate Problems. (1-6, no limit) Δ

Independent study and research on a topic agreed upon by instructor and student.

Restriction: permission of advisor.

593. Topics. (1-6, no limit) Δ

Specialized courses about a particular topic in nursing. A variety of topic courses are offered according to demand. Different sections indicate different topic content.

Restriction: admitted to graduate program in nursing.

594. Advanced Practice Seminar. (1)

The focus of the course is entry into practice for the advanced practice nurse.

Prerequisite: students must have completed the majority of their clinical courses specific to their concentration. Coordinators for the advanced practice nursing concentrations must approve students' admission into this course.

595. Advanced Nursing Field Work. (1-7, no limit) Δ

A minimum of 4 field work credits is required. Taken after core and specialty required courses in the concentration have been completed. Students enroll with faculty in specialty area. Faculty member oversees experience and monitors students progress. (3 lab hours per week, per credit.)
Restriction: admitted to graduate program in nursing and permission of advisor.

596. Professional Paper. (1)

Scholarly, comprehensive paper written during the final semester of the course of study for completion of Plan II. Topic agreed upon with appointed professional advisor.
Restriction: admitted to graduate program in nursing. **Offered on a CR/NC basis only.**

597. Applied Examination. (1)

Comprehensive examination taken during the final term of the course of study for completion of Plan II requirements.
Restriction: admitted to graduate program in nursing. **Offered on a CR/NC basis only.**

599. Nursing Thesis I. (1-6, no limit) Δ

Restriction: permission of advisor. **Offered on a CR/NC basis only.**

600. Philosophy of Science in Nursing. (3)

Philosophy of Science analyzes ontological and epistemological questions about knowledge, natural science, human science, nursing science and contexts of care. Learning strategies incorporate rigorous critical reflection and dialogue, analysis and synthesis of ideas, and the creative expression of thought.
Restriction: admitted to doctoral program in nursing.

601. Theory I: Methods/Processes of Nursing Knowledge Development. (3)

Course focuses on developments in nursing disciplinary knowledge. Emphasis is on the critique of both nursing knowledge content and process and implications of theory and formalized knowledge for nursing research, practice and education.

602. Theory II: Contemporary Substantive Nursing Knowledge. (3)

Course focus is on existing and evolving substantive nursing knowledge and thought. Attention will be given to the construction, analysis, critique and application of middle range theories.
Prerequisite: 601.

603. Developing Research in Nursing. (3)

Critical elements of nursing research are introduced in the context of developing an individual pre-doctoral National Research Service Award application or equivalent. Emphasis on effective proposal writing and understanding of review criteria and procedures.
Restriction: admitted to doctoral program in nursing.

606. Quantitative Methods in Nursing Research. (3)

The course is focused on approaches to developing nursing knowledge by means of quantitative research methods as applied to clinical problems, theoretical modeling of human responses to health and illness, and health policy issues.
Prerequisite: 620 and 621.

607. Qualitative Methods in Nursing Research. (3)

This course introduces major methodological traditions of qualitative research and their application in nursing research. Through didactic readings, presentations and discussion students become conversant with philosophical, methodological, and practical issues and challenges in qualitative research.

608. Nursing Environments of Human Health. (3)

Analysis of constructions of health as related to different personal, familial, societal, political and biological environments. Focus on nursing care as a social process that is interactive with the human experience of health and healing.
Restriction: admitted to doctoral program in nursing.

609. Family Nursing: Concepts, Issues and Outcomes. (3)

Survey course emphasizing the family as the unit of nursing care. Analyzes factors affecting health outcomes, including vulnerability and resilience, health promotion, risk reduction, with health policy implications for enhancement of family health and capacity.
Restriction: admitted to doctoral program in nursing.

610. Nursing Education: Pedagogy and Roles. (3)

Explores teaching-learning in clinical and classroom settings. Educational patterns and pathways in nursing, roles of faculty in academia, changing healthcare environment, differentiation of advanced, reduced resources and links with theory and research are examined.
Restriction: admitted to doctoral program in nursing.

611. Rural and Cultural Health. (3)

Rural and cultural health analyzes unique characteristics, current issues, cultural competence and future trends for professional nursing in rural environments. Learning strategies incorporate critical reflection, dialogue, analysis and synthesis of ideas, problem-solving, rural experiences and the creative expression of thought.
Restriction: admitted to doctoral program in nursing.

612. Clinical Nursing Therapeutics and Outcomes. (3)

Critical analysis of therapeutic modalities to assist with maintenance, improvement or palliation of health. Theory and research of behaviors and health outcomes experienced by clients and care providers during wellness, illness and end of life care.
Prerequisite: 606. Restriction: admitted to doctoral program in nursing.

613. Advanced Research Methods: Mixed Research Methods. (3)

This course presents a brief overview of research paradigms with a particular emphasis placed on formulating research questions, methods, and analysis appropriate for a mixed method/model approach to behavioral and social science research.
Prerequisite: 606 and 607.

614. Instrumentation. (3)

Provides a knowledge base for predoctoral and postdoctoral students in the inductive and deductive process constructing and testing instruments to measure psychosocial and behavioral phenomena.
Prerequisite: 621.

620. Advanced Health Care Statistics I. (3)

Provides knowledge, skills and practice in collecting, analyzing and interpreting quantitative data for nursing practice. The course content will cover: probability, nonparametric tests (chi-square, sign, McNemar, Mann-Whitney, Kruskal-Wallis), principal components analysis and factor analysis.
Restriction: admitted to doctoral program in nursing.

621. Advanced Health Care Statistics II. (3)

Provides knowledge, skills, and practice in analyzing and interpreting quantitative data using multivariate statistical techniques including: multivariate analysis of variance and covariance; linear, multiple, and logistic regression; and exploratory factor analysis and reliability assessment.
Prerequisite: 620.

627. Qualitative Data Analysis. (3)

Focuses on the management of critical analysis of qualitative data using both inductive and deductive strategies.
Prerequisite: 607. Restriction: admitted to graduate program in nursing.

630. The Personal and Social Context of Illness. (3)

Drawing broadly from health and social and behavior sciences, this course is an exploration into the personal and social contexts that frame the illness experience.

640. Evidence, Health Policy, and Politics. (3)

Focuses on the use of research data to influence health policy as a part of the political process.
Restrictions: admitted to doctoral program in nursing.

641. Health Disparities and Policy. (3)

Focuses on underlying influences on health disparities in vulnerable and underserved populations. Examine the influence of health policy in the increase and decrease of health disparities.

Restriction: admitted to doctoral program in nursing.

690. Doctoral Seminar. (1-3, no limit) Δ

Specialized courses about a particular topic applicable to advanced graduate students. Different sections indicate different topic content.

691. Independent Study. (1-3, no limit) Δ

Intensive, directed study at the doctoral level on a specific topic or issue pertaining to nursing. The focus for this independent study, objectives, and strategies to achieve the objectives are agreed upon by instructor and student.

Restriction: admitted to doctoral program in nursing.

699. Dissertation. (3-9, no limit) Δ

Restriction: admitted to doctoral program in nursing. **Offered on a CR/NC basis only.**



COLLEGE OF PHARMACY

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Introduction

The College of Pharmacy, the oldest professional college at The University of New Mexico, was founded in 1945. The College of Pharmacy has approximately 2,700 graduates of its professional program. Nearly two-thirds of all practicing pharmacists in New Mexico are graduates of the College of Pharmacy. The College of Pharmacy offers the professional program leading to the Doctor of Pharmacy (Pharm.D. degree). The program consists of four years of professional education. Consideration for admission to the program requires 64 hours of prerequisite course work. The Pharm.D. program emphasizes student-centered problem-based learning and requires nine months of advanced professional practice experiences during the fourth year, including experiences in ambulatory care, community-based and institutional settings. The Pharm.D. degree is the only professional degree offered by the College of Pharmacy.

In addition to the Pharm.D., a Master of Science degree in Pharmaceutical Sciences with concentrations in Pharmacoeconomics, Epidemiology, Public Policy and Outcomes Research; Radiopharmacy; and Toxicology. A Doctor of Philosophy in Pharmaceutical Sciences with concentration in Pharmacoeconomics, Pharmaceutical Policy and Outcomes Research is also offered. Inquiries should be addressed to the Graduate Student Academic Advisor. A Doctor of Philosophy focusing on Toxicology is offered through the Biomedical Sciences Graduate Program and inquiries should be addressed to the Program Director of the Biomedical Sciences Graduate Program.

600 COLLEGE OF PHARMACY

The mission of the college is to develop innovative leaders in pharmaceutical care and research who enhance the quality of life for the people of New Mexico. The college enrolls the second highest number of Hispanic and Native American pharmacy students among all colleges of pharmacy in the United States. Unique programs within the college include the NM Poison and Drug Information Center, which is open 365 days per year and annually receives 40,000 inquiries; the Quentin Burdick Rural Health Interdisciplinary Program; a nationally-recognized problem-based learning curriculum and the oldest training program in nuclear pharmacy in the United States.

The college is a co-sponsor for pharmacy practice and specialty practice pharmacy residencies in infectious diseases pharmacotherapy, cardiovascular pharmacotherapy, and renal pharmacotherapy with the UNM Hospitals and is affiliated with the NM VA Healthcare System, the Lovelace Sandia Health System, Presbyterian Healthcare System, the Indian Health Service and the University's Cancer Research and Treatment Center.

The college has 54 faculty and 250 preceptors throughout the state. The college has a strong partnership with the NM Pharmaceutical Association, the NM Society of Health System Pharmacists and the NM State Board of Pharmacy. These partnerships have created innovative pharmacy practice opportunities for pharmacists in New Mexico including recognition as pharmacist clinicians, pediatric and adult immunization prescribing, prescribing of tobacco cessation and emergency contraception products, and various disease state management programs.

Opportunities in Pharmacy

The profession of pharmacy offers a wide variety of opportunities for practice. Opportunities in community pharmacy practice are available in independent pharmacies, prescription centers and chain pharmacies. An increasing number of graduates are entering residencies and fellowships as well as the practice of health systems pharmacy in hospitals, governmental institutions and in skilled nursing facilities. Graduates also practice as nuclear pharmacists, manufacturing pharmacists, medical service representatives, analysts for state and federal food and drug departments, clinic pharmacists in managed care organizations, the Armed Forces, Public Health Service and Veterans Administration facilities. Pharmacists are also engaged as administrators in pharmaceutical organizations and editing or writing for pharmaceutical publications.

Accreditation

The College of Pharmacy's professional program is accredited by the Accreditation Council on Pharmaceutical Education, the national accrediting agency in pharmaceutical education, and holds membership in the American Association of Colleges of Pharmacy.

Laws Relating to Licensure as a Pharmacist

To be eligible for licensure as a registered pharmacist, an individual must graduate from an accredited college of pharmacy and meet the experiential requirement of the applicable state board of pharmacy. It is usually possible to be eligible for Board of Pharmacy examinations and licensure immediately upon graduation.

The qualifications for registration as a pharmacist by examination under the New Mexico Pharmacy Act are as follows: "an applicant shall: be not less than 18 years of age and not addicted to drugs or alcohol, hold a degree from an accredited college of pharmacy, have appropriate internship experience and pass an examination administered by the New Mexico Board of Pharmacy."

All students in the College of Pharmacy are eligible to register as a pharmacist intern after successful completion of the first professional year. The qualifications for registration as a pharmacist intern under the New Mexico Pharmacy Act are as follows: "an applicant shall: be not less than 18 years of age, have completed not less than 30 semester hours (of specific course work from the first professional year) or the equivalent thereof in an accredited college of pharmacy and meet other requirements established by regulation of the Board of Pharmacy."

Additional information on registration as a pharmacist intern and licensure as a pharmacist may be obtained from the New Mexico Board of Pharmacy, 5200 Oakland NE, Suite A, Albuquerque, New Mexico 87113, telephone (505) 222-9830.

High School Preparation Recommendations

It is important that the high school student wishing to pursue the pharmacy program at The University of New Mexico orient his/her subject selection in the proper direction as early as possible. It is recommended that the student intending to obtain a Pharm.D. take the following subjects in high school: one year of chemistry and biology; physics; mathematics, to include at least two years of algebra and one year of geometry and trigonometry; four years of English; one year of social science and/or humanities; and two years of a foreign language. These are recommended subjects, NOT requirements for admission to the College of Pharmacy.

WICHE Program

The College of Pharmacy is a participant in the reciprocal tuition program coordinated by the Western Interstate Commission on Higher Education (WICHE). The states that The University of New Mexico College of Pharmacy exchanges (WICHE) students with Alaska and Hawaii. Under the program, pharmacy students may be eligible for tuition assistance if they are a resident of a member western state that does not have a school or college of pharmacy and that participates in the pharmacy component of the WICHE Program. Additional information concerning the WICHE Program may be obtained from: Western Interstate Commission for Higher Education (WICHE), Student Exchange Programs, P.O. Drawer P, Boulder, CO 80302, telephone (303) 497-0214.

Doctor of Pharmacy

Admission Requirements

The College of Pharmacy admits students for the Fall semester only. Deadline for application is February 1st of each year.

At The University of New Mexico, all freshman students are admitted to University College. A detailed statement of admission requirements to University College is in the Admission section of this catalog.

To be considered for admission to the College of Pharmacy Pharm.D. Program, an applicant must have:

- 1) Successfully completed all pre-pharmacy courses* with grades of C or higher consisting of 64 credit hours, including:

	Credit hours
Molecular and Cell Biology	4
Genetics	4
Human Anatomy and Physiology I	3
Human Anatomy and Physiology II	3
Microbiology with Lab	4
General Chemistry I and Lab	4
General Chemistry II and Lab	4
Organic Chemistry I and Lab	4
Organic Chemistry II and Lab	4
Introductory Biochemistry	3
Microeconomics	3

English Composition I	3
English Composition II	3
Statistics	3
Calculus I	3
General Physics I	3
General Physics II	3
Communications Selective	6
Critical Thinking Selective	6
General Electives	21
Total	91

* Prerequisite courses are subject to change.

- 2) A minimum cumulative grade point average of at least 2.20 on all completed, required pre-pharmacy courses listed in the previous section taken at all colleges and universities. A competitive GPA for admission for the Pharm.D. program is 2.7 for instate students and 3.5 for out of state students. The required grade point average will not include electives but will include each grade received on any required pre-pharmacy course (including selectives).
- 3) At least a 2.0 GPA on all course work attempted at The University of New Mexico.
- 4) All science pre-pharmacy courses (biology, chemistry, physics) must be completed by the end of the Spring semester prior to matriculation into pharmacy school.
- 5) A completed and submitted PharmCAS application (go to <http://www.pharmcas.org> for details) including:
 - a) Online application
 - b) Official transcripts from all U.S. and Canadian colleges and universities attended (including courses in progress)
 - c) Foreign transcript evaluation (if applicable)
 - d) Three letters of recommendation from faculty or health professionals
 - e) Application fee of \$150.00 to apply to one (1) school and \$40 for each additional school
- 6) Completed the Pharmacy College Admissions Test (PCAT).
- 7) A completed and submitted College of Pharmacy supplemental application, including:
 - a) Supplemental application form (available for download from <http://hsc.unm.edu/pharmacy/prospective>)
 - b) A recent passport size photograph
 - c) A \$50.00 non-refundable application fee (check or money order) payable to The University of New Mexico College of Pharmacy
- 8) All science prerequisites must be completed within the last 7 years.
- 9) Participated in an invited interview. Selected applicants will be offered interviews to take place at the College of Pharmacy. You **must participate** in the invited interview to be considered for admittance to the College of Pharmacy.
- 10) All accepted students must submit to the College of Pharmacy:
 - a) An undergraduate application for admission to The University of New Mexico.
 - b) Official transcripts from all other colleges and universities attended.
 - c) A \$20.00 non-refundable application fee payable to The University of New Mexico.
 - d) Experiential Education Requirement Form.

If you are offered admission to the program, a \$200.00 deposit will be required to hold your position in the class. The \$200.00 will be applied to your first semester tuition payment following matriculation into the College of Pharmacy.

To receive an application packet or for additional information on admission requirements and procedures, students should contact:

Admissions Advisor
 College of Pharmacy
 MSC09 5360
 1 University of New Mexico
 Albuquerque, New Mexico 87131-0001
 (505) 272-0583
<http://hsc.unm.edu/pharmacy/>

Graduation Requirements

The University of New Mexico College of Pharmacy awards the Doctor of Pharmacy (Pharm.D.), Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees upon completion of all specified requirements.

For an outline of graduate degree requirements, refer to the graduate program guide.

Pharm.D. Graduation Requirements:

1. Satisfactory completion of all required and elective Pharmacy courses.
2. Satisfactory completion of 200 semester hours of course work.
3. Maintain a 2.0 GPA on all University of New Mexico course work and a 2.0 GPA on all courses in the professional curriculum.
4. Removal of any "F," "WF" or "NCR" grade earned in a course by repeating the course with at least a "C-" or "CR" grade. No student will graduate with an "F," "WF" or "NCR" grade in the professional curriculum.
5. Students who have more than two grades of less than "C-" or more than 6 hours of grades less than "C-" in required courses in the professional curriculum are not eligible to graduate from the program.

Doctor of Pharmacy Competencies

1. Integrate and utilize knowledge of biochemistry, physiology, pathophysiology, and anatomy in order to design a pharmaceutical care plan. Acquire, comprehend, synthesize, apply, and evaluate information about the chemical structure and pharmacology of therapeutic agents in order to design, implement, monitor, evaluate, and adjust pharmaceutical care plans that are patient specific and evidence based.
2. Taking into consideration differences in patients' biochemistry, anatomy, physiology, and pathophysiologic states and, based on the differences in chemical and pharmacological properties between drugs, recommend changes in pharmacotherapeutic regimens that will minimize drug interactions, reduce adverse drug events, increase adherence, and improve therapeutic outcomes.
3. Formulate a patient-centered pharmaceutical care plan (new or revised) in collaboration with healthcare professionals and patients or their caregivers.
4. Design or modify dosage regimens using patient-specific or population pharmacokinetic data, plasma concentration-time profiles of drugs, and factors that alter them.
5. Explain how pharmacogenomics can be utilized to individualize dosage regimens and to anticipate adverse drug events.
6. Identify and explain the physical, chemical, and formulation properties of a drug that influence its ADME, stability, and dosage form design.
7. Identify and explain dosage form features that influence therapeutic outcomes.
8. Make appropriate selection decisions for multisource drug products.
9. Compound and dispense safe and effective extemporaneous pharmaceutical products prescribed or recommended as part of a patient's care plan.
10. Prepare and dispense safe and effective sterile dosage forms and enteral nutrition products prescribed or recommended as part of a patient's care plan.
11. Apply social/behavioral principles and theories in the design, delivery, and evaluation of pharmaceutical care.
12. Apply relevant legal, ethical, social, economic, and professional principles to assure efficient, cost-effective utilization of human, physical, medical, informational, and technological resources in the provision of patient care.

602 COLLEGE OF PHARMACY

13.State the trade and generic names, mechanisms of action, warnings, adverse effects, contraindications, drug interactions, dosage forms, and dosing regimens of the top 200 drug products and representatives from other major therapeutic drug classes.

14.Conduct complete patient physical assessment and review of systems to qualify students to pursue Pharmacist Clinician certification.

15.Qualify for any prescriptive authority certification currently granted by the New Mexico Board of Pharmacy.

16.Develop population-specific, evidence-based, and effective disease prevention and management programs.

17.Develop and implement population-specific and evidence-based disease management programs and protocols based upon analysis of epidemiologic and pharmaco-economic data, medication use criteria, medication use review, and risk reduction strategies.

18.Apply patient- and population-specific data, quality assurance strategies, and research processes to: assure that medication use systems minimize drug misadventuring, optimize patient outcomes, develop drug use and public health policy, design pharmacy benefits, and resolve public health problems.

19.Use appropriate scientific terminology to convey anatomical, pathophysiological, physiologic, chemical, pharmacological, and therapeutic concepts.

20.Communicate and collaborate with patients, caregivers, prescribers, population members, other healthcare providers, and administrative and support personnel to engender a team approach to patient care and to assure efficient, cost-effective utilization of human, physical, medical, informational, and technological resources in the provision of pharmaceutical care as well as to identify and resolve medication use problems.

21.Develop strategic efforts to communicate and collaborate with policy makers, members of the community, and other healthcare providers and administrative and supportive personnel to identify, promote, and resolve public health problems as well as to develop public healthcare policy.

22.Evaluate the biomedical literature with regard to the pharmacokinetics and pharmacodynamics of drugs.

23.Demonstrate appropriate utilization of management principles and use of healthcare resources in the American healthcare system.

24.Manage pharmacy operations and personnel.

25.Optimize physical and technological resources required to fulfill the practice mission.

26.Manage medication distribution, control, and use systems.

27.Retrieve, analyze, and interpret the professional and lay literature to provide drug information to patients, their families, as well as other healthcare providers and the public.

28.Carry out professional duties in accordance with legal, ethical, social, and economic guidelines.

29.Maintain professional competence by identifying and analyzing emerging issues, products, services that might:

- affect the efficacy or quality of disease prevention services.
- impact the management of human, physical, medical, informational, and technological resources in the provision of pharmaceutical care.
- impact patient-specific and population-based therapeutic outcomes.

30.Maintain professional competence in providing pharmaceutical care by becoming an independent, lifelong learner.

4 year college. Equivalent courses taken at these schools will transfer as part of the pre-pharmacy program. Verify equivalencies with The University of New Mexico College of Pharmacy advisement office.

NOTE: Students must be admitted to the pharmacy program to enroll in pharmacy courses.

The courses listed below are The University of New Mexico course numbers. Any course taken at other colleges and universities will be accepted according to The University of New Mexico equivalency standards and transfer credit will be given by the College of Pharmacy as equivalent to the corresponding University of New Mexico course work.

Recommended First Pre-professional Year

Fall Semester	Credits
ENGL 101 Composition I	3
Selective A or B	3
General Elective	3
<u>General Elective</u>	<u>1</u>
	12

Spring Semester

ENGL 102 Composition II	3
MATH 180 Calculus I ¹	3
CHEM 121 General Chemistry I	3
CHEM 123L General Chemistry I Lab	1
ECON 106 Microeconomics	3
<u>General Elective</u>	<u>3</u>
	16

Recommended Second Pre-Professional Year

Fall Semester	Credits
CHEM 122 General Chemistry II	3
CHEM 124L General Chemistry II Lab	1
BIOL 201L Human Anatomy & Physiology I	4
PHYC 151 General Physics I ³	3
General Elective	3
<u>Selective A or B</u>	<u>3</u>
	17

Spring Semester

CHEM 301 Organic Chemistry I	3
CHEM 303L Organic Chemistry I Lab	1
BIOL 202L Genetics	4
BIOL 237 Human Anatomy and Physiology I	3
<u>General Elective</u>	<u>3</u>
	14

Recommended Third Pre-Professional Year

Fall Semester	Credits
CHEM 302 Organic Chem II	3
CHEM 304L Organic Chem II Lab	1
BIOL 238 Human Anatomy and Physiology II	3
PHYS 152 General Physics II ⁴	3
PHRM 707 Pharmacy and Health Care Delivery	2
Selective A or B	1
<u>General Elective</u>	<u>3</u>
	16

Spring Semester

BIOC 423 Introductory Biochemistry	3
MATH 145 Statistics ⁵	3
BIOL 239L Microbiology/Hlth Sci ²	3
PHRM 715 Pathophysiology II	4
Selective A or B	1
<u>General Elective</u>	<u>2</u>
	16

Second Professional Year

Fall Semester	Credits
PHRM 718L Pharmaceutical Care Laboratory III	2
PHRM 719 Self-Care Therapeutics	3
PHRM 726 Pharmacokinetics and Biopharmaceutics	3
PHRM 728 Pharmacy Informatics and Research	3
PHRM 731 Mechanisms of Drug Action II	5
PHRM 771 Introductory Community Pharmacy	
Practice Experience	2
	18

Doctor of Pharmacy (Pharm.D.) Curriculum

The Doctor of Pharmacy (Pharm.D.) Program is a four-year professional curriculum. Pre-pharmacy courses may be completed at The University of New Mexico or at any 2 or

Spring Semester

PHRM 732	Mechanisms of Drug Action III	5
PHRM 733L	Pharmaceutical Care Laboratory IV	2
PHRM 739	Pharmacotherapy I	6
PHRM 7XX	Professional Elective+	2
PHRM 772	Introductory Institutional Pharmacy Practice Experience	2
		<hr/>
		17

Third Professional Year

Fall Semester

PHRM 751	Pharmacotherapy II	6
PHRM 756	Safe Medication Practices	2
PHRM 759	Advanced Law and Ethics	2
PHRM 762L	Pharmaceutical Care Laboratory V	2
PHRM 772	Introductory Institutional Pharmacy Practice Experience	2
PHRM 7XX	Professional Elective+	2
		<hr/>
		16

Spring Semester

PHRM 752	Pharmacotherapy III	6
PHRM 760	Pharmacy Healthcare Management and Economics	3
PHRM 764	Emerging Technologies in Pharmaceutical Care	1
PHRM 765L	Pharmaceutical Care Laboratory VI	2
PHRM 766	Public Health in Pharmacy	2
PHRM 7XX	Professional Elective+	2
		<hr/>
		16

Fourth Professional Year

Fall and Spring Semesters

PHRM 770	Advanced Pharmacy Practice Experience ⁵	36
	Total	<hr/>
		36

Footnotes:

*General elective courses to be taken from the following categories:

1. Communication: advanced English writing, technical or professional writing, linguistics or journalism
2. Humanities: literature (including American, English, foreign and comparative literature), history or philosophy.
3. Social/behavioral sciences: anthropology, psychology, economics, geography, political science or sociology
4. Foreign languages
5. Fine arts: the history, appreciation, and criticism of art, music, theater or dance
6. Health promotion: first aid, nutrition, and health
7. Physical education courses and courses numbered 001 through 100 are not acceptable.

†Selective A from a list of courses that emphasize the development of communication skills:

1. Public speaking (CJ 130)
2. Interpersonal communication (CJ 221)
3. Small group communication (CJ 225)
4. Business and professional speaking (CJ 332)
5. Professional communication (CJ 333)

%Selective B from a list of courses that emphasize critical thinking and problem-solving:

1. Physical chemistry (CHEM 311 or 315)
2. Expository writing (ENGL 220)
3. A survey of mathematics (MATH 129)
4. Calculus II (MATH 181)
5. Statistical quality control and improvement (MATH 270)
6. Introduction to philosophical problems (PHIL 101)
7. Current moral problems (PHIL 102)
8. Reasoning and critical thinking (PHIL 156)
9. Professional ethics (PHIL 245)
10. Symbolic logic (PHIL 356)
11. Physics II (PHYC 152)

+ 6 credits of professional electives are required for the Doctor of Pharmacy Program.

1. MATH 162 will fulfill requirements for 180.
2. PHYC 160 will fulfill requirements for 151.
3. STAT 245 or Psych 200 will fulfill requirements for STAT 145.
4. BIOL 351 and 352L will fulfill requirements for BIOL 239L.

5. Advanced Professional Practice Experiences: nine total as follows:

Six clinical rotations and three elective rotations. Each clerkship will be four weeks in duration and worth 4 credits each. At least one clerkship outside the city of Albuquerque will be required of all students to complete clerkship requirements.

Department of Pharmaceutical Sciences

Undergraduate Courses (PHRM)

496. Topics in Pharmacy. (1 to a maximum 3) Δ

Restriction: permission of instructor.

497. Problems in Pharmacy. (1-5, no limit) Δ

Research and library problems in some phase of pharmacy. Not for professional students in the College of Pharmacy curriculum. Restriction: permission of instructor.

498. Problems in Pharmacy. (1-5, no limit) Δ

Research and library problems in some phase of pharmacy. Not for professional students in the College of Pharmacy curriculum. Restriction: permission of instructor.

Pharm.D. Courses (PHRM)

701. Pharmaceutics I. (Pharmaceutical Dosage Forms I) (3)

Study of pharmaceutical dosage forms and relevant physico-chemical and biopharmaceutical principles. Introduction to the metrology and calculations involved in the compounding and dispensing of pharmaceutical preparations.

702. Pharmaceutics II. (3)

Continuation of 701.

705. Pathophysiology. (4)

Pathological consequences of disease states, including clinical presentation and histological findings presented by organ systems. Includes an introduction to medical terminology.

706. Foundations of Drug Action. (4)

An introduction to the molecular and chemical mechanisms of therapeutic agents. Topics include biochemical processes and drug targets, gene regulation and expression, cell signaling, and drug absorption, distribution, metabolism, and excretion processes.

710. Mechanisms of Drug Action I. (5)

First in a series of courses addressing principles of pharmacology, medicinal chemistry and biochemical mechanisms of drug action and toxicity. This section will specifically cover basics of drug metabolism and the pharmacology, structure-activity relationships (SAR), toxicology and elimination of drugs that act upon the autonomic nervous system.

713. Pharmaceutical Calculations. (1)

This course will introduce students to the knowledge and skills of fundamental mathematical calculations utilized in pharmacy practice.

715. Pathophysiology II. (4)

A continuation of Pharmacy 705.

726. Pharmacokinetics and Biopharmaceutics. (3)

An introduction to the influence of absorption, distribution, metabolism, and excretion on the time course of drug levels in body and in understanding how changes in these processes affect the outcomes of drug therapies.

731. Mechanisms of Drug Action II. (5)

Continuation of 710 addressing pharmacology, toxicology, SAR and elimination of prototypes in specific drug classes.

732. Mechanisms of Drug Action III. (5)

Continuation of 710 and 731 addressing pharmacology, toxicology, SAR and elimination of prototypes in specific drug classes.

755. Seminar in Pharmacy. (1 to a maximum of 2) Δ
Offered on a CR/NC basis only.

764. Emerging Technologies in Pharmaceutical Care. (1)

Provides students with an understanding of the principles of biotechnology, pharmacogenomic, and other state of the art therapies in pharmacy.

798. Problems in Pharmacy. (1-5 to a maximum of 10) Δ
Research and library problems in some phases of pharmacy.

Restriction: permission of instructor.

Graduate Courses (PHRM)**576. Molecular and Cellular Pharmacology. (3)**

Basic principles and recent advances underpinning modern molecular and cellular pharmacology. Topics include receptor theory, drug metabolism and biotransformation, pharmacogenomics, receptors and signal transduction, rationale drug design and selected topics in organ-system based pharmacology.

Prerequisite: BIOM 509 or BIOM 510. {Fall}

580. General Toxicology. (3)

An in-depth introduction to the basic principles and concepts of toxicology. Categories of chemicals causing toxic effects, the manner of exposure to toxic substances, the environmental and biological effects, and the laws and regulations will be considered.

Restriction: admitted to Pharmacy M.S. or Ph.D. degree program.

593. Seminars in Toxicology. (1, no limit) Δ

Research seminars on current topics in Toxicology will be presented by students and faculty from within UNM and from invited speakers outside of UNM.

Restriction: permission of instructor.

594. Topics in Environmental Disease. (1-3 to a maximum of 4) Δ

Advanced readings in topics relating to toxicology and environmental disease, including areas such as chemical teratogenesis, reactive oxygen species, respiratory toxicology, receptor-mediated toxicology and environmentally induced cancer.

Prerequisite: 580. Restriction: permission of instructor. {Fall, Spring}

597. Research Problems in Pharmaceutical Sciences. (1-5 to a maximum of 12) Δ

Research in pharmaceutical sciences.

Restriction: permission of instructor.

598. Topics in Pharmaceutical Sciences. (1-3 to a maximum of 4) Δ

Advanced readings in topics relating to the pharmaceutical sciences in the areas of hospital pharmacy, pharmacy administration, radiopharmacy or toxicology.

Restriction: permission of instructor.

599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.**699. Dissertation. (1-9, no limit) Δ**
Offered on a CR/NC basis only.**Department of Pharmacy Practice and Administrative Sciences****Undergraduate Courses (PHRM)****496. Topics in Pharmacy. (1 to a maximum 3) Δ**

Restriction: permission of instructor.

497. Problems in Pharmacy. (1-5, no limit) Δ

Research and library problems in some phase of pharmacy. Not for professional students in the College of Pharmacy curriculum.

Restriction: permission of instructor.

498. Problems in Pharmacy. (1-5, no limit) Δ

Research and library problems in some phase of pharmacy. Not for professional students in the College of Pharmacy curriculum.

Restriction: permission of instructor.

Pharm.D. Courses (PHRM)**703L. Pharmaceutical Care Lab I. (3)**

Introduction to the "languages and tools" used in contemporary pharmacy practice. Emphasis on calculations, communication, drug information, product formulation, and problem-solving.

704L. Pharmaceutical Care Lab II. (3)

Continuation of 703L with additional emphasis on patient information, assessment and monitoring; prescription processing; patient counseling; drug administration techniques; laboratory and home diagnostics tests; consult notes; and professional presentations.

707. Pharmacy and Health Care Delivery. (2)

Marketing and economic concepts of pharmacy practice, with a focus towards marketing of pharmaceutical services and products, pharmacy finance and economics in operations, pharmacoeconomics and decision-making.

709. Introduction to Pharmacy Practice. (1)

An introduction to the profession of pharmacy including career options, ethical principles, the responsibilities of being a health professional, the professional literature, and personal portfolio development.

717. Introductory Pharmacy Law. (1)

An introduction to the Federal and New Mexico laws that relate to the practice of pharmacy.

718L. Pharmaceutical Care Lab III. (2)

Continuation of 704L. Activities parallel topics in concurrent self-care therapeutics and literature evaluation courses. Emphasis on patient assessment, care planning, and monitoring; critical literature appraisal; and written communication skills.

719. Self-Care Therapeutics. (3)

A pharmacotherapeutics course studying the use of non-prescription drugs, supplies, and herbal medicinals with emphasis on the pharmacist's role as advisor, communicator, and educator to patients.

720. Introduction to Nuclear Pharmacy. (2)

This course provides an overview of nuclear pharmacy as a practice specialty: contributions of the nuclear pharmacist and application of radioactive tracer techniques in the diagnosis and treatment of disease will be reviewed.

728. Pharmacy Informatics and Research. (3)

An examination of the structure of the biomedical literature and research with emphasis on the recognition, evaluation and application of different study types and the data they produce.

729. Sterile Products. (2)

The administrative (i.e., procedural) and pharmaceutical (i.e., preparation and dispensing) aspects of pharmacy-initiated (i.e., commercially-available and extemporaneously-prepared) sterile products.

733L. Pharmaceutical Care Lab IV. (2)

Continuation of 718L. Activities parallel topics in concurrent pharmacotherapy drug course, with emphasis on patient assessment, care planning, and monitoring; self-care practices and verbal communication skills.

739. Pharmacotherapy I. (6)

Introduces students to a systematic approach to patient-centered pharmaceutical care, emphasizing patient assessment, problem-solving, communication, and counseling skills. Begins pharmacotherapy sequence.

740. Self-Selected Supplementary Pharmacy Education. (1-2 to a maximum of 2) Δ

This course is designed to allow students to self-identify areas for supplemental pharmacy education. Student will select and complete ACPE-approved continuing education programs.

748. Research Project (Initial). (1)

Student formulates hypothesis for research project and establishes methodologies for completion under guidance of faculty. Research project approved by committee. **Offered on a CR/NC basis only.**

751. Pharmacotherapy II. (6)

Study of the therapy of common disease states by organ systems integrating the concepts from pathophysiology, pharmacology, biopharmaceutics, pharmacokinetics and pharmacoeconomics in the treatment of patients. Fully develops the concept of pharmaceutical care or how to provide the most cost-effective care of a patient including over-the-counter and natural remedies.

752. Pharmacotherapy III. (6)

Continuation of 751.

756. Safe Medication Practices. (2)

A study of the existence of medication errors, reasons for these errors and suggested methods to prevent them from occurring.

757. Professional Presentation Skills. (2)

Pharmacy seminar involves learning literature evaluation and presentation skills, and subsequently working independently to deliver one or more presentations on cutting edge topics in pharmacotherapy. This course includes time for both group discussion/literature evaluations and individual presentations.

758. Research Project. (1)

Student completes research project in final year. Up to four students may work collaboratively on one project. **Offered on a CR/NC basis only.**

759. Advanced Law and Ethics. (2)

Emphasis given to statutes and regulations regulating the practice of pharmacy and distribution of drugs including the New Mexico Pharmacy Practice Act. Class discussion will include the application of ethics to situations in health care.

760. Pharmacy Healthcare Management and Economics. (3)

Provides students with an overview of the principles of marketing of pharmaceutical services, managed care pharmacy, pharmacoeconomics and outcomes research, and personnel management.

761. Introduction to Managed Care Pharmacy Practice. (2)

Issues critical to managed care pharmacy practice will be introduced such as: disease management, formulary management, drug utilization review, benefit design and contract-

ing, Medicare and Medicaid, distribution systems and network management, quality improvement, health informatics.

762L. Pharmaceutical Care Lab V. (2)

Continuation of 733L, activities parallel concurrent pharmacotherapy courses. Emphasis on patient assessment, care planning, and monitoring.

765L. Pharmaceutical Care Lab VI. (2)

Continuation of 762L, activities parallel concurrent pharmacotherapy courses. Emphasis on patient assessment, care planning, and monitoring.

766. Public Health in Pharmacy. (2)

This course provides students with an introduction to public health from a pharmacy perspective. Restriction: admitted as PharmD student.

770. Advanced Pharmacy Practice Experience. (2-4 to a maximum of 36) Δ

Consist of four-week clinical experiences (40 hours/week) where students provide direct pharmaceutical care to patients.

771. Introductory Community Pharmacy Practice Experience. (2 to a maximum of 4) Δ

A four-week (40 hours/week) directed dispensing pharmacy experience. Students will be exposed to ambulatory patient care in a community pharmacy setting.

772. Introductory Institutional Pharmacy Practice Experience. (2 to a maximum of 4) Δ

A four-week (40 hours/week) directed dispensing pharmacy experience. Students will be exposed to in-patient care in an institutional pharmacy setting.

773/511. Nuclear Pharmacy Instrumentation. (3)

Structure and properties of atoms, radiation and radioactive decay, production of radionuclides, interactions of radiation with matter, with emphasis on instrumentation for radiation detection and measurement in a nuclear pharmacy or nuclear medicine environment. Restriction: permission of instructor.

774./ 512. Radiopharmaceutical Chemistry. (1)

Introduces undergraduate students to inorganic chemistry as applicable to radiopharmaceuticals. Prerequisite: CHEM 302. Restriction: permission of instructor.

775. Radiopharmacy Health and Radiation Biology. (3)

Fundamentals of the biological effects of ionizing radiation on living systems, especially man; basic biological mechanisms which bring about somatic and genetic effects. Concepts of radiation protection, radiation dosimetry, radiation monitoring and x-ray health physics. Restriction: permission of instructor.

776/516. Radiopharmacology. (3)

Study of the physicochemical characteristics of radiopharmaceuticals; kinetics of radiopharmaceuticals; structure-distribution relationships of radiopharmaceuticals; considerations in the design of new radiopharmaceuticals. Restriction: permission of instructor.

782. Clinical Toxicology. (2)

Study of the acute toxicity in humans of common drugs, chemicals and household products; physical and laboratory assessment of common poisonings; development of clinical management plans and role of pharmacists in prevention of poisonings. P3 standing in College of Pharmacy.

783. Clinical Pharmacy Assessment. (1)

A self-paced study of laboratory tests used in clinical pharmacy practice.

798. Problems in Pharmacy. (1-5 to a maximum of 10) Δ

Research and library problems in some phases of pharmacy. Restriction: permission of instructor.

799. Nontraditional Pharm. (2 to a maximum of 12) Δ

A course for pharmacists with a B.S. degree to receive credit for correspondence and other didactic training toward the Pharm.D. degree. Course must be taken continuously during the didactic training. **Offered on a CR/NC basis only.**

NOTE: PHRM 720, 729, 748, 755, 757, 758, 761, 782, 783 and 798 can be used to satisfy the pharmacy professional elective requirements.

Graduate Courses (PHRM)**511./773. Nuclear Pharmacy Instrumentation. (3)**

Structure and properties of atoms, radiation and radioactive decay, production of radionuclides, interactions of radiation with matter, with emphasis on instrumentation for radiation detection and measurement in a nuclear pharmacy or nuclear medicine environment.

Restriction: permission of instructor.

512./774. Radiopharmaceutical Chemistry. (1)

Introduces undergraduate students to inorganic chemistry as applicable to radiopharmaceuticals.

Prerequisite: CHEM 302 or equivalent. Restriction: permission of instructor.

514. Basics of Nuclear Pharmacy Practice. (2)

Restriction: permission of instructor.

516./776. Radiopharmacology. (3)

Study of the physicochemical characteristics of radiopharmaceuticals; kinetics of radiopharmaceuticals; structure-distribution relationships of radiopharmaceuticals; considerations in the design of new radiopharmaceuticals.

Restriction: permission of instructor.

518. In-Vitro Radiotracer Procedures. (2)

This course will provide the principles of in-vitro methods such as radioimmunoassay, autoradiography, ferrokines, radiometric assay, x-ray fluorescence and neutron activation analysis.

Restriction: permission of instructor.

519L. Instrumentation and In Vitro Lab. (2)

Practical experience in in-vitro radiotracer techniques and instrumentation in nuclear pharmacy.

Restriction: permission of instructor.

521. Radiopharmaceutics. (2)

Study of the physicochemical characteristics of radiopharmaceuticals; kinetics of radiopharmaceuticals; structure-distribution relationships of radiopharmaceuticals; considerations in the design of new radiopharmaceuticals.

Restriction: permission of instructor.

523. Clinical Nuclear Medicine. (1)

The utility of nuclear medicine procedures in the diagnostic workup of patients with various diseases is presented using case studies illustrated by data obtained from multiple imaging modalities.

Prerequisite: (511 or 773) and BIOL 238.

535. Administrative Clerkship. (3-5, no limit) Δ

Student placement in local/state health agencies, planning boards and legislative staff for health policy development. Field coordinators would identify projects in concert with faculty.

545-546. Pharmacy and Its Environment. (3, 3)

Exploration of the cultural foundations of pharmacy. Development of the present state of practice. Social and psychological factors in drug use. Role of the pharmacist as a health practitioner.

547. Pharmacy Practice Research. (3)

An introduction for graduate students in pharmacy administration to issues in pharmacy practice research. Research process, methods, measurement, tools, designs and ethics.

548. Ethics Clinical Trials/Informed Consent. (2)

The study of the history, ethical versus scientific methodological conflicts, and other issues that are generated by the conduct of randomized controlled clinical trials using human beings.

549. Regulatory Issues in Clinical Trials. (2)

The study of federal regulations and guidelines that govern the planning and conduct of randomized controlled clinical trials in humans with drugs and devices.

550. Pharmacoeconomics and Patient Outcomes Research in Medicine. (3)

The study of the economic results associated with pharmaceutical treatment or care and consequences of health care, including clinical (healing, disease/symptom remission), humanistic (satisfaction, health-related quality of life, societal utility), and economic (costs/savings).

591. Seminar in Administrative Pharmacy. (1, no limit) Δ

This course will give the students experience in organizing and presenting their thoughts and interpretations on a selected subject. The seminar will provide the student with an opportunity to develop writing and formal oral presentation skills.

Restriction: permission of instructor.

592. Seminar in Radiopharmacy. (1, no limit) Δ

Each masters candidate will be required to present a seminar on a topic of choice approved by his/her supervisor or selected by the supervisor.

Restriction: permission of instructor.

597. Research Problems in Pharmaceutical Sciences. (1-5 to a maximum of 12) Δ

Research in pharmaceutical sciences.

Restriction: permission of instructor.

598. Topics in Pharmaceutical Sciences. (1-3 to a maximum of 4) Δ

Advanced readings in topics relating to the pharmaceutical sciences in the areas of hospital pharmacy, pharmacy administration, radiopharmacy or toxicology.

Restriction: permission of instructor.

**599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.****699. Dissertation. (1-9, no limit) Δ
Offered on a CR/NC basis only.****Additional Information****Academic Advisement**

The College of Pharmacy Student Services Center is located in Room 188 of the Pharmacy/Nursing Building. The pharmacy advisor can be reached at (505) 272-3241.

Financial Aid

In addition to financial aid that is available to University students, a number of scholarships and loans are made available each semester specifically to students in the College of Pharmacy. Federal loans and grants are processed through the Student Financial Aid Office. College of Pharmacy Scholarships are awarded to pharmacy students based on academic merit, financial need and possible additional criteria as determined by the scholarship sponsor. Applications can be obtained from the College of Pharmacy Student Services Office. For more information go to: <http://hsc.unm.edu/pharmacy/docs/UNMCOPFinancialAidHandbook2009.pdf>

General Academic Regulations

In general, students will be governed by the scholastic regulations described below. Requests for waiver of these regulations should be submitted to the Chairperson, Academic Achievement and Progression Committee at the College of Pharmacy, as governed by the *UNM Pathfinder*.

Professional Conduct

Pharmacy is a profession based on high standards of ethical, moral and legal accountability. These standards are applicable to all practitioners, clinicians and students of the profession.

As members of the College of Pharmacy, the students, faculty and staff should demonstrate responsibility by practicing the highest level of professional behavior and maintaining this level by observing all laws, including those dealing with the use, abuse and control of dangerous drugs and controlled substances.

Any act not in keeping with these standards, duties and laws shall be deemed a violation of professional conduct. The College of Pharmacy reserves the right to take disciplinary action in such cases following appropriate due process. Students enrolled in the College of Pharmacy are required to follow the guidelines for student conduct set forth by the COP Student Honor Council and the *UNM Pathfinder*.

Rules for Progression in the Doctor of Pharmacy Program

- I. The College of Pharmacy expects students to complete the professional curriculum in four years. The Scholastic Achievement and Progression Committee must approve any deviation in progression toward completion of the curriculum in **four** years.
- II. Students must successfully complete all courses in the professional curriculum in a semester before any courses in the professional curriculum of the subsequent semester may be taken.
- III. Students with two or more "F," "WF" or "NC" grades in courses in the professional curriculum at *any time* will be permanently dismissed from the College of Pharmacy.
- IV. Students cannot begin Pharmacy 770 with less than a 2.0 GPA on all University of New Mexico course work or less than a 2.0 GPA on all courses in the professional curriculum.
- V. Students with more than two grades of less than "C-" or more than 6 credit hours of grades of less than "C-" in courses in the professional curriculum will not be allowed to begin Pharmacy 770.
- VI. Remediation Policy: A two-term Remediation Program is required of students who have more than 6 credit hours of grades less than "C-" or 1 or more credit hours of "F," "WF" or "NC" in courses in the professional curriculum.
 - The time spent in remediation *does not count toward the total number of years in the professional program.*
 - Remediation will only be allowed once during enrollment in the College of Pharmacy.
 - While in remediation, *students may not take courses that would advance their progression in the Pharmacy Curriculum. Students will be allowed to repeat courses in which they have "D," "F," "WF" or "NC" grades.*
 - The Scholastic Achievement and Progression Committee will design the two-term Remediation Program for each student.
 - The Remediation Program may require the student to take additional course work that addresses deficiencies in the student's background.
 - Students must complete all courses in the Remediation Program with no grades less than "C-."
 - Students that deviate from the Remediation Program designed by the Scholastic Achievement and Progression Committee will be dismissed from the College of Pharmacy.
- VII. Grade Replacement Policy
 - A. When a course in the professional curriculum is repeated, only the most recent grade will be used for calculating the GPA within the College of Pharmacy. The University of New Mexico GPA will be calculated using all grades.

- B. The College of Pharmacy Grade Replacement Policy may be applied to only 12 hours. Only one grade replacement is allowed for each course, regardless of the number of times the course is repeated.
- C. Students in the College of Pharmacy are not eligible to use The University of New Mexico Grade Replacement Policy.

Probation, Suspension and Dismissal Rules

There are two kinds of probation possible for students in the College of Pharmacy:

1. University Probation:

Students must maintain at least a 2.0 GPA on all course work attempted at The University of New Mexico. Students whose GPA falls below 2.0 on course work attempted at The University of New Mexico will be placed on The University of New Mexico probation. Failure to remove the probation by the next semester may result in suspension from the University.
2. College of Pharmacy Probation:

Failure to maintain a 2.0 GPA in all required courses in the professional curriculum will result in College of Pharmacy probation. Failure to raise the College of Pharmacy GPA above a 2.0 GPA within a year of being placed on probation may result in dismissal from the College of Pharmacy.

Nontraditional Doctor of Pharmacy Curriculum

The Nontraditional Doctor of Pharmacy Curriculum consists of a didactic component and a professional practice experience component. **Enrollment of new students in this program ceased in June, 2005.**

Didactic Component

Registered pharmacists with baccalaureate degrees in pharmacy earn credit for the didactic component by documenting completion of an appropriate statistics course (which may have been completed before entry into the program), an approved physical assessment course AND one of the following (a or b) didactic component options:

- a. Obtain certification as a Pharmacotherapy Specialist from the Board of Pharmaceutical Specialties (BCPS).
- OR**
- b. Complete two correspondence courses: the Clinical Skills Program (CSP), published by the American Society of Health-System Pharmacists (ASHP), and the Pharmacotherapy Self-Assessment Program (PSAP), published by the American College of Clinical Pharmacy. After acceptance into the Nontraditional Pharm.D. Program, the applicant will be required to successfully complete the CSP and submit answer sheets for 8 different PSAP books to the College of Pharmacy, on a regular schedule, before the self-assessment test answers for a book have been released by ACCP.

CSP is a self-study course that teaches basic problem-solving skills needed to design, recommend, monitor and evaluate patient-specific pharmacotherapy.

PSAP is a modular self-study program that updates, develops and assesses knowledge in pharmacotherapy. Specific books (e.g., cardiovascular) are released quarterly and emphasize the integration and utilization of new drug therapy knowledge in pharmacotherapy practice.

Students register each semester for Nontraditional Pharmacy (PHRM 799) for 2 credit hours while completing the didactic requirements and for any semester when not registered for a professional practice experience. This provides a mechanism for tracking the student's progress and granting credit as the didactic requirements are completed.

Professional Practice Experiences

The experiential component of the Nontraditional Pharm.D. Program consists of nine months of professional practice. Recognizing the experience of a registered pharmacist, applicants may be given credit for clerkships of one-month duration, with the following considerations:

- Previous professional practice experience for community pharmacy practice and hospital practice (one month each);
- One month for extensive experience in a specialized pharmacotherapy area;
- One month for completion of a pre-approved on-the-job project that implements a pharmaceutical care program;
- One month for certification as a Pharmacist Clinician in New Mexico;
- One month for completion of a pharmacy practice residency

Required clerkships are taken at sites used by traditional Pharm.D. students. Types of required and elective clerkships are the same as those for traditional Pharm.D. students. A preceptor meeting the standards appropriate for the specific professional practice experience and approved by the college must supervise the experience. Each month will be counted as 4 credit hours. Students will pay tuition for credit hours granted for professional practice experience.

The student must submit a plan for professional practice experience courses desired to the Assistant Dean of External Programs. This advanced notification is necessary to allow sufficient time to find suitable experiences that will not conflict with assignments for traditional Pharm.D. students, and to coordinate these assignments with preceptors. All professional practice experience will be completed within two years of beginning experiential training. The entire curriculum must be completed within six years of being accepted into the program. If a student drops out of the program, the student must reapply for readmission.

PHRM 799, Non-Trad Pharm, 2 credit hours each semester, when not taking professional practice experience.

PHRM 770, Advanced Professional Practice Experience, 36 credit hours total.

Graduate Programs

College of Pharmacy Graduate Education Committee

The College of Pharmacy Graduate Education Committee administers the Pharmaceutical Sciences Graduate Program. This committee is composed of faculty members from each of the concentrations in which a program is offered and graduate student representatives.

Inquiries and Applications

Pharmaceutical Sciences Graduate Program inquiries should be addressed to the College of Pharmacy Office of Student Services, MSC09 5360, 1 University of New Mexico, Albuquerque, NM 87131. Applications to the Pharmaceutical Sciences Graduate Program use the Office of Graduate Admissions online or paper application for domestic applicants. Information and instructions for completing this form are available at the <http://www.unm.edu/~grad/admissions/admissions.html> Application materials for international students can be found through The University of New Mexico's Office of International Admissions http://www.unm.edu/pre-view/na_intlgrad.htm.

Prerequisite Course Work

Students wishing to pursue a graduate degree in Pharmaceutical Sciences must meet the general requirements for admission to graduate studies outlined elsewhere in this catalog. In addition, each concentration of study has prerequisites for admission that are described below.

Program of Study

The Committee on Studies determines the Programs of Study for graduate students for each concentration. In general, this program consists of core and elective course work required of all students. However, in some cases the Committee on Studies may approve a Program of Study that takes advantage of previously completed course work or provides interdisciplinary training of interest to particular students. More specific information on the programs is given below.

Pharmacoeconomics, Epidemiology, Pharmaceutical Policy and Outcomes Research (PEPPOR)

This is a program of study and research leading to a M.S. and/or Ph.D. degree emphasizing the social, psychosocial, political, legal, historical and economic factors that impact on the use, non-use and misuse of drugs. It emphasizes human behavior in health illness, cultural determinants, health service systems organization, finance and economics. Individuals examine the societal systems in which patients, pharmacists and other health care practitioners interact, behave, perform, generate revenues, provide services and are educated. They generate knowledge about man as a social, cultural, psychological and biological being, as well as the intervention and effect of health care systems upon man and the economics of pharmacy services. Study and research training in this discipline prepares individuals with the background and problem solving skills to evaluate and design systems for the delivery of pharmaceutical systems and to apply behavioral and social interdisciplinary theories to the study of pharmacy practice. Two emphases areas are available

- 1) Health Services Research; and
- 2) Clinical Trials Research. An individual program of course work is determined for each student according to his/her career goals by a Committee on Studies. Students must meet the general admission requirements listed in this catalog. For admission information go to <http://hsc.unm.edu/pharmacy/prospective/pharmadminadmissions.shtml>

Radiopharmaceutical Sciences

A program leading to an M.S. degree in Pharmaceutical Sciences with a concentration in radiopharmacy is offered to individuals who have received a professional degree in pharmacy or a B.S. in a health-related science. The primary mission of the Radiopharmacy Education Program is to provide a comprehensive training experience that affords individuals the opportunity to acquire the scientific knowledge, technical skills, and professional judgement required to promote patient care through assurance of the safe and efficacious use of radiopharmaceuticals and ancillary medications for diagnosis and therapy. In order to best accomplish this mission, it is necessary to develop professionals who can solve problems, think logically and work independently or in collaboration to conduct research that will add to the knowledge base in nuclear medicine and radiopharmaceutical science.

Moreover, nuclear pharmacy is practiced in countries all around the world. Not only are U.S. pharmacists traveling to these countries to meet their health care needs, but pharmacists from these countries are also seeking opportunities to become competently trained nuclear pharmacy practitioners in order to return to their native lands. To maintain its reputation as a premier nuclear pharmacy education program, The University of New Mexico College of Pharmacy must seek to address the idiosyncrasies and needs of nuclear pharmacy on an international scale.

The comprehensive nature of the program is related to the fact that information is made available in a variety of ways. The program therefore is able to achieve the following goals: 1) To develop pharmacy generalists who can effectively manage patients requiring both diagnostic and therapeutic medications. Information regarding the rational use of radiopharmaceuticals is integrated into the professional (entry-level) Doctor of Pharmacy curriculum. 2) To develop

specialists who can serve as caregivers in the Radiology setting and provide consultation to all health care professionals, a focused curriculum is offered at the M.S. and certificate levels. (Note: the M.S. Program is available to pharmacists as well as individuals with a background in the life sciences.) Realizing that these two types of students may have different career goals, both a clinical track curriculum and a basic science track curriculum are offered. The focus of the clinical track is on the care of patients who receive diagnostic and therapeutic radiopharmaceuticals, and on practice-related issues and research, whereas the basic science track emphasizes theory of imaging technology, radiation protection, use of radiometric methodologies, development, of radioactive drugs and basic science research. 3) To promote the expansion of knowledge and technology, to foster creative thinking and to advance the practice of nuclear pharmacy and a diverse research program is maintained by both full-time and volunteer faculty who serve as role models for students. 4) To promote life-long learning, a correspondence continuing education program is offered to practicing nuclear pharmacists and nuclear medicine professionals.

The entire pharmacy profession, including the specialty of nuclear pharmacy, is an applied science. However, nuclear pharmacy, even more so than general pharmacy practice, relies upon a firm grounding in multiple basic sciences. To practice nuclear pharmacy, you must be able to extemporaneously compound and test a wide range of radioactive medications, develop and enforce adequate radiation protection measures for one's self and coworkers, meet the demand of numerous regulators and troubleshoot a variety of imaging pitfalls and artifacts and also provide patient care in a setting that is foreign to most pharmacists. Therefore, to achieve an optimal learning environment for nuclear pharmacy, it is essential to have an appropriate blending of the clinical sciences with multiple basic sciences.

College level organic chemistry, physics and mathematics through calculus are prerequisites for entry into the program. In addition, general requirements for admission to the program are specified on earlier pages of this catalog. Didactic and laboratory course work, research leading to a thesis (Plan I) or non-thesis (Plan II) degree and an opportunity for experience in radiopharmacy practice are components of the program. General requirements for completion of the degree are specified on earlier pages of this catalog. The student's program will be developed and is supervised by a Committee on Studies.

Toxicology and Pharmaceutical Sciences

Toxicology and Pharmaceutical Sciences encompasses a broad range of scientific disciplines that are critical to the discovery and development of new drugs and therapies, including drug design and chemical biology, pharmaceuticals and drug delivery, radiopharmaceutical target imaging, and pharmacokinetics, pharmacodynamics, drug metabolism, pharmacogenomics and toxicology. The group is focused on developing outstanding scientists through training in the biomedical and pharmaceutical sciences and disease processes. Specific strengths of the program include gene-environment interactions and the mechanisms by which exposure to environmental hazards adversely affect living organisms. Highly innovative programs such as the New Mexico Center for Environmental Health Sciences, the New Mexico Center for Isotopes in Medicine, the UNM Biomedical Research and Integrative Imaging (BRaIN) Center offer excellent opportunities for collaborative basic and translational research among faculty in the College of Pharmacy, School of Medicine, and Lovelace Respiratory Research Institute.

This is a program of study and research leading to a Masters of Science (M.S.) degree in Pharmaceutical Sciences. Typically, students graduating from this program have gone on to careers in academia, the pharmaceutical industry, government regulatory agencies, and biotechnology firms. An

individual program of coursework is established for each student according to academic background and career goals.

During the first year of study, students take core courses through the UNM Biomedical Sciences Graduate Program. This core course work emphasizes basic concepts in biochemistry, molecular biology, cell biology, and reading in the biomedical sciences literature. In the second and subsequent years, students are required to take Molecular and Cellular Pharmacology and General Toxicology, followed by advanced courses in pharmaceutical sciences and toxicology and other topics related to the student's research. These courses may be further supplemented with elective courses chosen by the student and their Committee on Studies.

For those students interested in obtaining a Ph.D., the UNM Biomedical Sciences Graduate Program offers a Ph.D. with a focus in one of six content areas, including Toxicology and Pharmaceutical Sciences. The core course work is similar to that described above for the M.S. degree. Toxicology and pharmaceutical sciences graduate research through either program (M.S. in Pharmaceutical Sciences or Ph.D. in Biomedical Sciences) also can be conducted at the Lovelace Respiratory Research Institute (LRRI), whereby students attend classes at UNM but conduct the majority of their research studies in the laboratory of a selected LRRI scientist.

These programs are designed to develop outstanding M.S. and Ph.D. research scientists by providing a firm foundation of knowledge in biomedical sciences augmented by an emphasis on research-based, experimental approaches to learning. Areas of research are diverse and current research interests can be found on the program's website.

Minimum Admission Requirements for Toxicology M.S. Degree with Toxicology Concentration

UNM Requirements (Baccalaureate from accredited institution, GPA > 3.0 in last 40 hours of undergraduate work, and formal/complete application for admission) plus:

- General GRE (1000 verbal and quantitative, 3.5 analytical)
- Biological science (2 semesters)
- Physics (2 semesters)
- Calculus (1 semester)
- General chemistry (2 semesters)
- Organic chemistry (2 semesters)
- Biochemistry (1 semester)



SCHOOL OF PUBLIC ADMINISTRATION

Uday Desai, Director
The School of Public Administration
Social Science Building, Office 3022
MSC05 3100
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-1092
<http://spa.unm.edu>

Professors

Uday Desai, Ph.D., University of Pittsburgh
Santa Falcone, Ph.D., Syracuse University
Bruce J. Perlman, Ph.D., Claremont Graduate School
Mario A. Rivera, Ph.D., University of Notre Dame
Roli Varma, Ph.D., Rensselaer Polytechnic Institute

Associate Professors

Constantine Hadjilambrinos, Ph.D., University of Delaware*

*on leave of absence

Assistant Professors

Chih-Wei Hsieh, Ph.D., Florida State University
Kun Huang, Ph.D., University of Arizona
Gao Liu, Ph.D., University of Kentucky
Stephanie Smith, Ph.D., Syracuse University

Affiliated Faculty

Suzanne Ortega, Ph.D., Vanderbilt University; University
Provost and Professor of Sociology
Ric Richardson, M.A., Massachusetts Institute of
Technology; Professor of Community and Regional
Planning
Richard Santos, Ph.D., Michigan State University; Professor
of Economics
Robert Schwartz, J.D., Harvard Law School; Professor of
Law

Emeriti Professors

F. Lee Brown, Ph.D., Purdue University
Alan Reed, Ph.D., University of Texas
T. Zane Reeves, Ph.D., University of Southern California
Leonard Stittleman, Ph.D., University of Colorado

Public Administration Admission Committee

The faculty serves as the Admission Committee for the
School of Public Administration.

Application Deadlines

Fall semester:	June 1st
Spring semester:	November 1st

International Deadlines

Fall semester:	March 1st
Spring semester:	August 1st

Introduction

The mission of the School of Public Administration is to advance knowledge in support of professional education for public service, through the integration of interdisciplinary research, teaching, and service in order to address the management challenges of an increasingly complex and diverse global environment.

Graduate Program

Degrees Offered

The School of Public Administration offers a Master's Degree in Public Administration. The degree prepares men and women interested in public service and third sector careers for professional and management policy positions. Persons

already employed or preparing to enter public service are encouraged to apply for admission. The interdisciplinary nature of the program is designed to utilize faculty resources in departments and colleges across the university and to offer students a wide choice in their professional preparation.

Master of Public Administration (M.P.A.)

The School currently offers three concentrations for persons interested in pursuing a specialized area of public administration study.

Concentrations: Please visit our <http://spa.unm.edu> or call our Academic Advisors at (505) 277-1095 or (505) 277-9196.

Dual Degrees:

The School offers joint degree programs with the School of Law, School of Architecture and Planning, and College of Nursing.

M.P.A./J.D. degrees with the School of Law

M.P.A./M.C.R.P. degrees with the Department of Community and Regional Planning in the School of Architecture and Planning

M.P.A./M.S.N. degrees with the College of Nursing

Also see Individual Dual-Degree Programs.

Admission Requirements

Admission is competitive, and only applicants with strong academic and professional records are admitted to the program. The applicants must have:

A baccalaureate degree from an accredited college or university with an undergraduate grade point average for the last 60 hours, or overall major grade point average of at least 3.0 on a 4.0 scale, or equivalent.

Applicants to the School of Public Administration (M.P.A.) program should submit an application packet to the UNM Admissions office. A paper or online application is acceptable although online is strongly preferred. The online application can be found at: <http://spa.unm.edu/students/admissions.php>.

The application (Paper or Online) should include:

- The application form - (Question #17: Major Code is "MPA-PADM")
- The residency form (required of all students)
- The application fee of \$50.00

The following should be sent **directly** to the School of Public Administration:

- Letter of intent (2-3 pages)
- Three letters of recommendation
- Resume
- One official transcript from EACH academic institution you have attended. You do not need official transcripts for coursework taken at the University of New Mexico.

UNM School of Public Administration Address:

School of Public Administration
Attn: Academic Advisor
MSC05 3100
1 University of New Mexico
Albuquerque, NM 87131-0001

Non-Degree and Post-Degree Status

Students who take Public Administration courses in non-degree and post-degree status fall into three categories.

1. Applicants who are denied admission may be advised by the admissions committee to take two core courses (PADM 500, 521, or 525) in non-degree status before reapplying for admission. As non-degree students, they must achieve at least a 3.5 GPA in Public Administration core courses to be reconsidered for admission to the program. Upon completion of course work, non-degree students must reapply for admission.
2. Individuals who seek to enroll in a course after the admission deadline but prior to the start of classes. These persons may only register for two core courses (PADM 500, 521, or 525) in non-degree status and must obtain approval from the Director of the School of Public Administration. A maximum of 6 non-degree credit hours may be transferred to the MPA degree.
3. Students who have already completed a Master's degree may enroll in post-degree status with approval of the SPA Director. Students in this category pursue a particular concentration and enroll in a specialized course of study to enhance their professional degree.

Degree Requirements

All students must complete a minimum of 42 credit hours for the degree that includes five components:

- 1) Core curriculum (18 credit hours)
- 2) Concentration (15 credit hours)
- 3) Elective (3 hours)
- 4) Designing Applied Research course (for those selecting the professional paper option) (3 hours)
- 5) A professional paper (3 credit hours) or thesis (6 credit hours).

Core Curriculum

Before enrolling in other Public Administration courses, each student is required to complete the following core curriculum of 18 credit hours:

PADM 500	Public Management and Policy
PADM 521	Institutional Development and Behavior
PADM 522*	Program Evaluation
PADM 525	Human Resources Management in the Public Sector
PADM 544	Public Budgeting
PADM 596*	Research Methods for Public Managers

* Students must meet the statistics prerequisite before enrolling.

Concentrations

Students must declare a concentration by the completion of core course requirements. A **Program of Studies (POS)** is due to the School of Public Administration office **after 12 hours of core course completion and before enrollment** in concentration courses. The POS must be approved in advance of taking any courses beyond the core requirements. For further information about individual concentrations please see our webpage - <http://spa.unm.edu> or contact the Academic Advisor: Kristen Cole, klcole@unm.edu, 505-277-9196; Gene Henley, ghenley@unm.edu, or call (505) 277-1095.

Health Policy and Administration Concentration – 15 hours (Select five courses)

Select at least three of the following courses:

PADM 561	Strategic Management of Healthcare Systems
PADM 562	Health Governance in Global Perspective
PADM 563	Healthcare Finance
PADM 564	Healthcare Policy and Program Evaluation
POLS 511	Health Policy and Politics

Select up to 2 of the following courses:

PADM 551	Problems
PADM 555	Workshop for Interns*
PADM 570	Pro-Seminar in Public Policy
PADM 590	Topical Seminar in Health Policy and Management
ECON *410	Topics in Health Economics
LAW 531	Health Law
PH 554	Public Health Policy, Politics and Advocacy
PH 562	Women's Health Issues
PH 565	Public Health: Law Policy and Ethics
PH 578	Environmental Health Policy
PH 579	New Mexico Border Health

*must be approved by the SPA Director.

Human Resources Management Concentration – 15 hours (Select five courses)

Required:

PADM 528	Employment Dispute Resolution
PADM 529	Administrative Law
PADM 538	Non-Profit Management
PADM 588	Practice of Negotiations
PADM 590 Sem:	Workplace Transformation
PADM 590 Sem:	Systems Design in Dispute Resolution
OLIT 540	Foundations of HRD and Instructional Technology
MGMT *463	Employment Law**
MGMT 506	Organizational Behavior and Diversity
MGMT 564	Human Resources Management: Theory and Applications I***

*Course available for graduate credit. **Prerequisite MGMT 306. ***Prerequisite MGMT 506.

Public Budgeting and Financial Management Concentration – 15 hours

Currently under review. See our webpage: <http://spa.unm.edu>, or contact the School of Public Administration at 505-277-9196.

Take 1 of the following series

Series A

MGMT 502	Accounting and Management Information Systems I,
MGMT 503	Managerial/Cost Accounting,
MGMT 504	Microeconomics for Managers,
MGMT 505	Macroeconomics for Managers and
MGMT 554	Public Control of Business Seminar.

Series B

MGMT 502	Accounting and Management Information Systems I,
MGMT 503	Managerial/Cost Accounting,
MGMT 540	Financial Accounting I,
MGMT 549	Accounting Information and Control Systems and
MGMT 640	Accounting for Non-Profit Organizations.

Series C

MGMT 501	Statistical Analysis for Management Decisions,
MGMT 520	Operations Management,
MGMT 521	Manufacturing Systems Management,
MGMT 522	Marketing Management and
MGMT 586	Strategic Logistics Management.

Series D

MGMT 502	Accounting and Management Information Systems I,
MGMT 503	Managerial/Cost Accounting,
ECON 503	Economic Theory,
ECON 517	Law and Economics and
ECON 535	Evaluation of Public Programs.

Series E

MGMT 502	Accounting and Management Information Systems I,
MGMT 503	Managerial/Cost Accounting,
ECON 503	Economic Theory,
ECON 560	Introduction to Public Finance and
ECON 562	Normative Theories of Public Finance OR
ECON 565	Positive Theories of Public Finance

Public Management Concentration – 15 hours

See our webpage—<http://spa.unm.edu> or contact the School of Public Administration at (505)277-1092 or (505) 277-9196.

Professional Paper/Thesis

Students may choose between either a professional paper or a thesis to complete their degree. Under the Professional Paper (non-thesis) option, the student completes 39 course credit hours and 3 Professional Paper credit hours. Under the thesis option, student completes 36 course credit hours and 6 thesis credit hours.

The School of Public Administration may change curriculum, degree requirements, admission requirements and policies at any time, without notice, for all programs. Check with the SPA for current information and assistance with program planning.

NOTE: A special fee of \$10.00 per course is charged to students registering for PADM courses.

Minor

Students pursuing a graduate degree in another program may pursue a minor in Public Administration. The minor requires completion of the following eight courses (24 credit hours): PADM 500, 521, 525, 527, 544, 546, 596, 597.

Public Administration (PADM)**500. Public Management and Policy. (3)**

Principles and methods of public management and policy analysis: policy formulation and implementation, organizational relations, institutional development, administrative process and public sector ethics.

521. Institutional Development and Behavior. (3)

Survey of theories of public organization, principles for planning in the public sector, methods of developing organizations, implementing changes and adapting to operational demands. Major issues of human behavior related to ethics and productivity.

522. Program Evaluation. (3)

This course is intended to provide an advanced introduction to the theory and practice of program evaluation, along with policy analysis and evaluation.

Restriction: permission of academic advisor.

523. Administration of State and Local Government. (3)

The organization, policies, processes and financing of state governments, cities, counties and special districts, with particular emphasis on human resources, budgets and planning.

524. Intergovernmental Administrative Problems. (3)

Organization of federal system, focusing on relationships and problems among agencies on different levels of government. Considers interstate, interlocal and regional organizations and implementation of intergovernmental programs and policies.

525. Human Resources Management in the Public Sector. (3)

Survey of human resources management principles and practices in public sector organizations.

526. Diversity in the Public Sector. (3)

The course covers the core dimensions, concepts, and approaches to diversity in organizations. Will consider the historical, political, cultural, and economic contexts as well as questions and controversies surrounding diversity management.

Restriction: permission of academic advisor.

527. Employment Relations in the Public Sector. (3)

Survey of employment relations among employers, employees and government in the public sector, with particular attention to unionized organizations.

528. Employment Dispute Resolution. (3)

Overview of the role of conflict/disputes in employment relationships; theories of conflict origins in humans, manifestations of workplace disputes, aggression, coercion, and violence; positive conflict resolution and reconciliation through peacemaking strategies.

529. Administrative Law. (3)

Role and nature of administrative law; procedural requirements and judicial review of administrative actions; safeguards against arbitrary/capricious action; delegation of sovereignty and legislative power; legal principals in the development of public policy and administration.

535. Comparative Public Administration. (3)

Examination on a comparative basis of national systems of administration in developed and developing countries, focusing on the organization and behavior of public bureaucracies, with special emphasis on Latin America.

Prerequisite: 500.

536. Social Policy and Planning. (3)

(Also offered as CRP 536.) Reviews the development of social welfare policy in the United States; analyzes contemporary social policy issues in terms of planning approaches to human services and community development programs.

537. Seminar in Public Management. (3)

Course is designed to develop understanding of bureaucratic/political environment and processes crucial to effective performance in public sector management and of ethical issues inherent in public management.

538. Non-Profit Management. (3)

This course will introduce the dynamics of non-profit management and provide a deeper understanding of socio, economic, political, and historical forces that have shaped the non profit sector in the U.S. and the world.

540. Administration of State Governments. (3)

Organization, process, policies and programs of state government. Administrative problems and techniques in budgeting, planning and decision-making.

544. Public Budgeting. (3)

Basic management of public funds, preparation and processing of budgets, revenue projection and expenditure controls. Issues of public policy and establishment of priorities through budgeting.

546. Public Financial Administration. (3)

Analysis of financial management functions of government including treasurer, comptroller, accounting, capital budgeting, auditing, debt and cash management and other functions. Methods for evaluating the financial conditions of governments are presented. The impact of computers on public financial management also is evaluated.

Prerequisite: 544.

551. Problems. (1-3 to a maximum of 6) Δ

A topic relevant to public administration is developed, resulting in a paper of substantial length. Faculty advisor's approval required. Only 6 credit hours of 551 will count toward the M.P.A. degree.

Restriction: permission of instructor.

552. Designing Applied Research. (3)

This course prepares students to design and carry out applied research in public administration and public policy contexts, with particular pertinence to preparation of the Professional Paper integrative assignment required for the Masters of Public Administration degree.

Restriction: permission of instructor.

553. Professional Paper. (1-3 to a maximum of 6) Δ

Must be taken by all students who are not pursuing the thesis option. In general, papers will be more extensive than term papers, perhaps including case studies, reports of research results, theoretical essays or similar contributions of substantive and professional quality. Students must enroll for 3 hours the first semester, and then for 1 hour consecutively thereafter (including summer sessions), until their professional paper is approved. Only the first 3 credit hours will count toward the M.P.A. degree. **Offered on a CR/NC basis only.**
Prerequisite: 596.

555. Workshop for Interns. (1-3 to a maximum of 6) Δ

Available only to students assigned to an agency as an intern. Gives work experience to students with little or no prior government employment. Prior approval of School director required.
Restriction: permission of instructor.

560. Public Policy and Aging. (3)

Analysis and evaluation of public policy issues involving federal, state and local government activities in relation to senior citizens.

561. Health Policy and Management. (3)

This course will examine critical issues currently facing health care managers and policy makers. Key areas of discussion are structure, financing and delivery of health services in the U.S.

562. Health Governance in Global Perspective. (3)

Seminar draws upon interdisciplinary perspectives in consideration and discussion of significant global health problems, ways concerned actors attempt to address them, and participants' own roles in improving health conditions.
Restriction: permission of academic advisor.

563. Healthcare Finance. (3)

Health Finance helps students develop an understanding of the managerial aspects of financial analysis in health care organizations. It explores the concepts, principles and applications of financial management and decision-making in modern hospital and healthcare organization.
Restriction: permission of academic advisor.

564. Healthcare Policy and Program Evaluation. (3)

A conceptual and practical introduction to health policy analysis and program evaluation. Although health policy and programmatic issues in the United States will be featured in the course, it will also examine international and comparative-method program evaluation cases and applications.

570. Pro-seminar in Public Policy. (3)

Review of representative theories of public policy, including policy formation, implementation, and impact analysis.

572. Energy Resources Management. (3)

This course examines the technical, economic, and social characteristics of energy resources, their delivery systems, and how different constraints such as environmental impacts, demand characteristics, capital and labor requirements affect energy policy considerations.

574. Seminar on Environmental Policy and Administration. (3)

Examination of issues and problems associated with the implementation of U.S. environmental policies and programs. Administration of natural resources on federal, state and local levels, with special reference to the Southwest.

575. Natural Resource Economics. (3)

Use and management of natural resources and systems useful to humans. Issues include: why natural resources are important, economic growth impact, optimal exploitation, and identification and management of environmental concerns.
Prerequisite: Econ 105 and 106.

577. Practice of Policy Development. (3)

(Also offered as CRP 577.) Introduction to practice of public policy development in technical and professional applications. Emphasis on actual writing, interpretation and implementation of policy documents. Environmental, physical and social policy are highlighted. Required for dual M.P.A./M.C.R.P. degree.

580. Criminal Justice Administration. (3)

Administration and policy making processes in criminal justice agencies and institutions, with particular focus on corrections, law enforcement and court administration.

588. Practice of Negotiation and Public Dispute Resolution. (3)

(Also offered as CRP 585.) Introduces students to new ways of negotiating and resolving disputes in the context of professional practice through collaborative decision making and problem solving.

590. Topical Seminars. (3, no limit) Δ

Seminars scheduled from time to time on issues and topics requiring additional focus in public administration. See course offerings each semester for seminars.

596. Research Methods for Public Managers. (3)

This course addresses research methods applicable to public management. It emphasizes data collection strategies, descriptive and inferential statistics (correlation, linear and multiple regression, ANOVA) mixed quantitative and qualitative analytical approaches (case and comparative methods).
Restriction: permission of instructor.

597. Computer Applications for Public Managers. (3)

Designed for public managers and students of public administration, this course presents methods of data analysis and interpretation of results for projects in institutional and field settings.
Prerequisite: 596.

**599. Master's Thesis. (1-6, no limit) Δ
Offered on a CR/NC basis only.**

UNIVERSITY COLLEGE

Finnie Coleman, Ph.D., Interim Dean
University Advisement and Enrichment Center, Room 265
MSC06 3680
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-9302

Associate Dean for Interdisciplinary Programs
Rosalie Otero, Ph.D.

Associate Dean for Undergraduate Studies
Tracy John Skipp

University College is the administrative unit that includes the University College Advisement Center and the following interdisciplinary academic programs: University Honors Program, Chicana/o Studies, Native American Studies, Aging Studies, Water Resources Program, and the Water Research Institute Program. University College offers an interdisciplinary degree called the Bachelor of University Studies Program. There are currently more than 8,500 students enrolled in University College with an additional 1,200 students enrolled in the Bachelor of University Studies program. Thus, the two main missions of University College are to function as an academic home for incoming students and to provide an administrative structure for several important interdisciplinary programs.

University College is the port of entry for almost every beginning student at The University of New Mexico and is committed to helping students engage in academic life and succeed in attaining admission to a College, an undergraduate education, and a degree. In order to accomplish this goal, University College has developed a plan to provide every first and second year student with three essential foundations for success: Basic Skills Development, Effective Instruction, and Pro-Active Student Support. The plan is aimed at providing crucial services (for orientation and proper initial testing and placement), introductory course work (to enable students to quickly acquire the fundamental skills and tools for academic success) and experienced advisement (for development of majors, careers and course schedules). University College has recently developed innovative pedagogical and curricular approaches to first-year studies at The University of New Mexico including Freshman Interest Groups, Freshman Learning Communities, College Success Seminar, and Living and Learning Communities. University College has a programmatic approach to lower-division education which emphasizes affirming diversity, promoting creative and engaged teaching, and learning and nurturing and sustaining community within the University. University College seeks to work closely with the Ethnic and Student Support Centers in Student Affairs to address the multiple challenges faced by first and second year students. The mission of University College is to ensure that access to education is realized through a coordinated plan for student engagement and success.

Dean's List/Honor Roll

University College recognizes University College students who demonstrates academic excellence by issuing a Dean's List and Honor Roll each semester.

The Dean's List of University College honors students who achieve a minimum semester grade point average of 3.5 with a minimum of 12 credit hours completed in graded courses (not CR/NC), and no grades below a "C" and no grades of "NC". Under University policy, Dean's List honors are recorded on the student's individual academic transcript.

The University College Honor Roll honors consistently superior academic performance. Students who maintain a cumulative grade point average of 3.25 or above for all University of New Mexico work will be placed on the Honor Roll. Students are not eligible for this award until they have completed at least two semesters and at least 24 credit hours at The University of New Mexico.

University College may post the Dean's List and Honor Roll for public viewing. Such awards are considered "directory information" and may be released without the student's written consent unless the student has previously requested that "directory information" be withheld. Students who wish to have directory information withheld should refer to the section of this catalog related to "Access to and Confidentiality of Student Records" for policies and procedures.

For more information about these awards in University College, call (505) 277-2631; walk in to the University Advisement and Enrichment Center Suite 105; or e-mail at uac@unm.edu.

Probation, Suspension, Dismissal

Students enrolled in University College are placed on probation at the end of any semester in which the cumulative grade point average on the University of New Mexico work falls below 2.00.

Students on probation are liable for suspension at the end of any semester in which the cumulative grade point average does not rise to 2.00 or better.

Students placed on probation may be continued on probation, if they substantially raise the cumulative grade point average and are making reasonable progress in meeting degree requirements. "Substantially raise the cumulative grade point average" is defined as earning a semester grade point average of at least 2.5. "Reasonable progress" is defined as at least one-half of the student's course load being courses (exclusive of Introductory Studies courses) which apply towards the student's major, minor or group requirements. If these conditions are not met, the student is suspended from the University of New Mexico.

The first suspension is for one semester. The second suspension is for one year. The third suspension is for five years. While suspended, students may take correspondence courses through the University of New Mexico Continuing Education to raise their grade point average. Students are reminded that a maximum of 30 credit hours of the University of New Mexico correspondence courses may be applied toward a degree.

At the end of the suspension period, a student must apply for readmission to University College with a written petition addressed to the Associate Dean for Undergraduate Studies. All petitions for readmission or revocation of suspension must be received by the University College Advisement Center no later than one week prior to the start of the semester in which the student wishes to return.

Second Chance Program

The Second Chance Program is designed to give students the opportunity to redirect their academic lives. It allows students who normally would be suspended for at least one semester to continue at UNM under conditions that encourage cultivation of a new personalized program for academic achievement.

A major goal of the Second Chance Program is for the student (and advisor) to identify the origins of the academic difficulty. Once that is accomplished, the student can build a long-term plan for academic success in cooperation with his/her advisor. As such, it is not merely an opportunity for the student to take more classes without "sitting out" a suspension period. Rather, it is an opportunity for the student to make meaningful changes in his/her approach to classes and career while improving academic standing. The program has strict eligibility requirements, and very specific expectations for student participants.

Eligibility requirements for the Second Chance Program

1. Student must be recommended by the Academic Standing Committee (as noted in the suspension letter)
2. Student must apply and complete a self-assessment before an initial visit with a University Advisement Center advisor.
3. Student must enroll for no more than two academic courses in the next semester.

Admission Requirements and Academic Regulations

All undergraduate, non-degree undergraduate and non-degree graduate students who are admitted to the University but have not yet met the requirements to enter their desired degree-granting college are admitted to University College (UC), and advised by the University Advisement Center (UAC). UAC is responsible for regulating and administering the University Academic policies and procedures. UAC works collaboration with advisement centers to assist students in the formulation of their academic directions, goals, and plans. All students in University College are required to meet with a UAC academic advisor every semester prior to registration.

Students in UC will receive a hold on their academic account each semester. The purpose of the hold is to ensure that students are meeting with an academic advisor, and are taking the courses needed to transfer to their degree-granting colleges in a timely manner. Students who are unsure of their academic interests or who wish to explore several possible programs of study, should meet with an academic advisor in UAC. The advisor will help the student explore interests and abilities, discuss academic strengths and weaknesses, and explain the applicable university regulations and policies.

Students with an area of interest or a definite major in mind should also meet with that departmental advisor as well as their appropriate college or program advisor. This will ensure that they obtain current curriculum and admissions information. Although these students may be directed to a college advisement center for course advisement, UAC maintains their records and is responsible for their general academic oversight. University Advisement Center is responsible for their advisement until they are admitted to their intended degree-granting college or until they are no longer eligible to enroll in one of the admissions categories supervised by this office.

Students who have earned 26 credit hours and have not met the requirements to transfer into their degree-granting colleges are required to meet with a pre-major advisor at University Advisement Center.

Admission to Degree-Granting Colleges

The **minimum** requirements for transfer from University College to any other University of New Mexico degree-granting college or school are:

1. Twenty-six hours of earned credit acceptable to that college.
2. A grade point average of at least 2.00 on all hours attempted; or
 - a. A grade point average of at least 2.00 on all hours attempted in the previous two semesters of enrollment, provided that if fewer than 26 hours were attempted in the previous two semesters, a grade point average of at least 2.00 shall be required on all work attempted in as many previous consecutive semesters as are necessary to bring the student's hours attempted to at least 30. (See definition of grade point average in this catalog.)

NOTE: Most colleges and schools have admission requirements beyond the minimum noted above. In many instances a grade point average much higher than a 2.00 minimum is required. In addition, most of them also have specific course requirements before students are admitted to their program. For information

on admission requirements of a particular degree-granting college or school, students should refer to the admission regulations set forth in the section of this catalog devoted to that college or school.

Students should apply for transfer to a degree-granting program as soon as they meet the admission requirements for the college or school of their choice. Transfer is not automatic. Students must initiate the transfer process at the college or school of their intended major. If the student is admitted to the college, the transfer will take place at the end of the semester (or summer session) during which the student files for transfer and is accepted by the degree-granting unit. If a student does not meet the requirements by the end of the semester in which the transfer application is filed, the transfer petition becomes invalid and the student must later re-petition for transfer.

BACHELOR OF UNIVERSITY STUDIES

Tracy John Skipp, Director
University Advisement and Enrichment, Room 114
MSC06 3680
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2631

The faculty of The University of New Mexico offers the degree of Bachelor of University Studies (B.U.S.). This program, initiated in 1969, is administered through University College.

This baccalaureate degree program provides the opportunity for students to develop a unique program of study combining courses from more than one University of New Mexico department and/or college. With the help of a B.U.S. advisor, students will structure a 36+ credit program. The program of study may be thematically based or specialized in two specific subject areas. Remaining courses will be selected through B.U.S. advisement. The B.U.S. degree is NOT intended for the undecided student, and it may not be undertaken either as a second bachelor's degree or as part of a double major. While no official major or minor may be declared with the B.U.S. degree, the use of courses listed under existing departmental majors and minors is encouraged.

Strict compliance with B.U.S. requirements is mandatory for admission to and continuation in the program. Changes to approved programs of study may be made only in consultation with a B.U.S. advisor. The advisement of B.U.S. students is under the supervision of the Director of B.U.S. and the Dean of University College, both of whom consult regularly with the B.U.S. Faculty Senate Advisory Committee.

Students in the University Studies program must meet the general academic regulations of the University for admission, academic standing, and graduation. Students are responsible for familiarizing themselves with both the specific and general current academic regulations. **Students who have not been continuously enrolled must follow the requirements of the current University of New Mexico Catalog upon readmission.**

Questions regarding any aspect of the program should be addressed to an advisor in the B.U.S. office or to the Director of B.U.S. The University Studies program has information about any new or revised requirements in the program that have become effective subsequent to the publication of this issue of The University of New Mexico Catalog. Please also visit the website at <http://bus.unm.edu>.

Courses for Which Degree Credit Is and Is Not Given

Credit toward a degree will not be given for:

1. Any course numbered 100 (e.g., ISE 100, ISM 100).
2. Practicum or activity courses which are primarily technical or vocational (e.g., typing, shop work, paralegal studies, business education/technology, etc.) or other courses which lead to separate certificates; many

courses with a "T" suffix; courses that are part of a post-baccalaureate program of study (e.g., BIOM, HSCI, OCTH, PT); professional courses taken in the law or medical school. Students may enroll in these courses in pursuit of their own interests or professional preparations, but they should not expect degree credit for them unless they have the prior approval of the Director/Dean. (A number of "T" courses have been approved for credit at each branch campus – see Advisement for a complete list.)

Credit toward a degree will be given for:

1. Up to 4 hours of nonprofessional physical education (activity courses such as aerobics, weight-training, etc.); and up to 4 hours of music ensemble.
2. Up to 18 hours of problem courses, directed study, readings and research, independent study courses or similar variable-credit courses unless the Director/Dean grants special permission. Only 12 credit hours of these special courses may be taken from within the same department (e.g., dance). Only 6 credit hours of these courses may be taken from the same faculty member. No credit will be given for hours in a course which exceed the maximum number of hours the originating department stipulates for that course in the catalog.
3. Up to 30 hours of correspondence course work (via mail) may be taken towards the completion of the program; however, only 12 hours of correspondence credit may be taken in the last 36 hours of course work prior to graduation.
4. Any approved course work from an accepted Baccalaureate degree program.

University Studies Grade Point Average. The B.U.S. grade point average is based on all attempted University of New Mexico courses that are acceptable to the University Studies program, as defined above.

Admission to the Bachelor of University Studies Program

Minimum requirements to transfer into the University Studies program are as follows:

1. Demonstrated competence in the writing of English as evidenced by one of the following:
 - a. Completion of English 101 and 102 with a grade of C (2.00) or higher in both.
 - b. A score of 29 or better on the English portion of the Enhanced ACT.
 - c. A score of 650 or better on the verbal portion of the SAT.
 - d. Successful completion of a Writing Proficiency Portfolio (see the English Department for details).
 - e. Credit for English 102 through CEEB advanced placement program.
2. A minimum cumulative grade point average of 2.00 or higher.
3. Twenty-six or more hours of earned credit applicable to this program.

Application to the University Studies program includes the following:

4. An *entrance interview* with a University Studies Academic Advisor. The interview is the student's opportunity to discuss their ideas and goals for their degree, share a draft of their proposed Plan of Study, and if necessary, make any appropriate revisions to their Plan of Study before admission to the program. Please refer to the website for details in designing a Plan of Study, FAQs, Forms and Downloads, and Helpful Hints. <http://bus.unm.edu> This interview is the time to ask any questions about the University Studies program or about details in designing such a unique degree.
5. Submission of a comprehensive, *approved Plan of Study* to a University Studies Academic Advisor. This Plan of Study must list the specific courses that the student intends to take to complete their Bachelor's degree in University Studies. In preparing a Plan, the student must study *The University of New Mexico Catalog* to find courses appropriate for their Interdisciplinary or

Multidisciplinary (theme-based) Plan. This Plan must incorporate all courses for the program of study – both transfer and UNM courses. A University of New Mexico "unofficial transcript" and a Transfer Course Evaluation, if appropriate (both can be found on Loboweb or obtained from the One Stop office), must be attached to the Plan of Study.

6. Submission of a *Statement of Purpose*, no less than 250 words. This statement should describe how the student has organized courses in the Plan to meet the student's needs as well as exactly to what end the student hopes to use their University Studies degree.
7. Submission of a completed *Qualified Signature* form. Details on this form will be discussed in the initial interview.

Admission to the University Studies program for the current semester must take place before the end of the third week of classes. After that time, admission will be for the following or subsequent semester (Fall, Spring or Summer). Please see a B.U.S. Advisor for more information on our admission requirements.

Graduation Requirements

Students must see an Advisor in the University Studies office to apply for graduation one year prior to that in which they plan to graduate. A "100 hour" hold will appear on the student's account once the student has earned 100 credit hours to remind them of this requirement. At this time, the student and the Advisor will view an eProgress Degree Audit specifying the work remaining to be completed for graduation. This audit incorporates any unmet core curriculum, upper division course work as well as B.U.S. residency to be completed. **It should be noted that students are solely responsible for knowing and completing all requirements for graduation from the University Studies program. Students must know how to run and read their LoboTrax Degree Audits in order to check on their graduation progress.**

In addition to adherence to approved programs of study, specific graduation requirements are as follows:

1. Completion of the University's core curriculum (if applicable).
2. A minimum of 128 semester hours of earned credit acceptable to the program as defined above.
3. A minimum University Studies grade point average of 2.00.
4. A minimum of 50 semester hours earned in courses at the upper-division level (courses numbered 300–499).
5. A minimum grade-point average of 2.00 on all upper-division course work attempted at The University of New Mexico.
6. A minimum of 36 semester hours of academic work earned while enrolled in the University Studies Program. This is known as the department residency requirement. (Not to include: credit by exam, transfer credit and/or concurrent enrollment, or independent study/problems courses unless specifically approved by the Director/Dean.) These must include the final 36 hours of enrollment prior to graduation from the program.
7. A minimum grade of C (2.00) or higher is required in all courses of a student's Plan of Study.
8. Fulfillment of the University's residence credit requirement (30 credit hours including 15 after 92).

Departmental Honors

Students who are eligible to participate in the B.U.S. Dean's Honors thesis option must present to the program a written proposal, and hold a 3.90 cumulative scholarship index. This opportunity is open to exceptional students who want to undertake a serious critical research, professional, or creative project. The written thesis is usually expected to exceed 15-20,000 words. This departmental honors program provides students with the opportunity to challenge themselves at the highest academic level. Successful completion of Dean's Honors in University Studies demonstrates that the candidate is not only an exceptional student with a strong commitment to excellence, but that she or he can take initiative on a focused project, meet departmental dead-

lines, and work cooperatively with both faculty and other students. Students are required to find a minimum of two faculty members with whom they have studied previously to supervise the thesis, and serve as readers/graders.

Successful candidates receive the distinction of Dean's Honors in University Studies. The UC Dean's & Director's Council considers the recommendation of the faculty thesis advisor(s) in its final decisions regarding the level of honors that will appear on the diploma. It is important that students take required prerequisite coursework in a timely fashion, work steadily on the project, and consult frequently with faculty advisor(s) to ensure that distinction is received.

The honors proposal must be submitted for review and approval no later than the 10th week of the semester before it is to be completed. Thesis completion must be reviewed by the faculty committee, graded, and submitted to the University College Dean no later than the 10th week of the semester of graduation. Questions regarding this opportunity should be directed to an academic advisor in the B.U.S. degree program.

AGING STUDIES

Finnie Coleman, Interim Dean of University College
University Advisement and Enrichment Center, Rm. 265
MSC 06 3680
1 University of New Mexico
Albuquerque, New Mexico, 87131-0001
(505) 277-9302 or coleman@unm.edu

In 1990, Aging Studies was established as an academic program within The University of New Mexico's Interdisciplinary Studies. In 2004, the Aging Studies program became part of UNM's University College and an undergraduate minor in Aging Studies was created. The continuing mission of Aging Studies is the preparation of students for the multi-faceted challenges and opportunities associated with aging. The undergraduate minor in Aging Studies, which includes courses from across seven different schools and colleges at UNM, provides students with a strong theoretical and practical foundation on which to base personal and societal decisions that will directly affect successful and productive aging. The synthesis of knowledge and experience from many disciplines insures a dynamic and vital framework that allows UNM students to create their own special approach to the problems and possibilities of the aging process.

All classes for the undergraduate minor in Aging Studies are regularly scheduled courses being offered by existing academic departments/programs. Courses and topics vary from semester to semester. Consult the current *Schedule of Classes* online for each semester's offerings.

Undergraduate Minor Study Requirements

A minor in Aging Studies requires the completion of 24 hours to include:

- A minimum of 6 hours from:**

SOC 310	Sociology of Aging and the Aged	3
FS 416	Adult Development and Aging in the Family	3
PEP 487	Physical Activity and Aging	3
- A minimum of 12 hours from:**

ANTH 312	Oral Narrative Traditions	3
ARCH 470	Human Factors in Design	3
BIOL 428	Human Heredity	3
CJ 450	Health Communication	3
CRP 431	Foundations of Community Development	3
DANC 304	Theories of Movement	3
ECON 335	Health Economics	3
FS 415	Aging and the Family	3
HED 473	Health Issues in Death and Dying	3
HIST 417	History of Modern Medicine	3

MGMT 308	Ethical, Political and Social Environment	3
NATV 462	Traditional and Contemporary Storytelling	3
NURS 405	Nursing Care of Family Systems	2
NUTR 424	Nutrition in the Life Cycle	3
OLIT 466	Principles of Adult Learning	3
PHIL *448	Comparative Philosophy	3
POLS 376	Health Policy and Politics	3
PSY 360	Human Learning and Memory	3
SHS 302	Introduction to Communicative Disorders	3
THEA 415	Theatre for Educational and Social Change	3
WMST 380	Women Culture & Society	3

3. A minimum of 6 hours from:

Topics courses, independent study, and/or supervised field experiences/internships specifically focused on aging and with prior approval of the Aging Studies Director.

CHICANO HISPANO MEXICANO STUDIES

Enrique Lamadrid, Director
1829 Sigma Chi NE
MSC02 1680
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 277-6414

The Chicano Hispano Mexicano Studies Program offers a wide range of courses focusing on the history, language and traditions of Mexican Americans and Spaniards in New Mexico, the Southwest and other areas of the United States. Chicano Hispano Mexicano studies courses are offered in many departments and include the study of the humanities, social sciences, fine arts, law and education. Students from any college and any major in the University are encouraged to take a variety of Chicano Hispano Mexicano Studies courses in order to be better prepared—both professionally and personally—to understand the experience and the culture of an important and growing community of people in the United States.

Students may take any of the Chicano Hispano Mexicano Studies courses as electives, or they may enroll in the Chicano Hispano Mexicano Studies Minor through the advisement centers of University College or the College of Arts and Sciences. Additionally, students in the Bachelor of University Studies or American Studies may design a **special focus in Chicano Hispano Mexicano Studies for their Major**.

Minor Study Requirements

A minimum of 24 hours, including the following:

- CHMS 201 *Introduction to Chicano Hispano Mexicano Studies*,
- CHMS 490 *Advanced Seminar in Chicano Hispano Mexicano Studies*,
- Three hours of Spanish (SPAN 202 or above; one course must be taken in residence at The University of New Mexico),
- Nine hours chosen from Course Listing A, distributed across three departments. At least 6 of the 9 hours must be 300 level or above,
- Six hours chosen from either Course Listing A or Course Listing B.

Course Listing A: Chicanos as a Central Focus¹

AMST 251, 360, 363. ANTH 345. CJ 413*. CHMS 332, 342, 351, 384, 393. CRP 486*. ENGL 265, 365, 465. FS 284. HIST 260, 300*. LING 432. LLSS 383. POLS 308, 400*. SOC 428, 528. SPAN 301*, 370, 371, 375, 377, 479. SPCD 383. WMST 332.

¹ Topics courses with relevant content may count toward the minor with the approval of the Chicano Hispano Mexicano Studies Director.

* Courses with these numbers must have a Chicano or Hispano focus.

Course Listing B: Chicano-related Courses

AMST 185, 186. ANTH 238, 337, 344. CJ 413. ECON 239. ENGL 474. FS 484. HIST 362, 460, 463. LING 331, 435. LLSS 446, 481. MUS 374. POLS 301, 307. PSY 374. SOC 216, 326, 420. WMST 200.

Chicano Hispano Mexicano Studies (CHMS)

201. Introduction to Chicano Hispano Mexicano Studies. (3 to a maximum of 6) Δ

Introductory survey of the Mexican American experience in the United States, with special reference to New Mexico. Exploration of historical, political, social, and cultural dimensions.

332. Introduction to Chicana Studies. (3)

(Also offered as WMST 332.) This course is an introduction to the interdisciplinary field of Chicana Studies. Includes historical and contemporary research on labor, political involvement, cultural studies and feminism.

342. Race, Culture, Gender, Class in New Mexico History. (3)

Hispano and Native perspectives of NM history begin with colonialism, military history, politics, economics, but must also consider culture, gender, and class to understand the resilience of people as actors in their own history.

351. Expediciones. (3 to a maximum of 6) Δ

Experiential course taught both on campus and in Mexico, Latin America, and Spain (Spring/Fall breaks). Site lectures and documentary assignments introduce students to international contexts and issues for U.S. Latinos.

384. Familias de Nuevo México. (3)

(Also offered as FS 384.) Taught in English. Families of Hispano, Indo-Hispano, Mexican American and Mexicano heritage originating and/or currently residing in New Mexico are studied from a family-ecological-system perspective. Family and child development topics across the life span are included.

393. Topics in Chicano Hispano Mexicano Studies. (3, no limit) Δ

Special topics in Chicano Hispano Mexicano Studies are interdisciplinary in nature and draw from the Humanities, Social Sciences, and the Arts. May be repeated as subject matter varies.

490. Advanced Seminar in Chicano Hispano Mexicano Studies. (3)

Advanced Chicano Hispano Mexicano Studies senior seminar emphasizing synthesis of previous courses, research skills, and service learning. Designed as a capstone seminar for the Minor.

Restriction: junior or senior standing.

495. Undergraduate Problems. (3 to a maximum of 6) Δ

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Mary Thomas, Program Manager
Freshman Interest Groups, Interdisciplinary Co-ops
University Advisement and Enrichment Center Suite 180
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University College offers interdisciplinary, experiential, and exploratory academic programs to help undergraduate students make a successful transition to university life, and make informed personal, professional, and academic choices. These programs

- Provide small seminars that allow maximum student engagement with peers, faculty, and ideas.
- Connect theory and practice.
- Contextualize learning in both campus and community-based settings.
- Explore academic and professional paths with local practitioners.

Freshman Academic Choices

These programs help students make a faster, smoother, more informed transition to university life by engaging with faculty and students who share their interests, and by developing community. All entering freshmen are eligible as long as they meet the requirements for the individual courses. Offerings vary from year to year; students may access the Freshman Academic Choices website at <http://freshman.unm.edu> and will discuss their choices with their advisors during LOBORientation.

- 1. Freshman Learning Communities.** Up to 25 freshmen take two or more classes together. Instructors integrate the content and teaching of their courses around a theme or topic. The interdisciplinary FLCs provide a personalized and stimulating introduction to academic life at The University of New Mexico.
- 2. Freshman Interest Groups.** Freshmen who share interests in a theme or current topic enroll in a one-to three-credit seminar as a group. The community oriented seminar is block scheduled with a larger core or elective course that is related to the theme. Goals of the FIGs are college success, success in the core or elective course, and major and career exploration by means of the FIG topic or theme.
- 3. Living & Learning Communities.** The LLCs are well-rounded university experiences that provide students who have an intended major the opportunity to belong to an academic and residential community. LLCs are communities of up to 20 students who intend to major in Fine Arts, Engineering, Business and Management, Architecture and Planning, Health Sciences Professions, International Studies and Careers, Sustainability Studies, and Biology Studies. LLC students live together in on-campus student apartments, and have the opportunity to network among their peers while taking classes together. Students interested in the LLC must apply to both the LLC program and Housing Reservations as soon as they are accepted for admission to UNM.
- 4. College Success Seminars.** College Success Seminars (CSS) are created to guide and support first semester incoming freshman by teaching college

STUDENT ACADEMIC CHOICES

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success skills such as test taking, note taking, reading comprehension, development of English composition and approaches to developing math skills. They are strongly encouraged for the freshman student who is required to enroll in Introductory Studies Reading 100, Introductory Studies English 100, and Introductory Studies Math 100. The CSS will enhance any freshman student's transition to university life, while focusing on achieving higher academic successes.

Other Programs

- 1. Seminars in Career Awareness.** Offered Spring semester, the SCAs are one- to three-credit seminars designed to help students explore areas of career interest. General sections will allow students to explore career options broadly; focused sections taught by professionals from the community will explore more specific career fields. Focused SCAs will require extensive off-campus activity as students investigate careers in the field.
- 2. Research Service Learning Program.** RSLP courses engage students in learning that is relevant to their academic goals while they provide benefit to the community. Students learn research methods, develop academic skills, provide needed services to the community, and become more civically aware and responsible. Most RSLP courses meet Core Curriculum requirements or count toward a degree. All undergraduates are eligible to participate in RSLP courses.

University (UNIV)

101. Seminar: Introduction to UNM and Higher Education. [Freshman Interest Group Seminar.] (1-3) [1-3 to a maximum of 3 Δ]

Designed to accelerate successful transition to university life. Some sections will require coregistration in another specified course or courses.

Restriction: first semester freshmen. {Fall, Spring}

102. Seminar: Topics in Living and Learning Communities. [Living and Learning Community Seminar.] (1-3 to a maximum of 3) Δ

Designed to engage students who share academic interests, with their intended major, college or school. LLC Students enroll in block of specified courses, and live in same dormitory.

Restriction: first semester freshmen. (Fall, Spring)

105. University College Interdisciplinary Co-Op. (0)

Exploring the world of work and interacting with their surroundings in an environment conducive to growth and personal development, UNM students will benefit from real life situations through experiential learning. Academic advisement approval required.

175. Experiential Learning Seminar. (1-3 to a maximum of 6) Δ

Experiential learning involves collaborative, reflective investigation of real-world issues from a variety of personal, social and disciplinary perspectives. Extensive off-campus participation may be required. USP 175 will be linked with a corequisite course.

Corequisite: most sections will require coregistration in another specified course or courses.

216. Career Awareness Seminars. (1-3 to a maximum of 6) Δ

Both general and discipline-specific sections offered. Students will explore their goals, passions, and skills, and the steps and tools related to career decision-making (general seminar). In the discipline-specific sections, students will explore specific career options.

291. Leadership and Mentoring Seminar. (1-3 to a maximum of 4) Δ

Prepares students to work as Educational Assistants, Peer Mentors, Peer Educators or Group tutors/leaders. Course addresses Student Development Theory, Supplemental Instruction, Intentionally Structured Groups, critical thinking,

learning styles, success skills, diversity, effective communication and group dynamics.

Prerequisite: B or better in ENGL 102 and MATH 121.

INTRODUCTORY STUDIES

Jane Bradley, Interim Dean, School of Adult and General Education

Erin Lebacqz, Associate Dean, School of Adult and General Education

Central New Mexico Community College

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Staff

Toni Unwin

University of New Mexico

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1 University of New Mexico

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Introduction

Students whose ACT or SAT scores fall below specified levels must enroll in certain college-preparatory courses prior to taking certain freshman-level courses. Students who feel their ACT scores may not be accurate may contact the Testing Center to take the Compass Exam. Students who need college-preparatory course work should consult with a University College advisor.

An operating agreement exists between The University of New Mexico and Central New Mexico Community College founded on the recognition of the need and opportunity to provide quality college-preparatory courses and services to University of New Mexico students in the most positive and convenient manner. Under this agreement, the following Introductory Studies courses are offered and taught by Central New Mexico Community College School of Adult and General Education faculty.

Introductory Studies Program

English (ISE)

100. Essay Writing. (3)

Prepares students for first-year college composition by providing practice of the rhetorical and grammatical skills necessary to write purposeful, reader-centered essays. Covers effective use of a writing process in out-of-class essays and in timed, in-class situations. Incorporates readings for discussion of ideas and for information to be used in students' writing. Satisfactory completion of ISE 100 meets prerequisite for ENGL 101. **Offered on a CR/NC basis only.**

Mathematics (ISM)

100. Algebraic Problem Solving. (3)

Includes signed numbers, solving linear equations, formulas, graphing, solving systems of equations, and applications. Also covers exponents and polynomials, factoring and quadratics. Satisfactory completion of ISM100 meets prerequisite for MATH 120. **Offered on a CR/NC basis only.**

Reading (ISR)

100. Reading and Critical Thinking. (3)

Focuses on reading skills required for success in college. Includes comprehension, problem-solving, note-taking, summarizing, test-taking and computer-assisted research skills. **Offered on a CR/NC basis only.**

NATIVE AMERICAN STUDIES

Dr. Gregory A. Cajete, Chair
 Native American Studies
 Mesa Vista Hall Room 3080
 MSC06 3740
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 277-3917, FAX (505) 277-1818
<http://nas.unm.edu>

Faculty

Mary K. Bowannie, M.A., Lecturer, Native American Studies
 Gregory A. Cajete, Ph.D., Associate Professor, LLSS
 Maria Williams, Ph.D., Associate Professor, Music and
 Native American Studies
 Lloyd L. Lee, Ph.D., Assistant Professor, Native American
 Studies
 Tiffany S. Lee, Ph.D., Assistant Professor, Native American
 Studies
 Beverly R. Singer, Ph.D., Associate Professor, Anthropology
 and Native American Studies

Staff

Delia Halona, Administrative Assistant III

Native American Studies (NAS) was founded in 1970 as an ethnic studies center. Initially, it was established as a support program for Native American students at The University of New Mexico. In September 1998, Native American Studies became an interdisciplinary academic program housed in University College. In 1999, the minor in Native American Studies was approved. The Native American Studies minor is applicable to all undergraduate majors offered by The University of New Mexico.

In December 2004, the UNM Board of Regents approved Native American Studies as a major within University College. As an interdisciplinary academic department, Native American Studies is committed to native academic scholarship and research excellence. Our goal is to educate and inform students about the Native experience that comes from the rich cultural heritage of the sovereign Indigenous peoples of the United States. Another goal is to create a department that collaborates with Native communities and engages students in nation building.

UNM-NAS provides a range of academic resources for the student, the University community, and the larger Native American community. In keeping with the Memorandum of Understanding with New Mexico Indian Tribes, UNM-NAS program places particular emphasis on addressing community-based education, research and leadership development needs of New Mexico Indian communities. UNM-NAS is organized into three major components: Academic, Research and Community Outreach.

- The Academic Component includes an extensive array of courses, internships, independent study and summer institutes.
- The Research Component is a component of every Native American Studies course, and provides training and experience in doing research in a Native American context. The Research component also provides research opportunities and teaching assistantships to Native students currently in graduate degree programs. Incorporated into the Research Component is the NAS library. This collection of materials (2,800 volumes) by and about Native Americans (books, journals, articles, research papers, video and audiotapes) including the highly prized Reno Collection, is available to students, the University community and the larger Native community. The family of Philip Reno donated the Reno Collection to NAS. The collection consists of materials that Philip Reno utilized in his book, *Navajo Resources and Economic Development* (1988) University of New Mexico Press.

- The Community Outreach component is the Institute for Native American Community Development (INACD), which through its research focus on issues pertaining to tribal leadership, self determination and community development, offers specialized courses, workshops and research via NATV programming and activities based on main campus and the UNM Extended University system.

Major Degree in Native American Studies

The major in Native American Studies is an interdisciplinary program designed to introduce students to the basic factors which underlie the distinct differences between Native societies and the larger American society. In addition, the major provides students with the opportunity to examine the differences which continue to exist between Native and non-Native societies through multi-contextual learning activities which include experiential or service learning opportunities.

The following objectives are presented as a way to satisfy the broader goals:

- ground students in the concepts and applications of methodologies from relevant disciplines focused on Native issues related to education, economics, law, philosophy, psychology, arts and media;
- provide students with relevant learning opportunities both inside and outside the classroom;
- assist students in integrating theory and practice through field and/or research experience; and
- encourage dialogue and collaboration among students, faculty, and the Native community in the on-going development of the Native Studies curriculum.

Major Study Requirements: 36 credit-hours for Major

A major in Native American Studies will require successful completion of thirty-six (36) credit-hours. Students must take eighteen (18) hours of the required core courses. Twelve (12) hours must be from one of the four concentrations in NATV. The remaining six (6) hours must be upper-division courses (300 level or above) from the concentrations OR from courses with significant Native American content offered by other departments, which are subject to approval by the Chair of Native American Studies.

Required Core Courses in Major: 18 credit-hours

NATV 150	Introduction to Native American Studies
NATV 250	Sociopolitical Concepts in Native America
NATV 251	Research Issues in Native America
NATV 300	Research Methods in Native American Contexts
NATV 351	Individual Study or NATV 352 Internship
NATV 474	Traditions of Native American Philosophy

Recommended Courses for Concentrations in Native American Studies Major

Indigenous Learning Communities Concentration	
NATV 305	Indigenous Self-Determination in Education
NATV 315	Language Recovery, Revitalization & Community Renewal
NATV 361	Native American Children's Literature
NATV 402	Education, Power, and Indigenous Communities
NATV 450	Topics in Native American Studies (Titles TBA)
NATV 460	Language and Education in Southwest Native American Communities (AOA LLSS 460/560 and LING 436/536)
NATV *461	Community-Based Learning in Indigenous Contexts
NATV 462	Native American Narrative

UNIVERSITY
 COLLEGE

Leadership and Building Native Nations Concentration	
NATV 322	Principles of Federal Indian Law
NATV 324	Contemporary Approaches to Federal Indian Law
NATV 325	Tribal Government
NATV 326	Tribal Gaming
NATV 421	Treaties and Agreements
NATV 423	Self-Determination and Indigenous Human Rights
NATV 445	Politics of Identity
NATV 450	Topics in Native American Studies (Titles TBA)
NATV *480	Building Native Nations
Indigenous Arts and Media Concentration	
NATV 247	Politics of Native American Art
NATV 311	Native Americans in Film
NATV 361	Native American Children's Literature
NATV 411	Indigenous Performing Arts Forum
NATV 417	Native American Music (AOA MUS 417/517)
NATV 418	Alaska Native Music and Culture (AOA MUS 418/518)
NATV 422	Indigenous World Music (AOA MUS 422/522)
NATV 441	Culture Study of Indigenous Video (AOA ANTH 341)
NATV 450	Topics in Native American Studies (Titles TBA)
NATV 462	Native American Narrative
Indigenous Knowledge Systems Concentration	
NATV 252	Native American Experience (AOA AMST 252)
NATV 342	Native America Post-1940 (AOA HIST 348)
NATV 346	Native America to 1850 (AOA HIST 346)
NATV 347	American Indians Post-1860 (AOA HIST 347)
NATV 348	Native American Activism
NATV 385	Indigenous Worldviews
NATV 430	Conservation and Indigenous Peoples (AOA BIOL 430 and BIOL 530)
NATV 433	Native American Ecology, Demography, and Disease
NATV 436	Environmental Ethics and Practices in Native America
NATV 450	Topics in Native American Studies (Titles TBA)
NATV 466	Native American Southwest (AOA HIST 466)
NATV 477	Archeology in Native American Studies

Minor in Native American Studies

Minor Study Requirements: 24 credit-hours

A minor in Native American Studies requires successful completion of twenty-four (24) credit hours. Fifteen (15) credit hours of required courses, with the remaining nine (9) credit hours in Native American Studies related courses. The nine (9) credit hours of the required twenty-four (24) credit hours, must be upper-division courses (300 level or above) chosen from Native American Studies courses, OR from courses with significant Native American content offered by other departments, which are subject to approval by the Director of Native American Studies.

Required Core Courses in Minor: 15 credit-hours

NATV 150	Introduction to Native American Studies
NATV 250	Sociopolitical Concepts in Native American Studies
NATV 251	Research Issues in Native American Studies.
NATV 351	Individual Study or NATV 352 Internship or NATV 255 or 450 – Topics in Native American Studies (3 credit hours)
NATV 474	Traditions of Native American Philosophy

Admission Requirements. Freshman and new transfer students who intend to major and minor in Native American Studies, must visit the University Advisement Center, University Advisement and Enrichment Center 114 before registering for classes. Call (505) 277-2631 for more information.

Transfer from Other Units Within the University Minimum Requirements: 1) A minimum of 26 hours. 2) A cumulative grade point average of at least 2.00 with a 2.50 on all major coursework complete. 3) Demonstrated competence in the writing of English as evidenced by one of the following: a. Completion of Engl 102 with a grade of C (2.00) or higher. b. A score of 29 or better on the English portion of the Enhanced ACT. c. A score of 650 or better on the verbal portion of the SAT. d. Credit for Engl 102 through CEEB advanced placement program. d. Acceptance of a writing proficiency portfolio (procedures available through the Department of English). 4) Students must declare a Native American Studies major, apply and be accepted by that department prior to admission into University Studies. 5) Non-degree students apply to the Office of Admissions. Students should see NATV departmental advisor.

Transfer from Accredited Universities. 1) A cumulative grade point average of at least 2.00 with a 2.50 on all major coursework attempted. 2) A minimum of 26 hours. 3) Demonstrated competence in the writing of English (see above)

Graduation Requirements. A Bachelor of Arts degree in Native American Studies from University Studies is designed to give students a relatively broad background while allowing concentrated study in one of the four areas of concentration. Students formally declare a major and minor when they enter University College. They must file a degree application (available from the Department Adviser and UAC) upon completion of 80 hours. A list of courses required for graduation is then sent to the student. *The student is solely responsible for being familiar with and completing all graduation requirements.* A Bachelor of Arts degree from University Studies is awarded upon completion or accomplishment of the following: 1) A total of 128 acceptable hours. 2) A grade point average of at least 2.00 as defined in the General Academic Regulations section of the catalog and a Major specific gpa of 2.5. 3) Fifty hours of upper-division course work (courses numbered 300 or 400) with a minimum grade point average of 2.00 on all upper-division hours accepted by University Studies. University Studies does not accept in fulfillment of the upper-division requirement any lower-division course work transferred to The University of New Mexico as the equivalent of an upper-division course. While a particular topic may be adequately covered in such a lower-division course so as to be considered acceptable for fulfillment of major or minor course requirement from a disciplinary content viewpoint, it does not meet the upper-division requirement, as upper-division courses are taught assuming a degree of maturity and sophistication on the Junior/Senior level. In other words, lower-division courses accepted by substitution approval at a departmental level DO NOT constitute substitution for the 50- hour upper-division requirement. 4) Completion of all requirements for declared major and minor or a double major. 5) The University of New Mexico Core Curriculum. 6) Demonstration of competence in the writing of English as described above. 7) A minimum of 26 semester hours of academic work earned while enrolled in University Studies. (Not to include: credit by exam, transfer credit and/or concurrent enrollment, or independent study/problems courses unless specifically approved by the Director/Dean.) 8) Students must comply with University requirements for a Bachelor's Degree. Students who have not been in continuous attendance must follow the current catalog requirements upon re-enrollment. 9) All paperwork and requirements documenting transfer equivalencies, grade changes, removals of incomplete, substitutions and/or waivers awarded at the departmental or college level must be filed with the Department Advisor by the last day of classes in the semester of graduation. 10) Students in University Studies receive LoboTrax reports detailing their status with respect to University and University College requirements, as well as

those in the major and minor areas of study. This automated degree-audit is intended to aid students in planning their academic program but will not reflect waivers and substitutions granted until paperwork filed with the Departmental Advisor is processed by the Office of the Registrar. Certification of completion of degree requirements is solely the responsibility of University College.

University Core Curriculum. The UNM Core Curriculum requirements are described in the Undergraduate Program section of this catalog. Students should be familiar with BOTH The University of New Mexico Core and University College's Program Requirements in order to minimize the number of credit hours taken to satisfy both sets of requirements. A grade of C (not C-) is required in all courses used to fulfill the requirements of the Core Curriculum. For updated information regarding courses acceptable in fulfillment of The University of New Mexico Core Curriculum, see the University Advisement Center.

Additional Information Major and Minor Studies. Upon entering University College, students shall formally declare 1) a major and a minor; or 2) two majors.

Distributed Minor. A major department may specify, in lieu of a specific minor, a **distributed** minor in courses in related departments. A distributed minor shall consist of not less than 30 semester hours or more than 36 hours. Students should consult with their major departmental advisor or chairperson if they wish to propose a distributed minor. The **student-proposed distributed minor** allows a student to put together an individualized program of multidisciplinary study in support of the major or in another area of interest. In order to apply for a student-proposed distributed minor, the student must present a petition to the undergraduate advisor in the major department as early as possible and not later than two semesters prior to planned graduation. The petition must also contain a list of the specific courses proposed totaling at least 30 hours. At least 15 of those hours shall be at the 300 or 400 (upper-division) level. Course work must come from outside the major area of study and represent multiple departments. The list should indicate courses already completed (including semester taken and grade received), courses in progress and semester for planned completion. Documentation for distributed minor programs of study must be included with the Application for Degree.

Double Major. University Studies allows students to have two majors in lieu of or in conjunction with a minor. Only one degree is awarded but the transcript will indicate both majors. Because there is one degree being earned, degree requirements must be completed only once.

Adding Majors or Raising Minors. Students who already have a **degree from UNM** and who are not enrolled in a graduate program may complete the requirements for another major or raise a previously earned minor to a second major. These students must apply for admissions to University Studies, declare the appropriate major on the application, and register as a senior.

Dual Degree in University College. Students wishing to pursue a second baccalaureate degree must complete a minimum of 30 hours in addition to those required for the first degree and must choose majors and minors different from the first degree. The minor used for the first degree may be raised to a major, but the first major may not be used as the minor for the second degree.

Combined Curricula. Dual degrees from both **University Studies** and another college may be obtained upon completion of the **established** program as approved by the Dean of each college. Interested students should consult with each dean before the end of their sophomore year.

Courses for Which Degree Credit is Not Given. The **Native American Studies** does not accept any courses which are by nature remedial, tutorial, skills or preparatory. Examples include: any course numbered 100 and such courses as Women Studies 181. Except as noted below,

the NATV Program does not accept: practicum or activity courses such as typing, PE, dance or shop work; courses that are primarily technical or vocational, such as courses in Radiography, Business Technology Programs, Medical and Biomedical Technology, etc.

Courses oriented toward professional practice, such as those taught by Nursing, Pharmacy, Elementary Education, Health Promotion, Health Education, Physical Ed, Professional PE, Art Ed, Music Ed and Leisure Programs, etc.; or any course with a "T" suffix; courses taken in a law or medical school **are considered credit in those programs of study.** Students may enroll in these courses in pursuit of their own interests, **but should not expect degree credits from NATV** for them. **Proposed exceptions may be made based on individual programs of study and their demonstrated applicability to one of the four NATV-BA areas of emphasis.**

Departmental Honors. Students are urged to consult with **the Native American Studies Department** about the requirements of departmental honors programs. **Probation, Suspension, Dismissal** students enrolled in the **Native American Studies Department/University College (NATV/US)** are placed on probation at the end of any semester in which the cumulative grade point average on The University of New Mexico work falls below 2.00. Students on probation are liable for suspension at the end of any semester in which the cumulative grade point average does not rise to 2.00 or better. Students placed on probation may be continued on probation if they substantially raise the cumulative grade point average and are making reasonable progress in meeting degree course requirements. "Substantially raise the cumulative grade point average..." is defined as earning a semester grade point average of at least 2.5. If these conditions are not met, the student is suspended from The University of New Mexico. "Reasonable progress..." is defined as at least one-half of the student's course load being in courses offered by the **NATV/US** (exclusive of Introductory Studies courses) and courses taught by departments outside **NATV/US** which apply towards the student's major, minor or group requirements. The first suspension is one semester. The second suspension is one year. The third suspension is five years. While suspended, students may take correspondence courses through The University of New Mexico Extended University to raise their grade point average. Students are reminded that a maximum of 30 credit hours of The University of New Mexico correspondence courses may be applied toward a degree. At the end of the suspension period, a student must apply for readmission to **NATV/US** with a written petition addressed to the Associate Dean for Student Academic Affairs. All petitions for readmission or revocation of suspension must be received by the **University Advisement Center** no later than one week prior to the start of the semester in which the student wishes to return.

Native American Studies (NATV)

150. Introduction to Native American Studies. (3)

This course surveys the significance of Native American Studies through an inter-disciplinary approach to four major areas of academic concentrations: Arts and Literature, Education and Language, Cultural Studies and Environment, and Leadership and Self-determination.

247. Politics of Native American Art. (3)

Native American art and artists within political, social and cultural contexts are introduced through an examination of the history of representations of Native art.

250. Sociopolitical Concepts in Native America. (3)

Regional, national, and international laws and policies impacting sovereign Native American nations and communities are analyzed. Concepts such as colonization, nationalism, and globalization's impact on Native American peoples are considered from an inter-disciplinary perspective.
Pre- or corequisite: 150.

251. Research Issues in Native America. (3)

Critically examines research theories, methodologies, and practices used by academic disciplines to study Native Americans. Research databases and collections and their impact and value for Native communities are considered from an inter-disciplinary perspective.
Pre- or corequisite: 150 or 250.

252. The Native American Experience. (3)

(Also offered as AMST 252.) Introductory survey of Native American history, culture and contemporary issues. Students read literature by and about Native Americans covering a variety of topics including tribal sovereignty, federal policy, activism, economic development, education and community life.

255. Topics in Native American Studies. (1-3 to a maximum of 6) Δ

Topics courses taught by Native and non-Native faculty from The University of New Mexico and the community, varying according to instructor's expertise. May be repeated as topic varies.

300. Research Methods in Native American Contexts. (3)

Examination of the research processes and techniques involving various methodological designs. Emphasizes attention to culturally appropriate research and protocols for conducting research in Native communities. Includes practical experience conducting a research project involving Native American issues.
Prerequisite: 251.

305. Indigenous Self-Determination in Education. (3)

Examines the role of Indigenous people and communities in self-determining their education by redefining educational approaches and curriculum for Indigenous students. Special emphasis on resistance to assimilation practices and policies.

311. Native Americans in Film. (3)

Examines the personal and political nature of filmmaking in films and videos produced by Native Americans over the past two decades. Additional emphasis will be on the cultural aesthetics of both documentary and fictional stories within an inter-disciplinary context.

315. Language Recovery, Revitalization & Community Renewal. (3)

Examines Native language loss from the boarding school era to current trends in language planning and revitalization. Special emphasis is placed on the importance of language to culture and on current community renewal efforts by Native people.

322. Principles of Federal Indian Law. (3)

Principles and basic doctrines of Federal Indian Law are examined within an inter-disciplinary context.

324. Contemporary Approaches to Federal Indian Law. (3)

Critical analysis of the traditional Federal Indian law paradigm. Consideration of alternative analyses predicated on inherent sovereignty and emerging international indigenous human rights norms from an interdisciplinary perspective.
Prerequisite: 322.

325. Tribal Government. (3)

While emphasizing the study of traditional American Indian society in comparison with government models of the United States, the course examines the governing structure of Indian tribes from both a historical and contemporary perspective.

326. Tribal Gaming. (3)

This course covers the law and the politics of gaming as an exercise of tribal sovereignty, and examines tribal, state, and federal interests involved in the uniquely tribal enterprise of Native Nation building.

342. Native America Post-1940. (3) Connell-Szasz

(Also offered as HIST 348.) Course will address issues that Native Americans have dealt with from World War II to the early 21st century, including termination, urbanization, Red Power, gaming and self-determination.

346. Native America to 1850. (3) Connell-Szasz

(Also offered as HIST 346.) This course will cover American Indian/Alaska Native history to 1850.

***347. American Indians Post-1860. (3) Connell-Szasz**

(Also offered as HIST 347 and 547.) The course will cover American Indian/Alaska Native history from 1860 to the present.

348. Native American Activism. (3)

Inter-disciplinary examination of the histories, strategies, successes, and shortcomings of Native American activist movements. Course focuses on pan-Indian organizations, localized grassroots movements, treaty rights, anti-treaty rights organizations, and inter-nationalist alliances.

351. Individual Study. (1-6 to a maximum of 6) Δ

Directed topics related to Native American Studies.

352. Internship. (1-6 to a maximum of 6) Δ

Internships in off-campus learning experiences related to the study of Native American cultures. Students, in collaboration with NATV Senior Academic Advisor, may select a sponsoring institution or program to oversee internship.

361. Native American Children's Literature. (3)

Representations of Native peoples in children's literature examined for stereotypes and misrepresentations. Emphasis on developing criteria for evaluating children's books, writing critical reviews and writing and/or illustrating their own children's story.

385. Indigenous Worldviews. (3)

This course offers an inter-disciplinary academic exploration of perspectives on Indigenous arts and literature, cultures, education, language, and language re-vitalization. The environment and the emerging international legal norm of self-determination for Indigenous peoples are also examined.

***402. Education, Power and Indigenous Communities. (3)**

How economic, political and social power influences the education of indigenous youth is the emphasis of the course. Topics include who defines the concept of an "educated person" and in what contexts.

***411. Indigenous Performing Arts Forum. (3)**

In-depth investigation of contemporary indigenous performing arts practices, including poetry, theatre, dance, music, and new modes of creative expression. Analysis of creativity and indigenous aesthetics in contemporary performing arts are examined from an inter-disciplinary context.

***417. Native American Music. (3) Williams**

(Also offered as MUS 417.) Survey course on the music of Native North American Indians, covering traditional repertoires, cultural context of musical performances, musical styles and relationship to dance. {Fall}

***418. Alaska Native Music and Culture. (3) Williams**

(Also offered as MUS 418.) Study of traditional Alaska Native music by region and culture group. Use of interdisciplinary methods to examine the historical and social dynamics behind changing musical traditions. Fundamentals of contemporary world music theory and research methods. {Spring, alternate years}

***421. Treaties and Agreements. (3)**

Selected treaties between the U.S. and Native nations are critically examined. Emphasis is on the history of the treaty making process and other types of agreements between the sovereign Native nations and the United States.

***422. Indigenous World Music. (3)** Williams
(Also offered as MUS 422.) An introduction to the indigenous music of the Americas, Europe, Africa, Middle East and Asia, including issues of change, adaptation and contemporary cultural influences on music traditions. (Spring, alternate years)

***423. Self-Determination and Indigenous Human Rights. (3)**
Analyzes the emerging norm of self-determination and its impact on indigenous peoples in the international legal system. Colonization, liberation, and the political futures of culturally distinct peoples are examined from inter-disciplinary perspectives.

430. Conservation and Indigenous Peoples. (3) Trotter
(Also offered as BIOL 430.) Cultural diversity fosters biodiversity. Students work on conservation projects initiated by native ecologist on Southwestern native lands. Short field trips and Fall break field trip.

***433. Native American Ecology, Demography and Disease. (3)**
Relationships between Native ecologies and lifeways, and their impacts on both as a result of contact and colonization are examined. Demographic changes and decimation of Native populations from both disease and biological warfare are also examined.

***436. Environmental Ethics and Justice in Native America. (3)**
Complex ways in which Native peoples form relationships with their environment are examined. Differences and similarities between Native and dominant cultural conceptions of the environment and environmental justices are considered within an inter-disciplinary context.

***441. Culture Study of Indigenous Video. (3)**
(Also offered as ANTH 341.) Videos produced by indigenous peoples in the western hemisphere will be used to examine cultures within modern and historical contexts that address political, personal and social concerns which invite new questions about indigenous history and cultural understanding.

***445. Politics of Identity. (3)**
Examines Native identities in law, biology, culture, and via self-identification within an inter-disciplinary context. Discussion will focus on federal intrusions, misappropriations, and adaptations that strengthen the sovereignty of Native Nations.
Restriction: junior or senior standing.

***450. Topics in Native American Studies. (1-3 to a maximum of 12) Δ**
Topics courses taught by faculty from The University of New Mexico and the surrounding community which vary according to the instructor's expertise. (Fall, Spring)

***460. Language and Education in Southwest Native American Communities. (3)**
(Also offered as LLSS 460/560 and LING 436/536.) This course explores the historical context of education and its impact on Native American communities of the Southwest. Topics include native language acquisition, bilingualism, language shift, and language revitalization efforts in native communities and schools.

***461. Community-Based Learning in Indigenous Contexts. (3)**
Explores the meanings of "Indigenous education" through current scholarship and through active participation in a community-based setting. Examines Indigenous educational traditions and their applications for contemporary practices while engaging in community-based learning and service.

***462. Native American Narrative. (3)**
Native American stories function much like food for the soul. Students will learn an inter-disciplinary context how ancestral and contemporary stories, oral and written, continue to represent the thoughts, values and life ways of Native people.

466. Native American Southwest. (3) Truett
(Also offered as HIST 466.) In this class we will explore the history of Native American groups and their relationships to dominant cultures and nations in the American Southwest and Northern Mexico.

***474. Traditions of Native American Philosophy. (3)**
An examination of philosophical thought by Native peoples in both historic and modern context in science, government, law, education, psychology, and cosmology. Native social systems and Native philosophical contributions to the world's societies are examined.
Restriction: junior or senior standing

***477. Archaeology in Native American Studies. (3)**
Issues of conflict in historical and current archaeological practices and their impacts on Native American traditional culture are examined. The differences between Native culture and science are also examined.

***480. Building Native Nations: Community Revitalization, Culture, Decolonization, and Indigenous Thought. (3)**
This course critically engages Indigenous community revitalization dynamics and its relationship to culture, Indigenous thought, and decolonization. Principles relating to political sovereignty, cultural self-determination, economic viability, social and economic justice, and strategic planning underlie the notion of Nation Building for Native people.
Restriction: junior or senior standing.

***481. Spirit of Place. (3)**
The meaning of place in our lives and its particular importance to understanding Native identity and culture is examined. Focus is on how we relate to place and how Native writers and poets convey a "sense" or "spirit" of place in their work.

***488. Two-Spirit Traditions of Native America. (3)**
The diversity of two-spirit traditions of the sovereign Native nations in historical and modern contexts is examined. Works of contemporary Native poets and writers who address the two-spirit experience will be read and discussed.

UNIVERSITY HONORS

Rosalie Otero, Director
Dudley Wynn Honors Center
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1 University of New Mexico
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Faculty

Edward DeSantis, Ph.D., Brown University
Leslie A. Donovan, Ph.D., University of Washington
Christopher L. Holden, Ph.D., University of Wisconsin
Richard Howell, Ph.D., The University of New Mexico
Celia López-Chávez, Ph.D., University of Seville (Spain)
Troy Lovata, Ph.D., The University of Texas at Austin
Rosalie C. Otero, Ph.D., The University of New Mexico
Diane Rawls, Ph.D., The University of New Mexico
Ursula Shepherd, Ph.D., The University of New Mexico
Michael Thomas, Ph.D., The University of Washington

Introduction

The University Honors Program is designed to increase opportunities for liberal arts education for highly motivated and academically committed undergraduates from all University of New Mexico colleges and schools. Small (15–16 students) interdisciplinary seminars, individual advisement, extensive interaction with faculty, and opportunities for independent research and field-based learning are central to the Honors Program. The Program is housed in the Dudley

Wynn Honors Center. Participation in this program, leading to graduation with Honors in University Honors, is by application only; all undergraduates interested in a challenging intellectual program are encouraged to apply. Students are primarily selected on the basis of their academic potential (ACT or SAT scores), record in high school, or college-level work and intellectual motivation. Small seminars, lively discussion, student participation, self-expression; and faculty selected for their commitment to students, scholarship, and teaching are all essential components of the academic environment in the Honors Program.

Honors seminars are offered at the 100, 200, 300 and 400 levels: the Core Legacy Seminars offer an introduction to significant ideas in Western culture; 200-level seminars focus on cross-cultural examinations of other legacies and world views; 300-level seminars explore specific topics designed to broaden understanding and the interconnectedness of academic disciplines; 400-level seminars are explorations of topics that are more in-depth than those of lower-level seminars, and students will have greater roles and responsibilities. The end result will be a publishable paper or a collaborative mini-conference. The capstone senior options (Senior Colloquium with Service Learning, Senior Thesis, or Senior Teaching) are designed to allow students to examine personal value systems and social ethics, gain experience as student teachers, or pursue independent research.

Students are encouraged to join the University Honors Program during the first semester of their freshman year and to continue taking Honors seminars as core and group requirements in various colleges, and as electives. Second-semester freshmen, as well as sophomores and first-semester juniors, may, however, also join the program.

Formal requirements for graduation with Honors in University Honors are:

1. Completion of 24 credit hours in University Honors seminars with a minimum of 3 credit hours at the 100, 200, 300, and 400 levels, and 6 credit hours of senior capstone options (400 level).
2. A minimum 3.20 cumulative grade point average.
3. Recommendation by the Director and Certification by the University Honors Faculty.

The University Honors Program uses a unique grading system. Students receive grades of A, CR, NC, and I. This grading system is designed to encourage students to broaden their general education by challenging themselves and taking academic risks. Under this system students may be rewarded for superior performance (A) but not penalized for ordinary, satisfactory performance (CR) or for failure to complete the seminar or do poorly (NC). The program is designed to offer intellectual challenge, and students are expected to achieve at their highest levels; at the same time, competition for high grades is minimized. Taking Honors seminars under this grading system does **not** cancel the right of students to elect one University of New Mexico course per semester on a Credit/No Credit basis. In addition, Honors faculty provide individual written evaluations of each student in their seminars. These evaluations are kept in the student's confidential, personal file. Students are encouraged to review their evaluations and write a response to an evaluation if they disagree.

Special advising and counseling are available by staff and faculty for students in the University Honors Program. Information on this and other aspects of the University Honors Program may be obtained at the Honors Center. Students working towards Honors in University Honors are encouraged to undertake Departmental Honors as well.

University Honors Program (UHON)

121–122. Freshman University Honors Seminar. (3 to a maximum of 9) Δ

Surveys of major ideas basic to the intellectual, historical and artistic traditions of Western Culture. One 100-level seminar required for graduation.

199. Concurrent Enrollment Seminar. (1-3, no limit) Δ

The nature of the class will vary from semester to semester. Content interdisciplinary, covering such areas as history, philosophy and literature. The seminar will not duplicate any departmental offering. For University Honors Program requirements, only 3–6 hours may be counted.

211L–212L. University Honors Seminar Lab. (1-3 to a maximum of 6) Δ

Laboratory component for sophomore Honors students. Instructors and topics will vary from semester to semester. Pre- or corequisite: 121 or 122.

221–222. Sophomore University Honors Seminar. (3, 3, no limit) Δ

Broad, general reading and class discussion for sophomore Honors students. Instructors and topics will vary from semester to semester.

Pre- or corequisite: 121 or 122.

235. Seminar: University Honors Program. (1-3 to a maximum of 6) Δ

Various sections, various topics each semester.

Pre- or corequisite: 121 or 122.

299. Individual Study. (1-3 to a maximum of 6) Δ

May be repeated for credit with permission of Program Director.

Pre- or corequisite: 121 or 122.

301–302. Honors Seminar. (3, 3, no limit) Δ

Selected seminar topics of an educationally broadening and generally interdisciplinary nature taught by specially selected faculty. Instructors and topics will vary from semester to semester.

Pre- or corequisite: 221 or 222.

311L–312L. University Honors Seminar Lab. (1-3 to a maximum of 6) Δ

Laboratory component for upper level Honors students. Instructors and topics will vary from semester to semester.

Pre- or corequisite: 221 or 222.

324–324L. Natural History of the Southwest. (4)

(Also offered as BIOL 324L.) Biogeography, natural history and ecological processes of the Southwest. Focusing on the land, climate, flora and fauna of the region. Students must register for UHON 324 and 324L. Field trips and labs.

Prerequisite: students must have already completed their 100-level and 200-level Honors Program requirements before taking this class. {Fall}

Prerequisites: BIOL 203L and BIOL 204L. Corequisite: 324L.

399. Individual Study. (1-3 to a maximum of 6) Δ

(Not to be counted as part of 300 or above requirement for graduation with Honors except with permission of Director.)

Pre- or corequisite: 221 or 222.

401–402. Honors Seminar. (3, 3, no limit) Δ

Selected seminar topics of an educationally broadening and generally interdisciplinary nature taught by specially selected faculty. Instructors and topics will vary from semester to semester.

Pre- or corequisite: 301 or 302.

490. Senior Reading and Research in Honors. (3)

Prerequisite for completing Senior Honors Thesis graduation option in conjunction with Senior Honors Thesis (491).

Pre- or corequisite: 301 or 302. Restriction: permission of thesis advisor.

491. Senior Honors Thesis. (3)

Prerequisite: 490.

492. Senior Teaching Preparation. (3)

Prerequisite for completing Honors Senior Teaching graduation option.

Pre- or corequisite: 301 or 302. Restriction: permission of instructor.

493. Honors Senior Teaching. (3)

Participation in all aspects of guiding Honors seminar under direction of Honors instructor. Requirements: teaching portfolio and a final paper. Required Senior option for graduation in conjunction with Honors Senior Teaching Preparation (492). Prerequisite: 492.

495. Senior Colloquium. (3)

Required senior option for graduation in conjunction with Senior Service-Learning (496).

Pre- or corequisite: 301 or 302.

496. Seminar Service-Learning. (3)

Seminar enabling senior Honors students to learn and develop through active participation in organized community service experiences. Required senior option for graduation in conjunction with the Senior Colloquium (495).

Pre- or corequisite: 301 or 302.

499. Individual Study. (1-3 to a maximum of 6) Δ

Pre- or corequisite: 301 or 302.

The Undergraduate Seminar Program/Honors Seminar (USP)

Topics and instructors vary from section to section and from semester to semester. Open to all undergraduate students. No prerequisites. Enrollment limited to 16 students per class. Grading on an A, CR, NC or I basis only system. (May be included in total hour requirement for graduation with Honors but may not be substituted for 300 level or above requirement, except with permission of Director.)

WATER RESOURCES PROGRAM

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Water Resources Program
Economics Building, Room 1048
MSC05 3110

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David Brookshire (Economics), Ph.D., The University of
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Julia E. Coonrod (Civil Engineering), Ph.D., The University
of Texas

Erik Galloway, New Mexico Environment Department
David S. Gutzler (Earth and Planetary Sciences), Ph.D.,
Massachusetts Institute of Technology

José A. Rivera (Community and Regional Planning), Ph.D.,
Brandeis University

John W. Shomaker (John W. Shomaker and Associates,
Inc.) Ph.D., University of Birmingham (UK)

Bruce M. Thomson, Director (Civil Engineering), Ph.D., Rice
University

Graduate Advisor

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Degree Offered

Master of Water Resources

The Water Resources Program (WRP), administratively located in University College, offers the Master of Water Resources (M.W.R.) degree, an interdisciplinary professional degree designed to prepare students for careers in water resources. The degree assumes a basic proficiency in at least one water-related discipline (defined rather broadly)—engineering, sociology, management, public administration, environmental studies, economics, law, chemistry, planning, political science, geology, geography and biology, among others—or professional experience in the water field. The M.W.R. degree program seeks to expand and deepen students' knowledge of their primary disciplines and, at the same time, provide them with an integrated perspective on water in nature and society, improve their capacity for critical thinking and develop their technical and communication skills. UNM's location in the Southwest means that there is a focus on arid region water issues; however, the M.W.R. degree is designed to provide its students a firm grounding in water resources that is applicable to any region.

The M.W.R. degree is obtained by taking a sequence of courses in one of two concentrations Hydroscience (HS) or Policy and Management (PM). Each concentration consists of 39 credit hours: 36 credit hours of coursework plus 3 credit hours for a professional project. The HS concentration is designed primarily for students with technical orientation in the physical and biological sciences and engineering. This concentration will lead to further expertise in the technical aspects of water resources management. The PM concentration is intended for students with interests in the social and natural sciences, administration, and planning. This concentration will develop the student's skills in the administrative, economic, and socio-political aspects of water resources management. The curriculum for each concentration is flexible, enabling a student to design a course of study that will achieve his/her career objectives with guidance from his/her advisor and graduate committee.

The Water Resources Program and the Department of Community and Regional Planning have created a program of studies leading to the dual degrees of M.W.R. and Master of Community and Regional Planning (M.C.R.P.). This program consists of 53 credits of classes in Community and Regional Planning, Water Resources, and related subjects, and 6 credits of thesis or project. Details can be found in water Resources program Guidelines (<http://www.unm.edu/~wrp>). Students interested in other dual degree options should contact the Director.

The Water Resources Program faculty is drawn from five schools (Law, Engineering, Medicine, Public Administration, Architecture and Planning) and the College of Fine Arts and the College of Arts and Sciences. The Program is administered by a Program Committee drawn from the faculty and a Director, who functions as a department chair.

Admission Requirements

The admissions requirements for the M.W.R. degree program are as follows:

1. A bachelor's degree from an accredited college or university;
2. A grade point average of at least 3.0 out of 4.0 for the last two years of undergraduate work. (A student with a grade point average under 3.0 may be admitted if his/her experience/qualifications warrant it.)
3. Three references from individuals qualified to assess the applicant's academic and/or professional qualifications. At least one individual must be a current/former professor. These letters must be sent to WRP.
4. Successful completion (C or better) of the following courses. These can be taken at other institutions; UNM equivalent courses are listed in parentheses.

Hydroscience (HS) Concentration:

- Calculus I (MATH 180 or 162L); Calculus II (MATH 181 or 163L); and Statistics (STAT 145). Note: MATH 162L and 163L are highly recommended.
- Introductory Microeconomics (ECON 106) or Intermediate Microeconomics I (ECON 300).
- Three introductory (or higher) science courses (UNM 100-level) from at least two different disciplines.

Policy-Management (PM) Concentration:

- Calculus I (MATH 180 or 162L) and Statistics (STAT 145).
 - Introductory Microeconomics (ECON 106) or Intermediate Microeconomics I (ECON 300).
 - Two introductory (or higher) science courses (UNM 100-level). These may be from two different disciplines.
 - One introductory or higher course in: sociology (SOC 101); or political science (POLS 110); or psychology (PSY 105). Note: a student entering with a major or minor in one of the above must take a course in one of the remaining two disciplines.
5. A 1–2 page letter of intent describing the student's interests in water resources, experience in the field, objectives and future plans. This document will be helpful in assessing a particular applicant's aptitude for the program and in assigning an appropriate temporary advisor. These letters must be sent to WRP.

Although normally applicants should satisfy the prerequisites before they can be admitted to the program, they may be admitted on condition that they complete the prerequisites as soon as possible. Applicants missing more than two prerequisites may not be admitted. The Graduate Record Examination (GRE) is not required for admission.

Admission Deadlines

November 30	Spring semester
July 30	Fall semester

The deadlines for international applicants are August 1 and March 1, respectively. Prospective students are advised to apply as early as possible, as available slots may be filled well in advance of the published deadlines. This is especially true for those seeking financial aid.

Degree Requirements

The M.W.R. Curriculum

Concentrations

A student selects one of two concentrations: 1) Policy-Management (PM); or 2) Hydroscience (HS). This selection should be made soon after entering the Program.

Thirty-nine (39) credits are required: 36 credits of formal coursework and 3 credits for a professional project. The credits are distributed as follows.

1. 12 credits in the Water Resources interdisciplinary (core) courses: WR 571, WR 572, and WR 573.
2. 15 credits from courses in the student's concentration (HS or PM) (see below for suggested HS and PM courses).
3. 6 credits of courses in the other group (HS or PM). If the student's concentration is PM, these six credits must come from the HS group, and vice-versa.
4. 3 credits from the Utilities Group courses (see below).
5. 3 credits of WR 598 (Professional Project). The student can take more than 3 credits of WR 598, but only 3 credits will count towards the degree.

M.W.R.-HS concentration students

15 credits from HS Group I, with at least one course from each category; 6 credits from PM Group II, from two different categories; and 3 credits from Utilities Group III (24 credits).

M.W.R.- PM concentration students

6 credits from HS Group I, with courses from two different categories; 15 credits from PM Group II, with at least one course in any 3 of the 4 categories; and 3 credits from Utilities Group III (24 credits).

Note: WR 590 - Internship can substitute for a Group I or II course, depending upon the nature of the internship.

Courses

Courses are subdivided into three groups; *suggested* courses are listed below. A complete list of suitable courses will be kept in the WRP office and on the WRP website and updated periodically. Course titles can be viewed in the *Program Guidelines* (online at <http://www.unm.edu/~wrp/>) or in the online catalog (<http://www.unm.edu/~unmreg>). Note: students without suitable undergraduate degrees may be required to take additional remedial courses for no graduate credit. Individual courses listed below may have prerequisites in excess of the M.W.R. prerequisites. Note that current policy precludes acceptance of any 300-level courses for graduate credit towards the M.W.R. degree, except CE 335.

Group I: HS Courses

Students concentrating in HS must take 15 credits from this group, with one course from each of the three categories.

- Hydrology and Hydraulics (WR 576; EPS 562, 572, 580, 581L; CE 442, 540, 541, 542, 543, 544, 545, 549)
- Ecosystems, Environment, Health, and Water Quality (BIOL 502, 558, 535, 495 or 514; EPS 515, 558; CE 531, 532, 534, 536, or 537L; CHEM 545; ENV5 530; PH 502, CRP 524)
- Climatology (EPS 522, 536, 570)

Group II: PM Courses

Students concentrating in PM must take 15 credits in this group, with at least one course from each of any three categories.

- Law (LAW 547, 554)
- Economics (ECON 541, 542, 543, 544)
- Policy, Administration and Management (GEOG 562; CRP 524, 532; PADM 500, 521, 524, 525; PH 501, 560)
- Sociology, Communication and Culture (CRP 574; AMST 523, 525; CJ 554)

Note: WR 590 Internship can substitute for a Group I or II course, depending upon the nature of the internship. See the Director for details.

Group III: Utilities Courses

These are courses that are either modeling courses or not classifiable as HS or PM courses but are applicable to a variety of water problems.

- GIS (CE 547, GEOG 559, 587L, 588L; etc.)
- Methods (STAT 538, ECON 504, etc.)
- Modeling (EPS 557L)

Professional Project

Each student must complete a 3 credit hour professional project. The student selects the topic in consultation with his/her advisor and committee and conducts the work under their guidance. The student must present the results of his/her work in an open forum and successfully defend the project before the advisory committee. This defense functions as the Master's examination. Examples and guidelines for preparation of the professional project report are available from the Water Resources Program office, the Web site, and the *Program Guidelines*.

Water Resources Program (WR)

551–552. Problems. (1-3 to a maximum of 6) Δ
Independent study under the mentorship of a faculty member.

571. Water Resources I—Contemporary Issues. (4)

Students examine contemporary issues in water resource systems, including water quality; ecosystem health; stakeholder concerns; economics; and water supply, policy, management and allocation. Emphasis on teamwork, cooperation, and oral, written and graphic communication. {Fall}

572. Water Resources II—Models. (4)

(Also offered as ECON 545.) Practical aspects of the different technical models used by water resource professionals: hydrological, economic, ecological, etc. Students use models to solve problems. Emphasis on oral, written and graphic communication.

Prerequisite: 571 and (ECON 106 or 300) and (EPS 562 or WR 576 or CE 541 or CE 542). {Spring}

573. Water Resources III—Field Problems. (4)

Intensive experience with a field-based problem or suite of problems. Students work through problem identification and definition, collect/analyze data, propose solutions and present conclusions and recommendations in an appropriate forum.

Restriction: WR majors and permission of instructor. {Summer}

576. Physical Hydrology. (3)

(Also offered as EPS 576.) Quantitative treatment of the hydrologic cycle—precipitation, evapotranspiration, infiltration, runoff and subsurface flow; global change and hydrology; catchment and hillslope hydrology; hydrologic system-ecosystem interactions; hydrology and water resources management.

Prerequisite: MATH 163L and PHYC 160. Restriction: upper-division standing and permission of instructor. {Fall}

590. Internship. (3)

Professional experience in a public, private or non-profit organization, supervised by a water resource professional.

Restriction: permission of program director. {Fall, Spring, Summer}

595. Topics in Water Resources. (1-4 to a maximum of 9) Δ

Variable course content depending upon student demand and instructor availability.

Restriction: permission of instructor.

598. Professional Project. (1-3, no limit) Δ

Required for the Master of Water Resources degree. Maximum of 3 credits can be counted toward degree.

Offered on a PR/CR/NC basis only.



UNDERGRADUATE INTERDISCIPLINARY STUDIES

UNIVERSITY LIBRARIES

Martha A. Bedard, Dean
Zimmerman Library
MSC05 3020
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4241
<http://eLibrary.unm.edu>

Professors

Daniel C. Barkley, M.L.I.S., University of Kentucky
Martha A. Bedard, M.S.L.S., Simmons College
Claire-Lise Benaud, M.L.S., Columbia University
Sever Bordeianu, M.A., University of Mississippi; M.L.I.S.,
University of Texas at Austin
Kathleen Keating, M.L.S., University of Arizona
Johann A. van Reenen, M.Sc., M.Dip.L.S., University of
Pretoria
Frances C. Wilkinson, M.P.A., University of New Mexico;
M.L.S., University of Arizona, A.B.D., University of New
Mexico

Associate Professors

Susan Awe, M.S.L.S., University of Wisconsin
Donna Cromer, M.A., University of Washington; M.L.S.,
University of Washington
Nancy K. Dennis, M.S.M.I.S., West Coast University;
M.S.L.I.S., Case Western Reserve University
Christine Desai, M.S.I.S., University of Illinois
Mark Emmons, M.L.S., University of California (Los Angeles)
Mary Ellen Hanson, Ph.D., University of New Mexico;
M.A.L.S., University of Denver; M.A., University of New
Mexico
Steven Harris, M.L.S., University of Arizona
Michael T. Kelly, M.L.S., University of Denver; M.A., Iowa
State University
Dena Thomas Kinney, M.L.S., University of Washington
Ann M. Massmann, M.L.I.S., University of Texas at Austin
Teresa Y. Neely, Ph.D., University of Pittsburgh; M.L.S.,
University of Pittsburgh
Jacqueline C. Shane, M.L.I.S., University of Illinois (Urbana-
Champaign)
Nina Stephenson, M.L.I.S., University of California
(Berkeley); M.A., University of New Mexico

Assistant Professors

Paulita Aguilar, M.L.I.S., University of Oklahoma
Audra Bellmore, M.S., Eastern Michigan University
Kevin J. Comerford, M.S.I.S., University of North Texas
Amy S. Jackson, M.S.L.I.S., Simmons College
Rebecca Lubas, M.L.I.S., Louisiana State University
Suzanne Schadl, Ph.D., University of New Mexico

Lecturer III

Sylvia Lu, M.S.L.I.S., University of Illinois
Barbara Rosen, M.A., University of New Mexico, M.L.S.,
University of Arizona
Sarah Stohr, M.S.L.S., University of Kentucky

Professors Emeriti

Camila A. Alire, Ed.D., University of Northern Colorado;
M.L.S., University of Denver
Judith Bernstein, M.A., Cornell University; M.L.S., Columbia
University
Russ Davidson, Ph.D., Vanderbilt University; M.S.L.S.,
University of North Carolina (Chapel Hill)
Susan Deese-Roberts, Ph.D., University of New Mexico
Carolyn Dodson, M.A., City University of New York; M.L.S.,
Pratt Institute
Marilyn Fletcher, M.L.S., Louisiana State University
Mina Jane Grothey, M.L.S., University of Texas at Austin;
M.A., Duke University
Carol Joiner, M.A., University of Denver; M.A., University of
New Mexico, M.L.S., University of California (Los Angeles)

Linda Lewis, M.L.S., University of Oklahoma
Maria Teresa Marquez, M.P.A., University of New Mexico,
M.S.L.S., University of Illinois (Urbana-Champaign)
Kathleen Matthews, Ph.D., University of New Hampshire
Robert L. Migneault, M.A.L.S., University of Denver (former
Dean)
Sharon Moynahan, M.A., University of Florida; M.S.L.S.,
Florida State University
Stephen Rollins, B.A., Providence College, M.L.S.,
University of Rhode Island
Nancy Pistorius, M.S.L.S., University of Illinois (Urbana-
Champaign)
Virginia Seiser, M.S., Portland State University; M.A.L.S.,
University of Chicago
Elizabeth Steinhagen, M.A., West Virginia University;
M.A.L.S., University of Wisconsin (Madison)
James Wright, M.L.S., University of Oregon

Adjunct Faculty

Tobias Duran, Ph.D., University of New Mexico
Mary Alice Tsosie, M.L.S., University of Wisconsin (Madison)

INTERDISCIPLINARY FILM AND DIGITAL MEDIA

Andrea Polli, Director
Nick Flor, Associate Director
2414 Central Ave SE
MSC04 2570
1 University of New Mexico
Albuquerque, NM 87131-0001
Phone: (505) 277-2286
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Affiliated Faculty

Dorothy Baca, Theatre and Dance
CK Barlow, Music
Holly Barnett-Sanchez, College of Fine Arts
Tim Castillo, Architecture
Thomas Caudell, Electrical and Computer Engineering
David Dunaway, English
Charles Fleddermann, School of Engineering
Nick Flor, Anderson School of Management
Miguel Gandert, Communication and Journalism
Eva Hayward, Cinematic Arts
Andree Jacobson, Computer Science
Joe Kniss, Computer Science
William Liotta, Theatre and Dance
Andrea Polli, Art & Art History, School of Engineering
Pradeep Sen, Electrical and Computer Engineering
James Stone, Cinematic Arts
Mary Tsiogias, Art and Art History
Bill Walters, Theatre and Dance
Maria Williams, Native American Studies, Music

The Interdisciplinary Film & Digital Media Program (IFDM) is a model of interdisciplinary education that provides students the opportunity to develop the critical, creative, and technical skills to apply digital media technologies in innovative and productive ways. Students whose goal is to become an artist, writer, game developer, entrepreneur, engineer, critical thinker, scientist, film and video maker, animator, storyteller, designer, computer scientist or educator using or developing digital media, will find a path in this program. Students may pursue their degree in one of four different colleges within the University - College of Fine Arts, Anderson School of Management, School of Engineering or College of Arts and Sciences.

All students admitted to the program have to complete a University Core curriculum. Students will also have a set of

ten common core courses for the IFDM program listed below. These core classes are taken in order from the time a student is admitted as a pre-major into the program. Additional specific courses are required for selected degree majors, minors, and concentrations that are determined by each participating college: College of Fine Arts, School of Engineering, College of Arts and Sciences, Anderson School of Management. Students must be accepted into those Schools and Colleges. Please see IFDM requirements in each school and college section of the catalog. The final courses of the program include capstone courses, in which students work in interdisciplinary teams to complete projects relevant to their IFDM curriculum.

The IFDM Program requires a three-tier admissions process:

I. Apply to the University of New Mexico

Whether the student is an incoming freshman or, a student transferring from another institution, all prospective IFDM students must first be admitted to the University of New Mexico. Prospective students can learn about UNM's academic admission requirements, tuition rates, financial aid options, and apply online by visiting www.unm.edu/preview. This site provides links to the various colleges within the university, and contains contact information for general UNM admissions questions.

II. Apply to IFDM as a Pre-Major

In order to be accepted as a pre-major student in the IFDM program, students have to apply in early spring. If accepted, the student will become part of a cohort that will begin in the fall immediately following admission. Each group will continue through the program together. Keep in mind that this is a separate application from the general UNM Admissions application. Separate deadlines apply.

This portion of the application process is designed to allow the students to demonstrate their ability to perform to a high artistic and academic standard. Applicants will be asked to submit a written essay and samples of creative work. At this point, the screening committee will review ACT and SAT scores, and review transcripts.

More information on the IFDM pre-major application process, including an online application, can be found online at <http://ifdm.unm.edu>.

III. Apply for Admission to UNM IFDM Host College/School

The final stage of the IFDM application process is to apply to the individual college or school that houses the IFDM degree in which you are interested. This should occur between the student's sophomore and junior years, depending on the College/School within UNM from which the student is pursuing the IFDM program.

The four colleges offering IFDM curriculum are the College of Fine Arts, the School of Engineering, College of Arts and Sciences and the Anderson School of Management. Each college or school has its own application requirements and process.

Arts & Sciences Required Courses (including UNM General Education Core Curriculum)- 34 hours

Selected from courses offered by departments of the College of Arts & Sciences. Specific requirements for those in the Critical Studies Concentration include PHIL 156, and AMST 182.

IFDM Core Courses— 32 hours:

IFDM 105	Inter and New Media Studies I	(3)
CS 152L	Computer Programming Fundamentals	(3)
IFDM 205	Studio I: Activating Digital Spaces	(3)
IFDM 210	Introduction to Modeling and Post-Production	(3)
IFDM 300	Critical Intermediations	(3)
IFDM 310	Studio II: Writing Digital Narrative	(3)
IFDM 400	Ethics, Science & Technology	(3)
IFDM 410	The Business and Law of Film and New Media	(3)
IFDM 450	Capstone I	(4)
IFDM 451	Capstone II	(4)

Interdisciplinary Film and Digital Media (IFDM)

105. Inter and New Media Studies I. (3)

The history of methods and practices of art, science and technology in the development of new media, with surveys from a historical perspective. Studies the practices, careers and disciplines involved with film and digital media. Restriction: permission of IFDM advisor.

205. Studio I: Activating Digital Space. (3)

This studio course explores critical, technical and creative elements of digital space. By translating the process of seeing and conceptualizing into visual forms, students use technical knowledge to conceptualize, create and collaborate on projects. Prerequisite: CS 152L. Restriction: permission of IFDM advisor.

210. Introduction to Modeling and Postproduction. (3)

An introduction to computer graphics and animation that mixes theory and application using a standard animation software package to teach the use of the tool and to demonstrate key concepts. Involves collaborative projects. Prerequisite: 205. Restriction: permission of IFDM advisor.

300. Critical Intermediations. (3)

Examines new media technologies from a transdisciplinary perspective by exploring how the use of new media is affecting academic practice across disciplines. Proposes the development of a critical analytical framework for approaching new media. Prerequisite: 210. Restriction: permission of IFDM advisor.

310. Studio II: Writing Digital Narrative. (3)

The goal of this course is to offer students an overview of issues on writing for digital media; its objective is to create successful, media-savvy writers, who work across digital platforms. Prerequisite: 300. Restriction: permission of IFDM advisor.

400. Ethics, Science and Technology. (3)

Ethical issues arising from the impact of science and technology on the personal, social and political dimensions of culture or what happens and who takes responsibility when the genie is out of the bottle? Prerequisite: 310. Corequisite: 450. Restriction: permission of IFDM advisor.

410. The Business and Law of Film and New Media. (3)

This course will introduce students to the business and legal aspects of creating a new digital media venture including: concept formation; marketing; budget development; finding financing; forming a company; hiring and managing employees; and sales. Prerequisite: 400. Corequisite: 451. Restriction: permission of IFDM advisor.

450. IFDM Capstone I Senior Projects Course. (4)

Students are required to form interdisciplinary collaborative teams that will develop and plan project ideas. Prerequisite: 310. Corequisite: 400. Restriction: permission of IFDM advisor.

451. IFDM Capstone II Senior Projects Course. (4)

Collaborative teams execute projects and give open demonstration of the results. Prerequisite: 450. Corequisite: 410. Restriction: permission of IFDM advisor.

491. Topics in Film & Digital Media (1-3 to a maximum of 12) Δ

May be repeated for credit, up to 12 hours as long as topic varies. This course allows permanent or visiting faculty to develop a course based on a topic related to digital media, and may include courses in career development for media industries. Restriction: permission of IFDM advisor.

497. Independent Study in Film and Digital Media. (1-3 to a maximum of 6)

May be repeated for credit as long as topic varies. This course allows IFDM student to study individually, under direction of IFDM instructor. Study area to be approved by instructor, and be related to film and digital media.
Restriction: permission of IFDM advisor.

MILITARY STUDIES

Raul V. Garcia, Lt Colonel, U.S. Air Force, Commander
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1 University of New Mexico
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Timothy DeLass, Lt Colonel, U.S. Army, Professor of Military Science
Department of Military Science & Leadership
1836 Lomas Blvd. NE
MSC02 1760
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2250

Ronald W. Kennedy, Captain, U.S. Navy, Commanding Officer
Naval ROTC, Naval Science Bldg. 151
720 Yale NE
MSC02 1700
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-3744

Major Study Requirements

Not offered.

Minor Study Requirements

Air Force Option

The minor in Military Studies (Air Force Option) is available to students in the Air Force ROTC program.

The minor requires 26 hours, including 20 hours in Aerospace Studies and 6 hours of 200/200+ level courses offered by the History and Political Science departments. Normally, students will complete the 20 hours in Aerospace Studies by completing the Air Force ROTC course of studies described under the listing for Department of Aerospace Studies.

Army Option

The minor in Military Studies (Army Option) is available to students in the Army ROTC. Awarding of minor in Military Science is contingent upon receiving a commission in the Army, Army National Guard or Army Reserves.

The minor is administered by the Department of Military Science & Leadership. The minor requires 25 credits, all of which must be in upper-division Military Science and Leadership (MLSL) or alternate courses approved by the Department of Military Science & Leadership. A grade of "C" or better must be obtained for each course.

Navy Option

The minor in Military Studies (Navy Option) is available to students in the Naval ROTC Program.

The minor requires 24 hours. Students will complete the 24 hours in Naval Science by completing the Naval ROTC course of studies described under the listing for Department of Naval Science-Navy Option.

Marine Corps Option

The minor in Military Studies (Marine Corps Option) is available to students in the Naval ROTC Program.

The minor requires 21 hours, including 18 hours in Naval Science and 3 hours in elective courses offered by Departments of the College of Arts and Sciences. Normally, students will complete the 18 hours in Naval Science by completing the Naval ROTC course of studies described under the listing for Department of Naval Science-Marine Option.

Reserve Officer Training Corps

Air Force ROTC

Raul V. Garcia, Lt Colonel, U.S. Air Force, Commander
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Professor

Raul V. Garcia, Lt. Colonel, U.S. Air Force, B.S., United States Air Force Academy; M.S., Troy State University

Assistant Professors

Jennifer K Bradley, Major, U.S. Air Force, B.A., University of Kansas; M.B.A., Oklahoma City University
Christopher Fitzgerald, Captain, U.S. Air Force, B.S., University of Maryland; M.A.S., UC Irvine

The mission of Air Force ROTC is to provide instruction and experience to all cadets in a diversified college or university environment, so they can graduate with the knowledge, character and motivation essential to becoming leaders in the United States Air Force. The Air Force ROTC approach to education encourages inquiry, analysis, critical thinking, imagination, judgement and individual participation on the part of each student.

The Air Force ROTC commissioning program is open to qualified students in all academic majors. The program is divided into a general military course (GMC) and a professional officer course (POC). The latter is the final commissioning phase for those students who qualify and desire a commission in the USAF. Both the GMC and POC programs require students to enroll in an Aerospace Science Leadership Laboratory each semester.

FOUR-YEAR OPTION. A qualified incoming freshman, male or female, may enroll in aerospace studies classes following normal college registration procedures. The student enrolls in the General Military Course (GMC) for the first two years. Prior to enrolling in the last two years of the program, the Professional Officer Course (POC), the student must meet Air Force ROTC qualification standards and requirements. In addition, all Air Force ROTC participants must complete a four-week summer field training course prior to entering the POC, normally between the sophomore and junior years. Processing of new students for the four-year program is accomplished during registration for the fall semester.

TWO-YEAR OPTION. A two year ROTC program is available on a competitive basis. In lieu of the GMC, students attend an extended summer field training course. Students interested in this program need to complete application requirements by February of the year they intend to attend the Field Training course (generally 2.5 years before graduation). Specifics may be obtained by contacting the Air Force ROTC staff members at 1901 Las Lomas NE.

634 UNDERGRADUATE INTERDISCIPLINARY STUDIES

FINANCIAL OPPORTUNITIES. The Air Force provides uniforms and textbooks for Air Force ROTC courses. Participants receive approximately \$600.00 for the five-week summer training period and \$500.00 for the four-week summer training period (in addition to travel pay or an airline ticket). After successful completion of training and entrance into the POC, participants will receive up to \$500.00 a month subsistence for approximately 20 months (until graduation). Students who qualify may receive an AFROTC scholarship which will pay full tuition, laboratory fees, \$900.00 per year for books and up to \$400.00 per month subsistence throughout the academic period that the scholarship is in effect. Scholarships are available for four, three and one-half, three, two and one-half, and two year periods. An additional year of scholarship benefits is available for most technical majors. Students who qualify for the POC and are not on AFROTC scholarship receive up to \$400.00 per month. They must meet academic and scholarship age requirements. To retain this scholarship, the student must continue to meet POC retention standards.

This department is administered by personnel of the United States Air Force under rules promulgated by the Department of the Air Force and the University of New Mexico.

Following successful completion of the Air Force ROTC program, each individual is commissioned as a second lieutenant in the United States Air Force. Full pay and benefits begin upon initial assignment to active duty.

Students may enter the Air Force ROTC from any high school, college or university. Transfer students with a ROTC background can receive credit for previous ROTC experience.

The AFROTC program is broken into three phases:

THE GENERAL MILITARY COURSE (GMC) (two-year program). The GMC is an introduction to U.S. military forces and to the development of air and space power. The course of study is designed to prepare cadets for entry into the studies normally offered to freshman and sophomores. The GMC totals approximately 180 course hours, consisting of 60 course hours of academics and 120 course hours of leadership laboratory over two years. Four courses are required to complete the GMC: First year; AFAS 120 (Fall semester), AFAS 121 (Spring semester), Second year; AFAS 250 (Fall semester), AFAS 251 (Spring semester). Note: Leadership Laboratory is a corequisite each semester throughout the four-year program. Leadership laboratory provides a variety of practical leadership experiences by rotating cadet corps positions and responsibilities among students enrolled in the GMC and POC.

THE PROFESSIONAL OFFICER COURSE (POC) (two-year programs). POC subject matter includes theoretical and applied leadership, management, communication skills and national security and defense policy. The POC prepares cadets for active duty as commissioned officers. It is normally for juniors and seniors. The POC totals approximately 300 hours, with 180 hours of academics and 120 hours of leadership laboratory over two years.

FIELD TRAINING: Field training is a four or five week encampment on an Air Force Base which is designed to evaluate the student while challenging them both mentally and physically. Upon successful completion of Field Training, the student is allowed to enter the POC.

General Military Course

Fall Semester

AFAS 120	The Foundation of the United States Air Force	1
AFAS 120L	Leadership Laboratory	1

Spring Semester

AFAS 121	The Foundation of the United States Air Force	1
AFAS 121L	Leadership Laboratory	1

Fall Semester

AFAS 250	The Evolution of USAF Air & Space Power	1
AFAS 250L	Leadership Laboratory	1

Spring Semester

AFAS 251	The Evolution of USAF Air & Space Power	1
AFAS 251L	Leadership Laboratory	1
AFAS 270	Field Training Prep Leadership Training	1-2

Professional Officer Course

Fall Semester

AFAS 300	Air Force Leadership Studies	3
AFAS 300L	Leadership Laboratory	1
AFAS 329	Field Training Preparation Physical Fitness	1

Spring Semester

AFAS 301	Air Force Leadership Studies	3
AFAS 301L	Leadership Laboratory	1
AFAS 329	Field Training Preparation Physical Fitness	1

Fall Semester

AFAS 400	National Security Affairs/Preparation for Active Duty	3
AFAS 400L	Leadership Laboratory	1

Spring Semester

AFAS 401	National Security Affairs/Preparation for Active Duty	3
AFAS 401L	Leadership Laboratory	1

Aerospace Studies (AFAS)

120. The Foundation of the United States Air Force. (1)
A survey course designed to introduce students to the United States Air Force and provide an overview of the basic characteristics, missions and organization of the Air Force.

120L. Leadership Laboratory. (1)

Development of personal leadership and managerial abilities. Examination and demonstration of Air Force customs and courtesies, drill and ceremonies and standards of discipline and conduct. **Offered on a CR/NC basis only.**
Corequisite: 120.

121. The Foundation of the United States Air Force. (1)
A survey course designed to introduce students to the United States Air Force and provide an overview of the basic characteristics, missions and organization of the Air Force.

121L. Leadership Laboratory. (1)

Continuation of AFAS 120L.
Corequisite: 121. **Offered on a CR/NC basis only.**

250. The Evolution of USAF Air and Space Power. (1)
Introduces topics on Air Force heritage and leaders, introduction to air and space power through examination of competencies, functions and continued application of communication skills.

250L. Leadership Laboratory. (1)

Application of elements of personal leadership. Demonstration of command, effective communications, individual leadership instruction, physical fitness training and knowledge of Air Force requirements.
Corequisite: 250. **Offered on a CR/NC basis only.**

251. The Evolution of USAF Air and Space Power. (1)
Introduces topics on Air Force heritage and leaders, introduction to air and space power through examination of competencies, functions, and continued application of communication skills.

251L. Leadership Laboratory. (1)

Continuation of AFAS 250L.
Corequisite: 251. **Offered on a CR/NC basis only.**

270. Field Training Preparation Leadership Training. (1 to a maximum of 2) Δ

Cadets are challenged to study, practice, and evaluate adaptive leadership skills as they are presented with challenging scenarios related to flight operations. Cadets receive systematic and specific feedback on their leadership attributes and actions.

300. Air Force Leadership Studies. (3)

Teaches cadets advanced skills and knowledge in management and leadership. Emphasis placed on enhancing leadership skills. Cadets have an opportunity to try out these leadership/management techniques in a supervised environment as juniors and seniors.

300L. Leadership Laboratory. (1)

Application of leadership and management theories and concerns through participation in advanced leadership experiences; weight and fitness training.

Corequisite: 300. Offered on a CR/NC basis only.

301. Air Force Leadership Studies. (3)

Teaches cadets advanced skills and knowledge in management and leadership. Emphasis placed on enhancing leadership skills. Cadets have an opportunity to try out these leadership/management techniques in a supervised environment as juniors and seniors.

301L. Leadership Laboratory. (1)

Continuation of AFAS 300L.

Corequisite: 301. Offered on a CR/NC basis only.

329. Field Training Preparation Physical Fitness. (1 to a maximum of 2) Δ

Course prepares FT Preparation cadets for their roles as military leaders by teaching various ways to conduct military fitness training. Goal is to expose cadets to many training methods while instilling AF physical fitness standards.

Offered on a CR/NC basis only.
Prerequisite: 120 and 120L and 121 and 121L and 250 and 250L. Restriction: permission of instructor.

400. National Security Affairs/Preparation for Active Duty. (3)

A foundation for seniors to understand their role as military officers in American society. An overview of the complex social and political issues facing the military profession.

400L. Leadership Laboratory. (1)

Advanced laboratory experience in practicing leadership and managerial techniques with individuals and groups. Applying effective communications and human relations.

Corequisite: 400. Offered on a CR/NC basis only.

401. National Security Affairs/Preparation for Active Duty. (3)

A foundation for seniors to understand their role as military officers in American society. An overview of the complex social and political issues facing the military profession.

401L. Leadership Laboratory. (1)

Continuation of AFAS 400L.

Corequisite: 401. Offered on a CR/NC basis only.

Army ROTC

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Professor

Timothy DeLass, Lieutenant Colonel, U.S. Army, M.A.,
Chapman University

Assistant Professors

Michael Fairbanks, Sergeant First Class, U.S. Army

Kevin Kiernan, Captain, U.S. Army Reserves, M.A., Rutgers University

Jason Riley, Master Sergeant, NM Army National Guard
Jeffery Robinson, Master Sergeant, U.S. Army

The military science and leadership program leads to a commission as an officer in the Active Army, Army Reserve, or National Guard. Inherent in course content and methodology are opportunities for the student to develop his or her capacities to lead and manage efficiently, to think creatively, and to speak and write effectively. The program consists of four parts: the student's academic major, non-departmental courses of value to the military service, courses in military science and leadership, and a five-week Leadership Development Assessment Course. The Army Military Science Department offers a four-year program divided into two parts: the Basic Course and Advanced Course. Selected students may qualify for the two-year program with prior military service or successful completion of a four-week Leadership Training Course. Financial assistance, monthly stipends, and scholarships are available for qualified individuals.

FOUR-YEAR OPTION. Qualified freshman may enroll in military science and leadership classes following normal college registration procedures. The student enrolls in the Basic Course for the first two years. Prior to enrolling in the last two years of the program, the Advanced Course, the student must meet Army ROTC qualification standards and requirements. In addition, all Army ROTC Advanced Course students must complete a five-week summer Leadership Development Assessment Course in Fort Lewis, WA between their third and fourth years.

TWO-YEAR OPTION. Entry into the Advanced Course is based upon the individual student's eligibility. Applicants must meet Army ROTC qualification standards and requirements. Students entering the two year option must have some form of Basic Course credit. This can be prior or current military service in the Army, Army Reserve, or Army National Guard. Students may also meet eligibility requirements by attending the Leadership Training Course in Fort Knox, KY. Military experience in other branches of service or high school JROTC experience will be addressed on a case by case basis.

NOTE: The two year option is available to both undergraduate and graduate students.

FINANCIAL OPPORTUNITIES. The Army ROTC department provides uniforms and textbooks for Army ROTC Basic Course students and uniforms for Advanced Course students. Students who qualify may receive an Army ROTC scholarship which pays full tuition, laboratory fees, books and up to \$400.00 per month subsistence throughout the academic period that the scholarship is in effect. Scholarships are available for four, three and one-half, three, two and one-half, and two year periods. They must meet academic, physical, and scholarship age requirements. To retain this scholarship, the student must continue to meet Army ROTC retention standards. Students can elect to apply the monetary equivalent of full tuition towards on campus room and board costs.

ROOM & BOARD SCHOLARSHIPS. Army ROTC offers private room and board scholarships up to four years to any ROTC basic or advanced course student. Students may receive both the Army ROTC Financial Scholarships and the on campus Room & Board Scholarship simultaneously.

SIMULTANEOUS MEMBERSHIP PROGRAM (SMP). The Simultaneous Membership Program (SMP) is a volunteer officer training program that allows Army Reserve and Army National Guard enlisted members to also participate in the Army ROTC Advanced Course. Upon completion of Army Basic Combat Training, a Reserve Component soldier who is an academic sophomore, junior, or graduate student, can join the Army ROTC Advanced Course and earn a commission as an officer in either the Army, Army Reserve, or Army National Guard. The Army Reserve or Army National Guard may offer special financial incentives, to include two year scholarships, to SMP cadets. SMP cadets are not subject to deployment

636 UNDERGRADUATE INTERDISCIPLINARY STUDIES

with their respective units for the duration of their participation in the SMP program.

Following successful completion of the Army ROTC program, each individual is commissioned as a second lieutenant in the United States Army, Army Reserve, or Army National Guard. Full pay and benefits begin upon initial assignment.

Students may enter the Army ROTC from any high school, college or university. Transfer students with ROTC background may receive credit for previous ROTC experience.

Processing of new students for the four-year program is accomplished during registration for the fall or spring semesters. Undergraduate or graduate students applying for the two-year program should process as early as possible in the school year prior to the following term in which they wish to enter the Advanced Course. Specifics may be obtained by contacting the Army ROTC Department.

Departmental Requirements

Basic Course—Freshman

MSL 101/101L, Introduction to Leadership I/Lab
MSL 102/102L, Introduction to Leadership II/Lab

Basic Course—Sophomore

MSL 201/201L, Foundation of Tactical Leadership I/Lab
MSL 202/202L, Foundation of Tactical Leadership II/Lab
(Note: for selected students, basic course requirements may also be satisfied with 225/250 or with credit for prior military service. See your military science advisor for details.)

Advanced Course—Junior/Graduate Student

MSL 301/301L, Adaptive Tactical Leadership/Lab
MSL 302/302L, Leadership in Changing Environments/Lab
MSL 350, Leadership Development Assessment Course

Advanced Course—Senior/Graduate Student

MSL 401/401L, Developing Adaptive Leaders/Lab
MSL 402/402L, Leadership in a Complex World/Lab
(Note: for selected students, Advanced Course requirements may also be satisfied with 325/425. See your military science advisor for details.)

Non-Departmental Requirements

The following areas must be successfully completed to meet Professional Military Education (PME) requirements. See your military science adviser for specific courses.

Military History
Enhanced Skills Training Program (ESTP)

Military Science and Leadership (MSL)

101. Introduction to Leadership I. (1)

An introduction to the personal challenges and competencies that are critical for effective leadership. Students learn how critical thinking, goal setting, time management, physical fitness, and stress-management relate to leadership, officership, and the Army profession.

101L. Introduction to Leadership Lab I. (1)

Training on basic soldier tasks and skills, such as land navigation, basic rifle marksmanship and movement as a member of a fire team and rifle squad. Practical application of field craft and soldier skills in a tactical environment.
Corequisite: 101.

102. Introduction to Leadership II. (1)

Further leadership fundamentals such as problem-solving, oral and written communication skills, and tactical composition are explored. Students explore dimensions of leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises.

102L. Introduction to Leadership Lab II. (1)

Continuation of 101L.
Corequisite: 102.

201. Foundations of Tactical Leadership I. (2)

A basic study of leadership principles through an exploration of the dimensions of creative and innovative tactical leadership strategies and styles by examining leadership values and attributes, fundamentals of leadership, and basic tactical theory.

201L. Foundations of Tactical Leadership Lab I. (1)

Builds on the topics covered in 101L and 102L. Further in-depth training on basic soldier tasks and skills, such as land navigation, basic rifle marksmanship and movement as a member of a fire team and rifle squad. Practical application of field craft and soldier skills in a tactical environment.
Corequisite: 201.

202. Foundations of Tactical Leadership II. (2)

Further analysis of tactical leadership focusing on terrain analysis, patrolling, and operation orders are studied. Additionally, a study of the leadership theories, communication, and the smooth transition into MSL 301 are given.

202L. Foundations of Tactical Leadership Lab II. (1)

Continuation of 201L.
Corequisite: 202.

225. Directed Studies. (1-3 to a maximum of 6) Δ [1-3]

Individual directed studies under supervision of designated faculty.
Restriction: permission of instructor.

229. Military Fitness I. (1 to a maximum of 2) Δ

Course is designed to teach cadets the principles of fitness, proper nutrition and a healthy lifestyle while exposing them to various methodologies of personal fitness. Can substitute for non-professional physical education courses, subject to college's limits.

230. Military Fitness II. (1 to a maximum of 2) Δ

Continuation of 229. Can substitute for non-professional physical education courses, subject to college's limits.

250. Leadership Training Course. (4)

Five-week summer internship in leadership and military skills conducted at Fort Knox, Kentucky. Open to students with a minimum of 54 credits and subject to departmental qualifications. Training is at no expense to students.
Restriction: permission of instructor.

*301. Adaptive Tactical Leadership. (3)

Cadets are challenged to study, practice, and evaluate adaptive leadership skills as they are presented with challenging scenarios related to squad tactical operations. Cadets receive systematic and specific feedback on their leadership attributes and actions.
Corequisite: 301L. Restriction: permission of instructor.

*301L. Adaptive Tactical Leadership Lab. (1)

Planning, coordination, execution and evaluation of training and activities with basic course students and ROTC program. Students develop and refine leadership skills in position of responsibility.
Corequisite: 301. Restriction: permission of instructor.

*302. Leadership in Changing Environments. (3)

Cadets receive increasingly intense situational leadership challenges to build awareness and skills in leading tactical operations. Cadets review aspects of combat, stability, and support operations in preparation for the Leadership Development and Assessment Course.
Prerequisite: 301. Corequisite: 302L.

*302L. Leadership in Changing Environments Lab. (1)

Practice and refinement of leadership skills. Different roles assigned for students at different levels in the program. Planning, coordination, execution and evaluation of training and activities with basic course students and ROTC program.
Corequisite: 302.

***325. Advanced Directed Studies. (1-4)**

Individual directed studies of advanced subjects under supervision of designated faculty.
Restriction: permission of instructor.

***350. Leadership Development Assessment Course. (6)**

Required six week summer internship conducted at Fort Lewis, Washington. Course environment is highly structured and demanding stressing leadership at small-unit level. Course performance weighs heavily in types of commission and branch assignment offered.
Prerequisite: 301 and 301L and 302 and 302L. Restriction: permission of instructor.

***401. Developing Adaptive Leaders. (3)**

A course to develop proficiency in planning, executing, and assessing complex operations, functioning as a member of a staff, and providing performance feedback to subordinates. Cadets assess risk, make ethical decisions, and lead fellow cadets.

Prerequisite: 301 and 301L and 302 and 302L. Corequisite: 401L.

***401L. Developing Adaptive Leaders Lab. (1)**

Different roles assigned for students at different levels in the program. Practice and refinement of leadership skills. Planning coordination, execution and evaluation of training and activities with basic course students and ROTC program.
Corequisite: 401.

***402. Leadership in a Complex World. (3)**

A course in exploring the dynamics of leading in the complex situations of current military operations, examining customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism.
Prerequisite: 401 and 401L. Corequisite: 402L.

***402L. Leadership in a Complex World Lab. (1)**

Different roles assigned for students at different levels in the program. Practice and refinement of leadership skills. Planning, coordination, execution and evaluation of training and activities with basic course students and ROTC program.
Corequisite: 402.

***425. Practicum. (1-4)**

Independent projects conducted under the direction of designated faculty and concerned with analysis of selected leadership or management problems.
Restriction: permission of instructor.

429. Military Fitness III. (1 to a maximum of 2) Δ

Course prepares cadets for their roles as military leaders by teaching various ways to conduct military fitness training. Goal is to expose cadets to many different training methods while instilling the Army physical fitness ethos.
Restriction: permission of instructor.

430. Military Fitness IV. (1 to a maximum of 2) Δ

Continuation of 429. Can substitute for non-professional physical education courses, subject to college's limits.
Restriction: permission of instructor.

Naval ROTC

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Professors

Captain Ronald W. Kennedy, U.S. Navy, M.A., Old Dominion University; B.A., Stockton State College

Associate Professor

Commander John M. Hunt, U.S. Navy, M.A., Naval War College; B.S., Auburn University

Assistant Professors

Lieutenant Steven Dykstra, U.S. Navy, B.S., University of Idaho
Captain Charles Parker, U.S.M.C., B.S., University of Idaho

Instructors

Gunnery Sergeant Donald Johnson, U.S.M.C.
Lieutenant Jared Mallis, U.S. Navy, B.S., Pennsylvania State University

Introduction

The NROTC program provides a means whereby a student can be financially assisted toward attainment of an undergraduate degree through a four-year scholarship program, a two-year scholarship program, a four-year college program, or a two-year college program. All four programs lead to service as a commissioned officer in the Navy or Marine Corps.

Applications for the NROTC four-year scholarship program must be made to the Navy by January 31 for entry into the program the following August. Applicants first compete nationally on the basis of ACT or SAT scores; subsequent selection weighs heavily on the applicant's academic performance in high school and college. Applications for the NROTC two-year scholarship program must be made to the Navy by March 15 for entry into the program in June. Applicants must be college sophomores and selection is based on the student's college academic performance.

Applications for the four-year NROTC college program may be made to the University of New Mexico NROTC Unit at any time. Applications for the two-year NROTC college program may be made to the University of New Mexico NROTC Unit from the beginning of the Fall semester through March of the Spring semester of the sophomore year. Applicants are selected by the Navy on the basis of demonstrated academic performance and expressed motivation for the program.

Students in the NROTC scholarship program receive tuition and scholastic fees, textbooks, uniforms and a monthly stipend for a maximum of four academic years. Students in the NROTC college program receive naval science textbooks and uniforms for the entire time they are in the program.

Further information concerning the program may be obtained from high school and college counselors, recruiting stations and the NROTC unit at the following address:

The University of New Mexico
NROTC Unit—MSC02 1700
720 Yale Blvd., NE
Albuquerque, New Mexico 87131-0001
(505) 277-3744

Department of Naval Science. Students in the NROTC scholarship program are encouraged to pursue majors in the engineering and hard science (mathematics, chemistry and physics) fields of study to meet the technological requirements of the Navy. Other fields of study are permitted with the approval of the Professor of Naval Science.

There are no restrictions placed upon college program students or Marine option students as to academic majors.

Completion of the naval science requirements can constitute completion of a minor in the College of Arts and Sciences.

The minimum grade required for successful completion of any Naval Science course is a C (not C-).

Department of Naval Science—Navy Option

First Year – First Semester
NVSC 101 Principles and Concepts of Naval Science 3

First Year – Second Semester
NVSC 105 Naval Ships Systems I 3

UNDERGRADUATE
INTERDISCIPLINARY
STUDIES

638 UNDERGRADUATE INTERDISCIPLINARY STUDIES

Second Year – First Semester	
NVSC 201 Naval Ships Systems II	3
Second Year – Second Semester	
NVSC 303 Navigation	3
Third Year – First Semester	
NVSC 300 Sea Power	3
Third Year – Second Semester	
NVSC 401 Leadership and Management	3
Fourth Year – First Semester	
NVSC 304 Naval Operations	3
Fourth Year – Second Semester	
NVSC 407 Principles of Naval Leadership	3

Department of Naval Science– Marine Option

First Year – First Semester	
NVSC 101 Principles and Concepts of Naval Science	3
First Year – Second Semester	
History or Political Science Elective	3
Second Year – First Semester	
NVSC 331 Evolution of Warfare	3
Second Year – Second Semester	
NVSC 401 Leadership and Management	3
Third Year – First Semester	
NVSC 431 Amphibious Warfare	3
Third Year – Second Semester	
NVSC 300 Sea Power	3
Fourth Year – Second Semester	
NVSC 407 Principles of Naval Leadership	3

All NROTC students attend 2 hours of Naval Science Lab per week (NVSC 100L) and 3 hours of Navy and Marine Corps fitness (NVSC 102).

In addition to the above, NROTC students must take certain additional courses. Information concerning additional course work can be obtained from the Department of Naval Science.

Non-ROTC Students

Any student desiring a minor in Naval Science is free to attend these classes. Non-ROTC students are subject to the same grade requirements as those in the ROTC program. The minor will be granted when the student successfully completes all of the courses listed under one of the options outlined above – either Navy or Marine Option, but not a combination of the two.

Seaman to Admiral Program (STA-21)

Active duty Navy students will have completed the following courses at Naval Science Institute (NSI), Newport, RI, which will count for 18 hours of credit toward their Naval Science minor. They are equivalent to the following listed 3 credit hour courses at the University of New Mexico:

- Introduction to Naval Science: equivalent to NVSC 101
- Seapower and Maritime Affairs: equivalent to NVSC 300
- Naval Ships Systems I: equivalent to NVSC 105
- Naval Ships Systems II: Weapons: equivalent to NVSC 201
- Navigation I: equivalent to NVSC 303
- Navigation II: Seamanship and Naval Operations: equivalent to NVSC 304

Naval Science (NVSC)

100L. Naval Professional Laboratory. (1 to a maximum of 9) Δ

To provide Naval Reserve Officer Training Corps students with the tools and opportunities to ensure service readiness and mission accomplishment; enhance professional and personal growth and development; and enable life-long learning. (Fall, Spring)
Restriction: permission of instructor.

101. Principles and Concepts of Naval Science. (3)
Introduction to the naval service, customs, traditions, courtesies and naval officers communities. (Fall)

102. Navy and Marine Corps Fitness. (1 to a maximum of 9) Δ

This course will develop, enhance and solidify physical fitness levels of future Navy and Marine Corps officers. It will incorporate various core, cardio and muscle strengthening events derived from Naval and Marine Corps standards. Restriction: permission of instructor. (Fall, Spring)

105. Naval Ships Systems I. (3)

Introduction to naval engineering systems concepts and practices. Topics include ship design, compartmentation, ship stability, damage control, fire-fighting and ship propulsion systems. (Spring)

201. Naval Ships Systems II. (3)

Principles of naval weapons systems. Topics include sensors and detection systems, computational systems, tracking systems, weapon delivery systems, the fire control problem and new developments in weapon systems integration. (Fall)

300. Sea Power. (3)

This course surveys U.S. naval history from the American Revolution to the present. Included is an in-depth discussion of the geopolitical theory of Mahan and other historical figures. Emphasis is on major developments in naval strategy, tactics, technology and the effects of the relevant political climate. (Fall)

303. Navigation. (3)

Theory, principles and procedures of ship coastal and celestial navigation. Included are mathematical analysis, spherical triangulation, sights, sextants, publications and report logs. Navigational aids, including inertial systems, radio beacons and satellites are also studied. (Spring)

304. Naval Operations. (3)

Naval ship operations, tactical formations and dispositions, relative motion, tactical plots and maneuvering boards are analyzed. Rules of the road, lights and signals are studied. (Fall)

331. Evolution of Warfare. (3)

Evolution of the basic principles and techniques of warfare throughout history. Relationship of tactics and strategy and the impact of technological developments in selected topics. Emphasis is placed on an understanding of the theoretical principles underlying modern tactics and strategy. (Fall, even years)

401. Leadership and Management. (3)

Structure and principles of naval leadership and management. Topics include interrelationship of authority, responsibility, and accountability, prioritization, resource management and group dynamics. (Spring)

407. Principles of Naval Leadership. (3)

Structure and principles of naval leadership and management in which underlying concepts are examined within the context of American military, social and industrial organization and practice. Emphasis is given to management, leadership, ethics, and human goals functions. (Spring)

431. Amphibious Warfare. (3)

Concepts, techniques and history of amphibious warfare. The role of the U.S. Marine Corps in the development and implementation of amphibious warfare is emphasized. (Fall, odd years)

GRADUATE INTERDISCIPLINARY STUDIES

NANOSCIENCE AND MICROSYSTEMS

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NSMS Executive Committee

Dean, School of Engineering
Dean, College of Arts & Sciences
Dean, Office of Graduate Studies
Vice President for Research & Economic Development

Affiliated Faculty

Alejandro Aceves, Mathematics & Statistics
Carl Agee, Earth & Planetary Science
Marwan Al-Haik, Mechanical Engineering
William L. Anderson, Biochemistry
Yemane Asmeron, Earth & Planetary Science
Plamen Atanassov, Chemical & Nuclear Engineering
Susan R. Atlas, Physics & Astronomy
Ganesh Balakrishnan, Electrical and Computer Engineering
Adrian Brearley, Earth & Planetary Science
C. Jeff Brinker, Chemical & Nuclear Engineering
Steven R. J. Brueck, Electrical & Computer Engineering
Tione Buranda, Pathology
Heather Canavan, Chemical & Nuclear Engineering
Carlton M. Caves, Physics & Astronomy
Joseph L. Cecchi, Chemical & Nuclear Engineering
Bryce Chackerian, Molecular Genetics & Microbiology
Jingkuang Chen, Electrical & Computer Engineering
Eva Chi, Chemical and Nuclear Engineering
Christos Christodoulou, Electrical & Computer Engineering
Laura J. Crosse, Earth & Planetary Science
John G. Curro, Chemical & Nuclear Engineering
Abhaya Datye, Chemical & Nuclear Engineering
Ivan H. Deutsch, Physics & Astronomy
Elizabeth L. Dirk, Chemical and Nuclear Engineering
Debra Dunaway-Mariano, Chemistry
Robert V. Duncan, Physics & Astronomy
David Dunlap, Physics & Astronomy
Jeremy Edwards, Molecular Genetics & Microbiology
Deborah Evans, Chemistry
Charles B. Fledderman, Electrical & Computer Engineering
Julia E. Fulghum, Chemical & Nuclear Engineering
John Geissman, Earth & Planetary Science
JM Geremia, Physics & Astronomy
John K. Grey, Chemistry
Hua Guo, Chemistry
Sang M. Han, Chemical & Nuclear Engineering
Majeed Hayat, Electrical and Computer Engineering
Gabriel Huerta, Mathematics & Statistics
Ravinder K. Jain, Electrical & Computer Engineering
Rhian Jones, Earth & Planetary Science
David Keller, Chemistry
Richard Kemp, Chemistry
V. M. (Nitant) Kenkre, Physics & Astronomy
Steve J. Koch, Physics & Astronomy
Tariq Khraishi, Mechanical Engineering
Martin L. Kirk, Chemistry
Sanjay Krishna, Electrical & Computer Engineering
Andrew Landahl, Physics & Astronomy
Zayd Chad Leseman, Mechanical Engineering
Diane S. Lidke, Pathology
Ronald E. Loehman, Chemical & Nuclear Engineering
Eric Sam Loker, Biology
Gabriel P. Lopez, Chemical & Nuclear Engineering
Claudia Luhrs, Mechanical Engineering
Kevin Malloy, Electrical & Computer Engineering

Cristopher Moore, Computer Science
Janet L. Oliver, Pathology
Marek Osinski, Electrical & Computer Engineering
Robert Paine, Chemistry
David S. Peabody, Molecular Genetics
Dimitar N. Petsev, Chemical & Nuclear Engineering
Wolfgang Rudolph, Physics & Astronomy
Andres Salazar, Electrical & Computer Engineering
Pradeep Sen, Electrical and Computer Engineering
Andrew Schuler, Civil Engineering
Zachary Sharp, Earth & Planetary Science
Yu-Lin Shen, Mechanical Engineering
Laurel O. Sillerud, Biochemistry & Molecular Biology
Larry Sklar, Pathology
Hugh D. Smyth, Pharmacy
Darko Stefanovic, Computer Science
Stanly L. Steinberg, Mathematics & Statistics
Deborah L. Sulsky, Mathematics & Statistics
Mahmoud R. Taha, Civil Engineering
Rafiqul Tarefder, Civil Engineering
James L. Thomas, Physics & Astronomy
Frank van Swol, Chemical & Nuclear Engineering
Timothy L. Ward, Chemical & Nuclear Engineering
Margaret Werner-Washburne, Biology
David G. Whitten, Chemical & Nuclear Engineering
Lance R. Williams, Computer Science
Bridget S. Wilson, Pathology
Michael C. Wilson, Neuroscience

Degrees Offered

M.S. in Nanoscience and Microsystems (NSMS)
Ph.D. in Nanoscience and Microsystems (NSMS)

M.S. and Ph.D. in Nanoscience and Microsystems (NSMS)

The M.S. and Ph.D. degree programs in NSMS prepare individuals for careers in the emerging fields in Nanotechnology and Microsystems. The program includes three Concentrations: Nano-Bio Interfaces, Complex Functional Materials, and Information Nanotechnology. It is a collaborative effort among several departments in the College of Arts and Sciences and the School of Engineering, with numerous cross-listed and team-taught courses. The participating departments are: Biology, Biochemistry, Civil Engineering, Chemical and Nuclear Engineering, Chemistry, Computer Science, Earth and Planetary Science, Electrical and Computer Engineering, Mathematics and Statistics, Mechanical Engineering, and Physics and Astronomy. Students who choose the NSMS degree program can continue to be advised by, supported by and conduct research with faculty in these departments. There are numerous courses in these departments that may be of interest as electives—some of which are listed below—for students in the NSMS program. Faculty in three departments within the School of Medicine also collaborate with NSMS. These departments are Molecular Genetics and Microbiology, Neuroscience, and Pathology.

Master's Degree (M.S.) Requirements

M.S. Admission Prerequisites

The general admission requirements described in the Graduate Program in this Catalog apply to the NSMS program. Applicants who plan to apply to the NSMS program must have a bachelor's degree in a natural science or engineering field. All incoming NSMS students should meet a minimum level of competency indicated by passing grade in a math class of MATH316 or higher. If needed, incoming students who are otherwise qualified may take MATH 316 during their first semester and pass with a B or better or by taking and passing an equivalency exam that certifies their mathematical ability.

M.S. Application Process

The general application process for domestic and international students is described in the graduate program section of this Catalog. In addition to meeting those requirements, applicants must submit the following directly to the NSMS Program Office for the Admissions Subcommittee review and selection process:

- Letter of intent from the applicant about why this program is of interest. (Approximately 250 words stating the rational and motivation for entering the NSMS Program.)
- Three sealed letters of recommendation (sent directly to the NSMS Office).
- GRE entrance examination scores.
- Any other materials that are relevant to this application, such as experiential credit.
- Departmental application available online or at program office.

M.S. Admission and Advising Roles

The Admissions Subcommittee reviews applications and makes admission decisions. Selected applicants are sent a notice of acceptance. Students are encouraged to meet with the program director or program administrator to discuss fellowship opportunities, class enrollment and UNM standard procedures such as the details of becoming a student, obtaining an ID card and procedures for enrolling in classes.

M.S. Faculty Advisor/Mentor. Students are responsible for selecting a faculty mentor who will help them establish a Committee on Studies. The program office will aid students in their selection process. Ideally, students and faculty members will agree about the advising/mentoring relationship but for those who need assistance, the Director will request that the Admissions Subcommittee assist in this process.

M.S. Committee on Studies. The student and faculty mentor invite three faculty members to serve on the student's Committee on Studies. The committee members help the student to plan a Program of Studies—a list of courses that meets the student's interests and needs which will be counted toward the degree. This plan must be approved by the student's advisor and the NSMS Program Director prior to being submitted to the OGS. The Committee also supervises the student's progress and conducts the required thesis or other exams. If the student subsequently qualifies for entering the doctoral program, this committee can continue in the role of Doctoral Studies and Dissertation Committee to assist the student in completing the Ph.D.

Two M.S. Plans: Degree Completion Requirements

There are two options to receive an M.S. in NSMS.

Plan 1 (Thesis Option)–

- The student must complete all core course requirements.
- Student must complete a total of 24 credit hours.
- Student must complete 6 thesis hours.

Plan 2 (Course Option)–

- Students must take core course requirements.
- Student must complete 30 credit hours.

Students planning on continuing to pursue a PhD are encouraged to follow Plan 1 (Thesis Option). These are the minimal requirements. In most cases the actual course load completed by a student are likely to be more as dictated by their educational needs and committee on studies.

Ph.D. Degree Requirements

Ph.D. Candidacy Requirements

To advancement to candidacy students must;

- Satisfactory completion of all NSMS course requirements.
- Pass a qualifying exam.

3) Pass a comprehensive exam

4) File all required paperwork by required time deadlines.

Ph.D. Application and Admission Process

For prospective doctoral students, the process of applying and being selected is the same as for applicants to the Master's program, with the Admissions Subcommittee assuming responsibility for reviewing applications and selecting candidates. Students can also qualify while they are in the NSMS M.S. program. Academic requirements for the M.S. program are designed to permit any current student who meets basic requirements to make a smooth transition into the Ph. D. program at any point in their graduate studies. That is, students in the M.S. program who complete the four core courses with grades of A- or better can qualify for entry into the Ph.D. program. And, any applicant who has completed a M.S. degree program that is comparable in quality and subject matter will qualify for entry directly into the NSMS Ph.D. program. That is, an eligible applicant must have at least a Master's degree in a natural science or engineering field with an emphasis on Nanoscience and Microsystems from an accredited institution, including UNM, and have a scholastic average of B (3.0 on a 4.0 scale) or better.

PhD Faculty Advisor/Mentor. Newly admitted doctoral students must also go through the process of selecting an advisor/mentor. They will then request the Graduate Subcommittee that the Qualifying Exam be scheduled sometime during or immediately after they have completed all of the core courses. The program office will aid students as needed in their selection process.

Ph.D. Committee on Doctoral Studies. The student and faculty mentor invite three faculty members to serve on the student's Dissertation Committee on Studies. The committee members help the student to plan a program of studies that is reflected on the student's Petition for Candidacy form. These courses meet the student's interests and needs which will be counted toward the degree. The Petition for Candidacy must be approved by the student's advisor and the NSMS Program Director prior to being submitted to the OGS. The Dissertation Committee also supervises the student's progress and conducts the required exams.

General Degree Completion Requirements

The NSMS PhD requires that students complete 48 credit hours of courses plus 18 credit hours of dissertation research credit (699). Overall, the basic requirements for Ph.D. candidates includes 4 core courses and an ethics course, plus 4 courses in a Concentration, and 8 additional elective courses as recommended by the students Dissertation Committee. UNM requires 24 credit hours (8 courses) for the M.S. and an additional 24 credits for the Ph.D. Students can enter the Ph.D. degree program after completing their B.S. degree, and proceed directly towards the Ph.D. by taking 48 credit hours past their B.S. degree plus 18 dissertation research (699) credit hours. These are minimum requirements. The actual number of thesis or dissertation credits will in most cases be larger. Students who already have a Master's degree in one of accepted disciplines automatically acquire a Concentration. Ph.D. candidates have a maximum of five years from the semester in which they pass the doctoral comprehensive examination to complete all of the degree requirements.

Ph.D. Minor in Nanoscience and Microsystems

Students who satisfactorily complete 3 of the 4 NSMS core courses required by the NSMS Ph.D. program (NSMS 510, 512, 518, 519) and an ethics course (NSMS 550) will be awarded a transcribed minor at the Ph.D. level.

NSMS Qualifying Examination Procedure

General requirements for the Ph.D. degree are set by the Office of Graduate Studies and are stated in other pages of this Catalog. Required NSMS core courses are described

below. Students who wish to Advance to Candidacy in NSMS must pass a program qualifying examination. This examination covers the four core subject areas listed in this section, and should be taken as soon as possible after entering the program. The qualifying exam is in two parts:

1. Written Examination: Mastery of the core Nanoscience and Microsystems subjects will be demonstrated by the cumulative grades in the Core NSMS classes.
2. Oral Examination: The Ph.D. qualifying exam will consist of an independent, critical analysis of a research article by the student and the preparation of a research proposal. The student will deliver a 30 minute presentation to critique the research paper and present the research proposal. The written exam is not required if the student has obtained a grade of A- or better in 3 of the 4 core courses (excluding ethics). The student will be allowed two attempts for each exam.

Catalog Details About Meeting Degree Requirements

The Catalog provides significant details about requirements that master's and doctoral candidates must meet to complete their degree, which apply equally for students in the NSMS Graduate Degree Program. These include what is necessary if a student wishes to defer entry into the program, or have a leave of absence, or to have credits transferred, or issues regarding academic standing or petitions to modify academic requirements.

Curriculum for Students in the NSMS M.S. & Ph.D. Degree Program

M.S. Plan I and M.S. Plan II candidates must complete the four Core courses and the Ethics course, plus four courses in one Concentration. In addition, Plan I students must complete 6 hours of thesis credit (599), and Plan II students must complete 6 hours of additional coursework at a 500-level or higher.

Ph.D. candidates must complete a total of 48 credit hours past the bachelor's degree, 24 of which are taken as doctoral candidates. Thus, in addition to the courses completed at the M.S. level - the 4 core courses plus an ethics course and a Concentration consisting of 4 courses - the Ph.D. candidate will complete a second Concentration, one of those listed below or 4 courses in one of the NSMS departments plus 4 elective courses, as approved by the student's Committee on Studies, plus 18 dissertation research (699) credit hours.

Core Courses and Ethics Course (15 credit hours)

NSMS 510	Chemistry and Physics at the Nanoscale	3
NSMS 512	Characterization Methods for Nanostructures	3
NSMS 518	Synthesis of Nanostructures	3
NSMS 519	MEMS Transducer Devices and Technology	3
NSMS 550	Social & Ethical Implications of Nanotechnology	3

Concentration: Nano-Bio Interfaces (13)

This set of courses exposes students to concepts of biological and chemical reactions, biosensor platform fundamentals and applications through nanofluidics and biomimetics.

Suggested prerequisites are undergraduate-level transport phenomena, organic chemistry, electromagnetism, and quantum chemistry.

NSMS 522L	Fundamentals of Nanofluidics	3
NSMS 530	Surface and Interfacial Phenomena	3
NSMS 538	Biosensors: Fundamentals and Applications	3
BIOC 545L	Intensive Introductory Biochemistry I	4

Concentration: Complex Functional Materials (12)

This set of courses exposes students to specific interface science, materials synthesis and processing. Suggested

prerequisites for this set of courses are undergraduate-level transport phenomena, organic chemistry, electromagnetism, and quantum chemistry.

NSMS 530	Surface and Interfacial Phenomena	3
NSMS 533	Vapor and Aerosol Phase Materials Processing	3
NSMS 569	Advanced Materials Science	3
NSMS 575	Polymer Science and Engineering	3

Concentration: Information Nanotechnology (12)

This set of courses exposes students to materials growth processes, quantum devices and nanofabrication techniques. Suggested prerequisites are undergraduate-level semiconductor devices, quantum mechanics, electricity and magnetism.

NSMS 532	Nanoscale Electronic and Photonic Devices	3
NSMS 571	Quantum Computation	3
NSMS 572	Semiconductor Physics	3
NSMS 573	Physics and Computation	3
NSMS 574L	Microelectronics Processing	3

M.S. Plan I.

NSMS 599	Master's Thesis	6
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M.S. Plan II.

Courses at 500-level or above as approved by Committee on Studies	6
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Ph.D. Dissertation

NSMS 699	Dissertation Research	18
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Nanoscience and Microsystems (NSMS)

410/510. Chemistry and Physics at the Nanoscale. (3)
(Also offered as PHYC 410* .) Students will study chemical and physical concepts necessary to understand nanoscale materials: Quantum properties, charge confinement, and nanoscale thermodynamics, surface and interfacial forces, nanomachines and nanostructures, self-organization, and scaling. Emphasis on problem-solving skills development. {Spring}

512. Characterization Methods for Nanostructures. (3)
(Also offered as CHNE 512.) Nanostructure characterization methods. Examine principles underlying techniques and limitations, and how to interpret data from each method: electron beam, scanning probe, x-ray, neutron scattering, optical and near field optical. Lab demonstrations and projects provide experience. {Fall}

518. Synthesis of Nanostructures. (3)
(Also offered as CHNE, ECE 518.) Underlying physical and chemical principles (optics, organic and inorganic chemistry, colloid chemistry, surface and materials science) for nanostructure formation using 'top-down' lithography (patterned optical exposure of photosensitive materials) and 'bottom-up' self-assembly. Labs will synthesize samples. Prerequisite: 510. {Spring}

519. Theory, Fabrication, and Characterization of Nano & Microelectromechanical Systems (NEMS/MEMS). (3)
(Also offered as ECE, ME 519). Lectures and laboratory projects on physical theory, design, analysis, fabrication, and characterization of micro and nanosystems. Special attention given to scaling effects involved with operation of devices at nano and microscale.

522L. Fundamentals of Nanofluidics. (3)
(Also offered as CHNE 522L). This course exposes students to comprehensive yet essential elements in understanding nanofluidics for the purpose of effective separation of biomolecules: dynamics of complex fluids, colloidal chemistry, biochemistry, biomimetic surface functionalization, electroosmosis/electrophoresis, electrostatics, optics, and spectroscopy.

530. Surface and Interfacial Phenomena. (3)

(Also offered as CHNE 530.) Introduces various intermolecular interactions in solutions and in colloidal systems; colloidal systems; surfaces; interparticle interactions; polymer-coated surfaces; polymers in solution, viscosity in thin liquid films; surfactant self-assembly; and surfactants in surfaces.

531. Nanoscale Quantum Structure Growth and Device Applications. (3)

(Also offered as CHNE 531) Introduction to vapor-phase transport and surface phenomena that govern crystal growth, nanostructure patterning, and device performance. (Fall upon demand.)

532. Nanoscale Electronic and Photonic Devices. (3)

(Also offered as ECE 532.) Introduces devices, device physics, characteristics and possible applications specific to the nanoscale. Topics include single electron transistor, carbon nanotube electronics, quantum dot devices, spin-polarized electronic and photonic devices.

533. Vapor and Aerosol Phase Materials Processing. (3)

(Also offered as CHNE 533.) Materials synthesis and processing by physical vapor deposition, chemical vapor deposition, and aerosol routes are explored. Underlying physicochemical fundamentals are discussed, and examples from the recent literature are used to exemplify the methods. (Offered upon demand)

538. Biosensors Fundamentals and Applications. (3)

(Also offered as CHNE 438/538.) Introduction to biosensors as analytical devices and biosensor technology as an emerging field of industrial development. Survey of biochemical fundamentals and immobilization of the biological components, methods for biosensors fabrication, microfluidic devices and sensor arrays. (Spring upon demand.)

550. Social and Ethical Issues in Nanotechnology. (1-3) [3]

(Also offered as CHNE, ECE 550.) In this course, students will examine issues arising from this emerging technology, including those of privacy, health and safety, the environment, public perception and human enhancement.

569. Advanced Materials Science. (3)

(Also offered as ME 471/571.) This course covers advanced treatments of the science of engineering materials and mechanical behavior of materials. Examples are crystal structures, defects, micro mechanisms of deformation, thermodynamic and kinetic processes, and structure-processing-property relations of engineering materials.

571. Quantum Computation. (3)

(Also offered as CS, PHYC 571.) This course explores the concepts and mathematical techniques underlying quantum computation. Topics include quantum entanglement, quantum cryptography, teleportation, models for quantum computation, quantum algorithms, quantum error correction, and fault-tolerant quantum computation.

572. Semiconductor Physics. (3)

(Also offered as ECE 572.) Crystal properties, symmetry and imperfections. Energy bands, electron dynamics, effective mass tensor, concept and properties of holes. Equilibrium distributions, density of states, Fermi energy and transport properties including Boltzmann's equation. Continuity equation, diffusion and drift of carriers.
Prerequisite: ECE 471.

573. Physics and Computation. (3)

(Also offered as CS 473/573) A survey of complex systems at the interface between physics and computer science, including phase transition, power laws, social networks, NP-completeness, and Monte Carlo methods.

574L. Microelectronics Processing. (3)

(Also offered as ECE 474L/574L.) Materials science of semiconductors, microelectronics technologies, device/circuit fab-

rication, parasitics and packaging. Lab project features small group design/fabrication/testing of MOS circuits.

575. Polymer Science and Engineering. (3)

(Also offered as CHNE *475.) Introduces wide range of contemporary polymer science topics, emphasizing physical chemistry, polymer physics and engineering properties of polymer systems. Exposure to unique behavior of polymers in engineering applications and preparation for further studies in polymers.

581. Colloidal Nanocrystals for Biomedical Applications. (3)

(Also offered as BIOM, ECE 581) Intended for students planning careers combining engineering, materials science, and biomedical sciences. Covers synthesis, nanocrystals characterization, biofunctionalization, biomedical nanosensors, FRET-based nanosensing, molecular-level sensing/imaging, and applications in cell biology, cancer diagnostics and therapy, neuroscience, and drug delivery.

595. Special Topics. (1-3 to a maximum of 9) Δ**599. Master's Thesis. (1-6, no limit) Δ**
Offered on a CR/NC basis only.**650. Research. (1-12 to a maximum of 24) Δ**

May be repeated with any single faculty member.

699. Dissertation. (3-12, no limit) Δ

Offered on a CR/NC basis only.

General Electives

Many courses offered at UNM will be accepted for NSMS elective credit with the intent to supplement the nano-based coursework. We have also listed numerous elective courses here, some of which were developed as new courses specifically for this degree program, with very specific relevance to the nanoscience program. This is not an exclusive list. Many other courses will be added as they are developed and identified. Currently, the list of electives includes:

BIOC 545L	Intensive Introductory Biochemistry II
CHNE 515	Topics: Nanoscale Quantum Structure Growth
EPS 538	Analytical Electron Microscopy
EPS 558/BIO	558 Geomicrobiology
MGMT 594	Topics: Innovation in Technology
MATH *466	Mathematical Methods in Science and Engineering
MATH 579	Selected Topics: Mathematical Methods for Science & Technology
MATH *471	Introduction to Scientific Computing
MATH 504	Introductory Numerical Analysis: Numerical Linear Algebra
MATH 505	Intro. Numerical Analysis: Approximation & Differential Equations
MATH 512	Introduction to Ordinary Differential Equations
MATH 513	Introduction to Partial Differential Equations
MATH 514	Applied Matrix Theory
MATH 557	Selected Topics in Numerical Analysis
MATH 576	Numerical Linear Algebra
MATH 577	Numerical Ordinary Differential Equations
MATH 578	Numerical Partial Differential Equations
MATH 579	Selected Topics in Applied Mathematics
ME 561	Special Topics: Nanomechanics of Materials
PHYC *430	Introduction to Solid State Physics
PHYC 529	Condensed Matter I
PHYC 531	Atomic and Molecular Structure
PHYC 552	Problems: A Quantum Information Theory
PHYC 566	Quantum Optics
PHYC 581	Advanced Topics: Density Functional Theory
STAT 527	Advanced Data Analysis I
STAT 528	Advanced Data Analysis II
STAT 540	Regression Analysis
STAT 545	Analysis of Variance and Experimental Design
STAT 553	Statistical Inference with Applications
STAT 561	Probability

STAT 565	Stochastic Processes with Applications
STAT 570	Industrial Statistics
STAT 576	Multivariate Analysis
STAT 581	Introduction to Time Series Analysis
STAT 586	Nonparametric Curve Estimation & Image Reconstruction

OPTICAL SCIENCE AND ENGINEERING

M.S. in Optical Science and Engineering

Current research areas: Advanced materials, atom optics, biomedical optics, fiber optics, laser physics, lithography, nanostructures, nonlinear optics, optical imaging, optical sensors, optoelectronics, photonic integrated circuits, quantum optics, spectroscopy, and ultrafast phenomena.

The Optical Science and Engineering (OSE) Program is jointly administered by the Department of Physics & Astronomy (PandA) and the Department of Electrical & Computer Engineering (ECE). This program features an internship option under which a student can apply qualified industrial/government laboratory research along with successfully completed course work toward the degree. Under Plan I (thesis based), a minimum of 24 hours of course work and 6 hours of thesis credit is required. Under Plan II-a (non-thesis, course-based), a minimum of 33 hours of course work, including 3 hours of research seminar (PHYC 500/501), at least 2 of which must be in Optics – or individual research/problems (PHYC 552/650, or ECE 551/651) is required. Under Plan II-b (internship-based), a minimum of 33 hours of course work - including 3-6 hours of internship (PHYC/ECE 559) - is required. Successful completion of an oral M.S. comprehensive examination is required under Plans II-a and II-b.

Under all plans, the graduate course work offered for the degree must include PHYC/ECE 463, PHYC/ECE 464, PHYC 476L or 477L, PHYC 511/ECE 561, and PHYC/ECE 554. All details must be discussed with a graduate advisor each semester. More information, including possible choices of elective courses, is available online: <http://www.optics.unm.edu>.

Ph.D. in Optical Science and Engineering

Current research areas: Ultrafast optics and photonics, laser physics and engineering, optical imaging, quantum optics, optoelectronic devices, fiber lasers and amplifiers, optical communication, optical materials, optical lithography, nonlinear optics, integrated optics, quantum computing, bio-optics, nano-photonics, and laser cooling.

An extensive selection of optics courses is available to the student considering graduate studies in Optical Science and Engineering. Considerable interaction occurs with the Center for High Technology Materials and the optical research groups at the Air Force Research Laboratory, Sandia National Laboratories, Los Alamos National Laboratory and other organizations in Albuquerque. These facilities offer extensive opportunities for research work toward both the M.S. and the Ph.D. degrees.

The Doctor of Philosophy in Optical Science and Engineering requires a minimum of 52 semester hours of graduate work, exclusive of dissertation. These hours must include PHYC/ECE 463, 464, 554, 568, PHYC 466/MATH 466, PHYC 511/ECE 561, PHYC 476L or 477L, PHYC 521/ECE 572, as well as three semesters of PHYC 500/501 (Advanced Seminar), one of which must be concerned with optics. Also the student must choose one of PHYC 467, 522, 529, 531, 564, 566, 569, ECE 564, 565, 572, 577. Details must be discussed with a graduate advisor each semester.

More information about the Optical Science and Engineering Program is available online: <http://www.optics.unm.edu>

Under all plans, the graduate course work offered for the degree must include PHYC/ECE 463, PHYC/ECE 464, PHYC 476L or 477L, PHYC 511/ECE 561, and PHYC/ECE 554. All details must be discussed with a graduate advisor each semester. More information, including possible choices of elective courses, is available online: <http://www.optics.unm.edu>.



SPECIAL PROGRAMS

DIVISION OF CONTINUING EDUCATION AND COMMUNITY SERVICES

Dr. Rita Martinez-Purson, Ed.D., Dean
The University of New Mexico
Division of Continuing Education & Community Services
1634 University Blvd. NE
MSC07 4030
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 277-2527
<http://dce.unm.edu>

For over 80 years, UNM Continuing Education has served as the center for lifelong learning by providing innovative educational, training and personal enrichment opportunities for students, businesses and community partners in New Mexico. Continuing Education plays a major role in community service and outreach for UNM, with a focus on economic and workforce development. More than 35,000 students and customers are served through non-credit programs, certificate programs and special projects every year. Approximately 200,000 community and UNM participants use the Conference Center facility each year. UNM Continuing Education employs approximately 44 staff and 400 instructors.

Location and Hours

Continuing Education at UNM is located at 1634 University Blvd. NE, Albuquerque, NM, 87131. There is free parking on both the east and west sides of the facility.

Registration hours are Monday–Friday, 7:30am–5:30pm, with the exception of official UNM holidays, when offices are closed.

Continuing Education Programs

Osher Lifelong Learning Institute

Contact: Maralie Belonge 277-6179

UNM Continuing Education has been selected to partner with the Bernard Osher Foundation to form the Osher Lifelong Learning Institute designed to offer intellectually stimulating courses to adults 50 years-of-age and older.

The Bernard Osher Foundation was founded in 1977 with the idea to improve quality of life for residents of the San Francisco Bay Area through various educational programs. The Foundation currently partners with 120 universities across the country. The emphasis of these university-level courses is to present an accessible community experience in a stimulating University environment for mature audiences with intellectually challenging, psychologically and spiritually engaging offerings. A \$40 annual membership includes registration access to all Osher courses offered during the calendar year. Each course is offered for an additional fee. Tuition Remission may be used for classes but not membership. Membership allows adults to choose from a diverse set of thought-provoking courses taught year round by current and emeritus University of New Mexico faculty members and renowned experts from the local community.

Most classes are held at UNM Continuing Education, 1634 University Blvd. NE, in the south building.

Course topics include:

Art & Art History • Current Events • Health, Fitness & Well Being • History, Literature • Psychology/Sociology • Science & Technology • Music & Theatre • Travel

Business and Technology

Contact: Sherry TenClay 277-6038

Specializes in focused training programs for busy adults seeking to enhance their professional skills or change careers. A variety of programs and certifications are offered to give students options to achieve their goals and explore their career interests. Courses are taught by leaders in their fields at times that are convenient for working professionals.

Digital Arts: Offers several certificate programs to prepare students for work in graphic design and print, multimedia, digital photography, digital filmmaking, and web design. Apple-Authorized Training Center computer labs offer training in the latest software and hardware tools for digital arts.

Professional Development: Offers certificate programs in leadership, supervisory skills, conflict resolution, and project management (PMI Educational Provider). Offers preparation for Real Estate licensure, Certified Financial Planning and Administrative Professionals' Certification. Also offers a variety of other kinds of training including a Paralegal certificate and Professional Trainer certificate.

Computer and IT Professional: Offers courses to improve skills with specific software programs including MS Office. Offers numerous IT professional certifications including CompTIA, Microsoft IT Academy training, Novell, Oracle Workforce Development programs, Geographic Information Systems, and AutoCAD.

Customized Training and Consultation Services

Contact: Leah Kier 277-6034

Creates customized professional development and IT training courses and programs to meet the unique needs of businesses and organizations. UNM Continuing Education instructors work with businesses to develop workshops, courses, and certificate programs based on the curriculum requirements that are specified. Training may be conducted in our UNM Continuing Education facilities or at the business site.

In addition to offering customized training, UNM Continuing Education also delivers consultation services to businesses and organizations. Our IT and professional development expert consultants work with businesses to design, develop, support, and implement training and organization solutions for practical, real-world situations. Our consultants work directly with businesses to address the needs of ongoing projects, product roll outs, deployments and new initiatives. UNM Continuing Education network administrators, programmers, web developers, project managers, instructional designers and many other experts work side by side with staff to meet business needs.

Growth and Enrichment

Contact: Dora Delgado-Raby 277-6320

Offers courses in arts, language, hobby and personal development; allowing students to explore their interests, stimulate their minds and gain skills to help them enrich their lives. Programs are offered for all age groups in accessible and affordable formats. Demand for programs to be held at neighborhood locations led UNM Continuing Education to seek off-campus locations. Programs are offered in more than 50 sites throughout Albuquerque.

Categories of offerings include:

Aquatics • Art • Cooking • Communication • Crafts and Hobbies • Health and Relaxation • Home and Garden • Humanities • Language • Leisure Time Activities • Money Matters • Music, Dance & Theatre • Photography • Reading & Writing • Especially for Seniors • Especially for Youth

Story of New Mexico

Contact: Joan Cok 277-0563

Travel and Lecture programming with Southwestern cultural themes.

This series is presented by people who can bring history to life; prominent educators and lecturers, including authors, descendants of historical figures, artists-in-residence, ecologists and museum curators. Genuine enthusiasts share their experience to let students in on the "inside story" of New Mexico.

Community Service Programs

Southwest Indian Polytechnic Institute

Contact: Mary Bullock 299-6334

UNM Continuing Education entered a partnership with the Southwestern Indian Polytechnic Institute, a National Indian Community College, to improve the educational opportunities and enhance the college level of instruction for Native Americans in the Southwest. Continuing Education provides qualified instructors, text and course materials, and an expert level of programming to promote academic success and further students' college educations at UNM or other institutions of higher education. Students receive credit and work towards various degrees in this custom learning environment.

Spanish Resource Center

Contact: Fernando Martín 246-2261, ext. 124

The Spanish Resource Center creates awareness of the Spanish language and cultures throughout New Mexico through a partnership by The Ministry of Education and Science of Spain, UNM Continuing Education, and the New Mexico Department of Education. They offer a broad collection of materials to students and educators on Spanish language programs. They collaborate with several UNM departments to host conferences and workshops. And they offer a visiting teachers program between Spain and New Mexico.

Health Care and Human Services

Contact: Sherry Tenclay 277-6038

Offers courses to train addictions counselors utilizing current evidence based treatment methods. Provides training for positions in the fast growing medical field, case management, personal trainer certification, child care and integrative wellness.

Case Management • Administrative Medical Specialist • Substance Abuse Studies • Phlebotomy • Fitness & Personal Training • Explorations in Integrative Wellness

DWI Awareness Program

Contact: Araci Joy 277-6170

DWI prevention and education course for first-time licensees in New Mexico. In cooperation with the New Mexico State Highway and Transportation Department Traffic Safety Bureau, the Division provides a DWI Prevention and Education course, "None for the Road." All first-time licensees in New Mexico, between the ages of 18 and 24, are required to take this awareness class which informs them about driving-while impaired (DWI) laws and prevention. The class is offered as a home-study course and is available through the mail.

Conference Center

Contact: Beth Horan 277-5984

Facility for conferences that includes a 600 seat auditorium, break-out rooms and classrooms, a banquet room and a large lobby area. The Conference Center offers Albuquerque businesses, statewide public entities and out-of-state events a medium-sized facility with a variety of support services and features.

Central location • Free parking • Registration • Catering • Break-out rooms • Equipment • Wireless high speed internet

The Continuing Education Education Unit (CEU)

The CEU is a unit of measurement in which 10 contact hours equal one CEU. It is used to record the education experiences of participants in certain Continuing Education activities that satisfy stated criteria. The availability of CEUs is indicated in the course descriptions.

The CEU is not academic credit, nor can it be converted to academic credit. A CEU transcript or certificate is available on request after satisfactory completion of a CEU activity.

UNM EXTENDED UNIVERSITY DISTANCE EDUCATION PROGRAMS AND SERVICES

Jerónimo C. Domínguez, Vice Provost

The University of New Mexico

Extended University— Distance Education Programs and Services

1800 Sigma Chi NE

MSC03 2190

1 University of New Mexico

Albuquerque, New Mexico 87131-0001

(800) 345-1807

<http://distance.unm.edu>

UNM Extended University was established in the fall of 1999 to coordinate the institution's distance education mission. This mission is pursued in close cooperation with the University of New Mexico's four branches, as well as, selected community colleges and learning centers, forming a partnership that yields significant opportunities for students. Branches are responsible for lower-division curriculum leading to a wide array of associate's degrees. Extended University expands upon these efforts by creating the path for students to attain selected University of New Mexico-affiliated bachelor's and advanced degrees through delivery of upper-division and graduate-level programming. This programming is offered in a variety of instructional formats, including classroom, interactive television, online and correspondence.

UNM Extended University maintains eight statewide education centers. These centers serve as a focal point for delivery of instruction and for student support services. Classes at field centers are taught in traditional classroom formats, providing a direct face-to-face experience between students and the instructor. In addition, the centers function as "receive sites" for classes broadcast by interactive television and, further, serve as liaisons with the University of New Mexico main campus online and correspondence programs. Education center staff work vigorously to assure the success of students by providing a host of essential services, including admissions, registration, academic advising, bursar, etc. These services are provided either directly or through coordination with appropriate main campus offices.

The University of New Mexico Distance Education Centers

Gallup – Bachelor and Graduate Programs

Located at the Gallup Branch

200 College Road

Gallup, NM 87301

(505) 863-7618 FAX: (505) 863-7564

Web Address: <http://distance.unm.edu>

e-mail: unmgllbg@unm.edu

Hobbs – Bachelor and Graduate Programs

Located at the New Mexico Junior College

1 Thunderbird Circle

Hobbs, NM 88240

(800) 345-1807

Web Address: <http://distance.unm.edu>

Kirtland Air Force Base (KAFB)

Kirtland AFB Education Center

1900 Wyoming Blvd. SE, Room 105

Albuquerque, NM 87117-5604

(505) 260-1354 FAX: (505) 255-0449

Web Address: <http://distance.unm.edu>

e-mail: kafb@unm.edu

Los Alamos – Bachelor and Graduate Programs

Located at the Los Alamos Branch
4000 University Drive
Los Alamos, NM 87544
(505) 662-0335 FAX: (505) 662-0344
Web Address: <http://distance.unm.edu>
e-mail: cleyba@unm.edu

San Juan Center in Farmington – Bachelor and Graduate Programs

Mailing address:
4601 College Blvd.
Farmington, NM 87402-4609
Physical address:
30th Street Center Annex
3539 E. 30th, 2nd Floor
(505) 566-3480 FAX: (505) 566-3482
Web Address: <http://distance.unm.edu>
e-mail: unmsjc@unm.edu

Santa Fe – Bachelor and Graduate Programs

(505) 428-1220 FAX: (505) 662-0344
Web Address: <http://distance.unm.edu>
e-mail: clujan@unm.edu

Taos – Bachelor and Graduate Programs

246-B Ledoux St.
Taos, NM
Mailing Address:
UNM Taos Branch
1157 County Road 110
Ranchos de Taos, NM 87557
(575) 758-2828 FAX: (575) 758-4076
Web Address: <http://distance.unm.edu>
e-mail: taosbgp@unm.edu

Valencia – Bachelor and Graduate Programs

Located at the Valencia Branch
280 La Entrada
Student Community Center, 2nd Floor
Los Lunas, NM 87031-7633
(505) 925-8970 FAX: (505) 925-8972
Web Address: <http://distance.unm.edu>
e-mail: unmvce@unm.edu

Extended University – Distance Education Delivery Formats/Services

Classroom courses, the most familiar learning venue for a majority of students, offer traditional teaching and learning methods. Extended University coordinates with main campus departments, colleges, and schools to offer a wide variety of undergraduate and graduate courses on location at various educational centers around the state. Students can survey course offerings by visiting the website at <http://distance.unm.edu> and clicking on the center nearest to them. Highly qualified faculty provide vibrant student experiences in courses whose topics often have a local emphasis. Centers also offer an array of student support services, including advisement, financial aid, registration, and admissions.

Interactive television (ITV) courses expand the possibilities for students who pursue their studies in remote locations. Through broadcast technology, classes on-going at main campus are transmitted simultaneously for viewing at other places. As such, these classes are usually taught by regular main campus faculty and received at Extended University field centers, as well as other sites. Communication between remote students and the instructor is facilitated by interactive videoconferencing. Remote students use the same class materials, including syllabi, assignments and class notes as their main campus counterparts. Homework is exchanged either online or via courier operating between main campus and Extended University field centers. Exams are proctored at the classroom site. Videoconferencing brings the knowledge and expertise of main campus faculty to the far corners of the state, providing an experience that is sound, with respect to content and a perspective refined by extensive experience in the discipline. For information on interactive television classes, call (505) 277-8821 or (800) 289-4617 or visit the Extended University Web site at <http://distance.unm.edu>.

Online courses offer a flexible, highly interactive way to take courses in a wide range of programs and subject areas. By using a computer with Internet access, students can take classes taught by regular UNM faculty on a standard semester basis. Online courses provide diverse interactions with classmates and instructors, and use the same rigorous materials as their classroom counterparts, while providing greater freedom in choosing when and where learning will take place. For more information on classes offered through the Internet, call (505) 277-8128 or toll free (866) 869-6040, or visit the Extended University Web site at <http://distance.unm.edu>.

Correspondence courses offer students a flexible, convenient alternative to earn college credit for those who cannot attend regular classes. In addition, they provide an opportunity for all UNM students located anywhere to add to their credit hours in their degree programs. Lower and upper-division courses spanning a wide range of disciplines are available for registration. Many degrees allow, with some restrictions, up to 30 credit hours of correspondence courses to be applied toward graduation. Students can register for correspondence courses throughout most of each term. For information and a list of available Correspondence courses, students should visit the website at <http://distance.unm.edu> or contact the Correspondence Office at 505-277-1604 or toll free (877) 567-9089.

Extension Credit courses are designed to provide UNM academic undergraduate and graduate non degree college credit for people not regularly admitted to UNM. Students in a regular admission status at UNM are not eligible for these courses. Students taking extension credit courses will be admitted to UNM as "non degree extension" students and have access to University resources through LoboWeb. If an Extension Credit student is admitted later to UNM in a regular admissions status, Extension Credit courses may apply toward UNM degree program requirements, but students should consult with the degree program department to determine any restrictions. A per credit fee is associated with these courses and may vary depending on the course. Some courses may carry additional fees for supplies and services. The Extension Credit Program works with a variety of academic units at UNM, including Language, Literacy, and Sociocultural Studies (LLSS), Teacher Education (EDUC, CMTE, and MSET), Health, Exercise, and Sports Science (HED), Psychology, and Linguistics. All courses are accredited through the North Central Commission on Higher Education. If an organization would like to sponsor courses for college credit through a specific university college or department, contact (505) 277-1184 or extncred@unm.edu.

Media Technology Services (MTS)

MTS is located in Woodward Hall and provides technical and professional services to the campus community and statewide. There are four primary units at MTS, Interactive Television (ITV), Academic Technology Services (ATS), Engineering, and Production. ITV provides upper-division and graduate courses for distance education students. Using interactive videoconferencing, students at distance locations are able to watch and participate in live main campus courses. ATS provides equipment for classroom instruction and maintains audio-visual equipment for main campus scheduling controlled classrooms. ATS also checks out equipment such as laptop computers, projectors, public address systems and a variety of other technologies at no charge to faculty for classroom instruction. Equipment is also available for non-instructional use by departments for a small fee. The Engineering unit designs and installs smart classroom equipment, and schedules and coordinates videoconferencing and satellite broadcasts. MTS also has a Production unit that houses a fully operational production studio and has video editing capabilities. For more information, contact Media Technology Services, Woodward Hall 120, MSC03 2190, (505) 277-6151, or for the most current information visit the MTS Web site at: <http://mts.unm.edu>.

Testing Center provides students, faculty, staff and community members with information and access to standardized testing. The Testing Center also administers national, state and local standardized examinations. Call (505) 277-5346 or e-mail testctr@unm.edu for details.

For complete information on all Extended University centers and services, see the Web site at <http://distance.unm.edu> or call toll free at (800) 345-1807.

UNM West in Rio Rancho

Dr. Marc Nigliazzo, Vice President
The University of New Mexico
Rio Rancho Operations and Branch Academic Affairs
2600 The American Road, Suite 250
Rio Rancho, NM 87124
(505) 925-8669
FAX: (505) 925-8684
<http://distance.unm.edu>
e-mail: unmwest@unm.edu

UNM West has been offering courses in the Rio Rancho area since 1990. Originally approved by the University as a center for non-credit, continuing education, UNM West significantly expanded its scope in 1996 and began offering lower-division, upper-division, and graduate level courses at multiple sites on the "west side." Employing both on-site and ITV delivery in 8-week and 16-week formats, UNM West has provided an expanding array of courses supporting core requirements for a variety of bachelor's and selected graduate programs. In 2004, offices and classrooms were opened at 2600 The American Road SE, Suite 250.

In 2008, a "2+2" partnership agreement was approved by the University between UNM West and Central New Mexico Community College (CNM). The intent of the agreement is to provide "west side" residents with an opportunity for seamless transition between CNM and UNM, with CNM offering core courses at the lower division and UNM West offering primarily upper-division and graduate level courses. A key component of the partnership will be the coordination of student support services between CNM and UNM West for those CNM students intending to pursue a baccalaureate degree at UNM.

With the support of a gross receipts tax approved by the Rio Rancho community in 2008, a permanent campus for UNM West is being planned for the Rio Rancho City Center on a multi-institutional site that will also include a CNM campus, a teaching hospital to be developed through the UNM Medical Group, and a proposed new partnership with New Mexico State University. A long-range master plan for the "west side" campus will be completed by December 2008, with construction of a Phase I building proposed to begin as early as January 2009, with completion in early 2010.

The further expansion of course offerings at UNM West will continue in Spring 2009, led by new B.B.A. and M.B.A. course sequences to be offered through the Anderson School of Management. An expansion of course offerings in American Studies and Sociology is also being planned, with other new offerings to be determined over time by individual departments, schools, and colleges at UNM. Long-term, UNM West will continue to nurture its multi-institutional capability, and will not only address the needs of UNM's rapidly growing "west side" constituency, but will help extend the University's ability to address educational, social, cultural, and economic needs throughout the region and state.

BRANCH CAMPUSES

The University of New Mexico has as its primary responsibility the task of serving the citizens of the State by offering opportunities for higher education. Toward that purpose, the University also operates four branches—2-year colleges—which provide academic and vocational training leading to certificates, associate degrees and transfer to baccalaureate programs. Additionally, the University offers graduate and upper-division programs in Santa Fe, Los Alamos, Gallup and Taos.

Academic credits earned by students while attending a branch campus of the University of New Mexico are transferable to appropriate schools and colleges on the main campus of the University. Academic credits are also transferable to other colleges and universities in New Mexico and other states on the same basis as credit earned on the main campus. Vocational-technical credits are readily transferable to similar programs at other institutions and may be acceptable upon petition to baccalaureate degree programs at the University of New Mexico and other baccalaureate institutions. Students enrolling at the branches should contact a representative from the baccalaureate college of their choice to determine which courses are applicable toward the degree desired.

All communications regarding entrance to the branches should be addressed to the appropriate branch campus admissions office.

The University of New Mexico—Gallup

Dr. Sylvia Rodriguez Andrew, Director
200 College Road
Gallup, NM 87301
(505) 863-7501

The Gallup Campus was established to fulfill the educational needs of this large diverse multicultural region. Growth and development will continue in accord with the desires of the people who reside in this service area.

Opened on September 16, 1968, the University of New Mexico Gallup Branch has grown from operating out of the Gallup High School to its present campus on more than 80 acres. In October 1985 the college moved into its new complex. It includes additional classrooms, faculty offices, a student services complex, administrative offices, student food services area and remodeling of the Career Education Building. The new Zollinger Library was completed in March 2001, and the new Health Career Center and Zuni Campus opened in 2002. In addition, there were expansions to the PE complex and a math/sciences addition.

The University of New Mexico Gallup Branch Campus is committed to the philosophy that post-secondary educational opportunities should be provided to all individuals regardless of age, gender, race, religious affiliation or handicap.

Post-secondary educational opportunities are essential in a community the size of Gallup to assist with its economic growth and social changes. The Gallup campus has no greater purpose than that of making higher education available to all. From this philosophical base emerge the following goals of the Gallup Campus:

- The University of New Mexico—Gallup will foster and promote educational opportunities through aggressive recruitment efforts and systematic retention strategies.
- The University of New Mexico—Gallup will continue to build new collaborations with community stakeholders while solidifying our existing interactive partnerships.
- The University of New Mexico—Gallup, partnering with students and stakeholders, will determine and maintain a positive learning environment, now and for the future.
- The University of New Mexico—Gallup will diversify sources of funding needed to support our activities.
- The University of New Mexico—Gallup will develop and refine communication systems to enhance internal and external relationships.

The College offers academic courses transferable to the University of New Mexico main campus and to other institutions. Also available is a full range of preparatory and vocational-technical courses. The Gallup Branch Campus offers degree and certificate programs in a variety of academic and technical fields. The student may earn an Associate of Science degree, an Associate of Arts, or an Associate of Applied Science degree. The College also offers a number of certificate programs.

The College also operates four **Adult Basic Education Centers**. The centers are located in Gurley hall, the Northside Campus, UNM-G South-Zuni and Navajo. The Centers provide instruction in preparation for the GED exam, Adult Basic Education tutoring and workshops and also, English as a Second Language (ESL) at the Northside location. The program is a branch of the Transitional Studies Program. The College offers the GED exam on a monthly basis. The GED exam is also available in Spanish.

The College also serves as a **Center for Career and Technical Education** for high school students. High school students are bussed in daily for two-and-one-half hours of instruction in career and technical education fields. Students come to the Gallup campus from the Fort Wingate BIA School, Gallup Catholic School, Gallup Christian School, Gallup McKinley County School District, Rehoboth Christian School, Middle College High School, and the Zuni School District. Students are dually enrolled for up to fifteen credits in the following disciplines: Automotive Technology, Business Technology, Collision Repair Technology, Construction Technology, Cosmetology, Criminal Justice, Culinary Arts, Design and Digital Media, Early Childhood Multi-Cultural Education, Fire Science Technology, Health Careers, Multi-Vocational Service Occupations, Students Achieving New Directions, and Welding Technology.

The Middle College High School (MCHS) is a New Mexico public charter middle college high school located on the University of New Mexico–Gallup campus in portables next to the Gymnasium. Students from the area who are residents of New Mexico with 10 high school credits can enroll into this rigorous academic and career-focused program. The MCHS has a small enrollment of only 60 students who can take part in the program. A lottery is held before each semester for enrollment. The MCHS students are enrolled both in the high school program to earn their diploma as well as with the University of New Mexico–Gallup. Students take college courses only while earning both college and high school credits. Students are also required to take part in other components of the MCHS program. These include: small group seminar, tutoring, professional mentoring, job shadowing, service learning and work-study.

The goals of the Middle College High School are to:

1. Provide high quality, learning-centered education through a seamless continuum between high school and college:
 - i. Earn a high school diploma while earning college credits.
 - ii. Explore vocational and career aspirations.
 - iii. Prepare themselves for college: Certificate, A.A.

The staff members provide support in an atmosphere that is caring and yet have high expectations of the students. The charter requires that students must receive a C- or better in a college course in order for the credit to transfer to their graduation transcript.

Entrance packets for the MCHS can be picked up in the MCHS office in Calvin Hall, portables next to the gymnasium, from May through July for the Fall semester and from August to December for the Spring semester. All students must meet the minimum requirements of the program before they can be registered.

For more information contact the MCHS at (505) 722-9945.

The College also offers a number of courses at its satellite campus located in Zuni, New Mexico.

UNM Gallup Bachelor and Graduate Programs

A Main Campus department located in Calvin Hall, Room 228, offering students the opportunity to start and complete B.A., B.S. and Graduate programs on the Gallup Campus.

B.S.N. Completion Program

The University of New Mexico College of Nursing offers a Bachelor of Science in Nursing Completion program for RNs. For specific information, contact the College of Nursing Advisement Office at (505) 272-4223.

R.N./B.S.N. Completion

Degree Completion Program for Registered Nurse Students

All registered nurses seeking entrance into the College of Nursing must meet requirements for admission to the University and to the College of Nursing. Also needed are: a valid RN license; at least 26 hours of college course work applicable to the BSN degree; and a cumulative grade point average of at least 2.50.

A requirement of the College of Nursing is that all students complete ENGL 102, Composition II: Analysis and Argument prior to enrolling in any upper-division nursing courses. For students admitted prior to 2006, Pathophysiology and the NLN Mobility Profile II exams must be completed prior to enrolling in the BSN completion option.

College credit earned in associate degree nursing programs or in hospital-based diploma schools of nursing is transferable to the University, provided the original program was offered in a regionally accredited institution and the nursing program was accredited by the National League for Nursing. Such credit may be applied toward meeting the graduation requirements for a Bachelor of Science in Nursing. See *Transfer of Credit*.

RN students are allowed to accelerate through the upper-division major according to individual capacity based upon a credit by examination process and enrollment in required nursing courses. Each RN student must demonstrate achievement of the outcomes expected of all College of Nursing baccalaureate students.

Each registered nurse student is counseled individually to help clarify career goals and to plan an educational program which will be of greatest benefit in meeting those goals.

Prospective registered nurse students are urged to contact the College of Nursing Student Advisement Office prior to registration. The College of Nursing supports career mobility for nurses.

B.A. Education Degree Program

Through the College of Education (Division of Learning and Teaching), students are able to earn a Bachelor of Arts in Elementary Education or a B.A. in Early Childhood Multicultural Education at the Gallup Campus. Depending upon the student's special area of interest, some course work may have to be completed at the Albuquerque campus. For specific information, contact the Extended University Office at the Gallup Campus, (505) 863-7767.

B.S. Business Administration Degree Program

Through the Anderson Schools of Management, students are able to earn a Bachelor of Science in Business Administration at the Gallup Campus. For specific information, contact the Extended University Advisor at (505) 863-7618.

Bachelor of University Studies Program

Students are able to earn a Bachelor of University Studies degree at the Gallup Campus. The BUS is an interdisciplinary Bachelor's degree program that allows students to design a program of study that meets their academic or professional needs. For specific information, contact the Extended University Advisor at (505) 863-7767.

Graduate Studies at Gallup

Several Graduate Programs in Education are offered on the Gallup Campus through the University of New Mexico College of Education. For information on degrees and individual course offerings call (505) 863-7703.

The Division of Learning and Teaching in the College of Education at the University of New Mexico offers Master of Arts programs in elementary and secondary education at the Gallup Branch campus. For additional information regarding the program and for application packets, you may inquire at the University of New Mexico–Gallup with the Extended University Office, (505) 863-7618.

The University of New Mexico–Los Alamos

Dr. Cedric Page, Director
4000 University Drive
Los Alamos, NM 87544
(505) 662-5919

The University of New Mexico–Los Alamos provides quality education through a variety of programs with over 40 areas of study, 19 associate degree programs and 15 certificate programs. The University of New Mexico–Los Alamos has an open admission policy that permits entry to all interested students. Advisors at the University of New Mexico–Los Alamos work closely with students who want to obtain an associate degree, a certificate and/or transfer to any four-year institution. Many of our graduates transfer to the University of New Mexico in Albuquerque.

The college offers small class sizes with an average of 15 students and some of the lowest tuition rates in northern New Mexico. The campus is located on a beautiful mesa near the Jemez Mountains, richly vegetated with trees and other native plants. The University of New Mexico–Los Alamos's strong points include several computer labs, art studios, a photo lab, a library offering both traditional and electronic resources, changing art exhibits and an ongoing music concert series. Other convenient amenities include the University of New Mexico–LA Café and off-campus student housing. Student housing offers affordable dormitories located in convenient downtown Los Alamos.

The University of New Mexico–Los Alamos has strong ties to the Los Alamos community, and the proximity of the campus to Los Alamos National Laboratory provides educational and professional opportunities to the University of New Mexico–Los Alamos students. Many of our talented faculty work in the community or at the Laboratory.

A variety of specialized programs complement academic studies at the University of New Mexico–Los Alamos. Some of these programs include:

New Beginnings—designed to help students making major life transitions: single parents, pregnant teens, someone in the workforce needing to upgrade skills or a person in the midst of some other major life change.

Cooperative Education Program (COOP)—allows students to earn credit through work-related experiences. Students may work for local employers to obtain college credit. Many COOP students work at Los Alamos National Laboratory.

Alliance for Minority Participation (AMP)—promotes science studies among minority groups. It provides scholarships and networking opportunities for students who major or plan to major in science, math, engineering or technology.

Electro-Mechanical Technology Program—is co-sponsored by the University of New Mexico–Los Alamos and the Los Alamos National Laboratory. Participating students are assigned to work under the guidance of Laboratory technical staff or senior technicians. A portion of the student's workday is spent at the University of New Mexico–Los Alamos attending academic courses specially designed for and relating to their position. At the end of two years, students complete a certificate in Electro-Mechanical Technology. Continued employment at the Laboratory is possible depending upon position availability and funding.

The University of New Mexico–Los Alamos also has many programs that serve the community, which include:

Community Education—offers non-credit courses for educational enrichment, professional development and recreation.

Often the courses are short-term and some are even one or two full-days. Besides fun courses like cooking, yoga and language studies, Community Education has specialized programs. One such specialized program is a Customized Training Program which works with area businesses to design low-cost, specialized training to meet employers' needs and fit work schedules.

Adult Learning Center—provides basic educational services to adults with skills below 12.9 (12th grade, ninth month) ability as determined by standardized tests of adult skills. Classes and individualized instruction include reading, writing, math and English as a Second Language. Content areas include preparation for the GED and U.S. Naturalization examinations as well as for college preparation. Individual tutoring is available for literacy training. Preparatory instruction for the Spanish GED is also offered, as is preparation for the TOEFL test. Books, materials and individualized tutoring are free of charge.

In a continuation of our efforts to serve the diverse populations of northern New Mexico, the University of New Mexico–Los Alamos off-site locations continue to offer Adult Basic Education and more and varied credit courses. Off-site locations include Bernalillo, Cuba, Gallina, Jemez Springs, San Felipe Pueblo, Sandia Pueblo and Jemez Pueblo.

For more information about the University of New Mexico–Los Alamos, call Student Services at (505) 662-0332 or 1-800-894-5919, ext. 332 or go online to <http://www.la.unm.edu>.

The University of New Mexico–Taos

Catherine M. "Kate" O'Neill, Executive Director
115 Civic Plaza Drive
Taos, New Mexico 87571
(575) 737-6204

The University of New Mexico–Taos became a branch campus on July 1, 2003. The Center operates a two-year post secondary academic and career-technical program.

The University of New Mexico–Taos Campus seeks to deliver comprehensive community education. Consistent with this philosophy, it is the goal of the college to provide within available resources, programs and services of superior quality to meet the post-secondary education needs of all citizens of the community.

Academic Transfer Program. The University of New Mexico–Taos is authorized to offer any 100 or 200 level course from *The University of New Mexico Catalog* (Main Campus) for which an appropriate instructor and facility can be obtained. The University of New Mexico–Taos also offers non-transfer courses that respond to the needs of students and the community.

Associate Degrees. Associate degrees are currently awarded in Administrative Assistant, Construction Technology, General Studies, Visual Arts, Fine Arts, Communication & Journalism, Early Childhood Multicultural Education, Human Services, Liberal Arts, Pre-Business Administration, Southwest Studies, Criminal Justice, Behavioral Sciences, Nursing, and Pre-Sciences.

Certificate Program. Certificate programs are currently offered in Administrative Assistant, Applied Arts & Crafts, Business Computers, Construction Technology, Carpentry, Digital Graphic Design, Early Childhood Multicultural Education, Holistic Health & Healing Arts, Human Services, Internet Technology, Multimedia, Painting & Drawing, Paralegal Studies, Peace Studies, Publishing Technology, Southwest Arts, Theatre, Woodworking, Writing for Publications, Dental Assisting and Culinary Arts.

College Readiness Program. The College Readiness Program is designed to serve students by helping to strengthen their academic competencies as well as to insure their successful transition into college-level degree programs. This program offers course placement evaluation for

students, introductory studies and tutoring to help students enter college at the most appropriate level and succeed once they get there.

Special classes in English as a Second Language (ESL), Adult Basic Education (ABE) and General Equivalency Diploma (GED) preparation are offered through the campus' Adult Basic Education Center.

Continuing Education. The University of New Mexico-Taos offers non-credit, short-term courses for educational and personal enrichment, as well as workplace development training for area businesses.

Information. For more information about the University of New Mexico-Taos and its programs, contact the University of New Mexico-Taos at 1157 County Road 110, Ranchos de Taos, New Mexico 87557, (575) 737-6200, or <http://taos.unm.edu>.

The University of New Mexico–Valencia

Dr. Alice V. Letteney, Executive Director
280 La Entrada
Los Lunas, NM 87031
(505) 925-8500

The University of New Mexico–Valencia Campus offers high quality daytime and evening instruction in academic, technical and continuing education programs. As a comprehensive community college, the University of New Mexico–Valencia offers its students superior teaching with small class size, low-cost tuition and fees, an enviable small college atmosphere, free parking and safe grounds and student-centered support services—which include a wellness and fitness center. Located near historic Tome Hill in Valencia County, the campus is conveniently close to Albuquerque but still nestled in the countryside. The 150-acre campus is a beautiful and impressive campus designed to reflect the beauty of the Rio Grande Valley.

The University of New Mexico–Valencia boasts the best transfer rate of any University of New Mexico branch to the University of New Mexico–Albuquerque. The five Associate of Arts and the three Associate of Science degrees offered at the University of New Mexico–Valencia transfer into similar baccalaureate degrees at the University of New Mexico–Albuquerque. Students are able to complete their first two years of course work (freshman and sophomore years) at the University of New Mexico–Valencia, receive their Associate's degree and then transfer to the University of New Mexico–Albuquerque or other institutions.

Students can also take advantage of the University of New Mexico–Valencia's cutting-edge Information Technology, Digital Media Arts, and Computer-Aided Drafting programs offered through the Business and Technology Division. Currently, six different Associate of Applied Science degrees are offered in a variety of technical and career areas.

Support for students in need of some developmental course work is available at the University of New Mexico–Valencia. These courses prepare students for degree credit course work with classes limited in size to assure proper student/teacher ratios. Courses include lab work that reinforces concepts taught in class. In addition, most students taking two or more developmental studies courses, will participate in a learning community, and will receive additional advising and tutorial assistance, all aimed at improving their chances for success in college-level course work. The Learning Center, a tutorial center, provides individualized tutorial instruction at no cost to the student. The Trio/Student Support Services Program at the University of New Mexico–Valencia Campus provides eligible students with a variety of free services including academic advising, career counseling, tutoring and personal support services to enable them to persist and succeed in completing a Certificate, Associate Degree or transfer course work to a four-year institution.

Special classes in English as a Second Language (ESL), Adult Basic Education (ABE) and General Equivalency Diploma (GED) preparation are offered through the campus' Adult Basic Education Center. A Special Needs Program provides a wide range of human, instructional and physical resources to students with disabilities.

The Community Education program offers dual credit courses to ARCA high school students and cultural programs to people of all ages in Valencia County.

The University of New Mexico–Valencia Campus provides customized workforce training to area business and industry. The campus' Small Business Development Center (SBDC) provides specialized training and support to local, small business owners.

For more information about the University of New Mexico–Valencia, students are urged to obtain the campus' catalog. A visit to the Student Services Center on campus will treat you to a personal tour and individual advisement session. Call (505) 925-8560 for a catalog or a personal appointment.



EVENING AND WEEKEND PROGRAMS

Wynn Goering, Vice Provost Academic Affairs
Dane Smith Hall, Room 220
MSC07 4225
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-0896

In 1987 the University of New Mexico created this program to schedule more evening and weekend courses leading to regular academic degrees. Call for additional information about non-traditional degree programs for those who cannot enroll in traditional, daytime programs. The evening programs currently offered lead to 40 complete academic degrees minors or formal concentrations. Nearly 12,000 students take some of the 1,000 courses offered at night or on Saturdays each semester. More than half of all graduate-level courses are now offered at night to accommodate working students.

The following Evening degree Majors/Minors/Concentrations are available from 2009 to 2012:

ANDERSON SCHOOLS OF MANAGEMENT Contact College Advisor at 277-3888

Bachelor of Business Administration

COLLEGE OF ARTS AND SCIENCES Contact College Advisor at 277-4621

Bachelor Degrees in the following:

- a) American Studies* - Major
- b) Communication & Journalism: Communication* – Major
- c) History - Major
- d) Political Science - Major
- e) Psychology - Major
- f) Religious Studies* - Major
- g) Spanish – Major
- h) A variety of college unit requirements in Science, Math, Social Science and Humanities

*Note– These majors will require a daytime commitment for one course and/or an online course.

Minors in Arts and Sciences:

- a) American Studies
- b) Chemistry
- c) English
- d) History

- e) Political Science
- f) Psychology
- g) Religious Studies
- h) Spanish
- i) Economics
- j) Sociology
- k) Communication and Journalism

COLLEGE OF EDUCATION

Contact College Advisor at 277-3190

College of Education degree, certificate and licensure program:

- Bachelor Degree tracks in the following:
 - a) Technology and Training
 - b) Elementary Education
 - c) Special Education/Elementary Education Dual Licensure
 - d) Secondary Education
 - 1) Math or Science Education
 - 2) Modern Language
 - 3) Bilingual Education or TESOL
 - 4) Communicative Arts Education
 - 5) Social Studies Education
 - e) Art Education
 - f) Nutrition
 - g) Early Childhood Multicultural Education

M.A. with Licensure & PBA Licensure Programs:

- a) Elementary Education*
- b) Physical Education*
- c) Secondary Education*
- d) Art Education*
- e) Health Education*

Master's Degree in the following:

- a) Educational Leadership (Administration)**
- b) Organizational Learning and Instructional Technologies – OLIT
- c) Special Education** (can also include licensure):
 - 1) Mental Retardation & Severe Disabilities**
 - 2) Learning and Behavioral Exceptionalities**
- d) Elem. Education with concentration in Math, Science and Education Tech.
- e) Secondary Education
- r) Art Education
- g) Language, Literacy, & Sociocultural Studies (Concentrations in):
 - 1) American Indian Education
 - 2) Bilingual Education
 - 3) TESOL
 - 4) Educational Thought & Sociocultural Studies
 - 5) Social Studies
- h) Counselor Education
- i) Elem. Edu. with concentration in Early Childhood Multicultural Education
- j) Educational Psychology

Ph.D./Ed.D. (**Full Degree): Educational Leadership**, Language Literacy Sociocultural Studies, Educational Linguistics, Organizational Learning and Instructional Technology (OLIT)**, Special Education**, Multicultural Teacher and Childhood Education (Math, Science Education), *Counselor Education, Educational Psychology**.

Complete Ed.S. Certificate +: Educational Leadership (can also include administrative licensure), Organizational Learning and Instructional Technology (OLIT), Special Education, Curriculum and Instruction (Elementary and Secondary Education).

***NOTE:** The professional sequence in each of these fields requires a daytime commitment, beyond the courses available at night. Contact advisors when applying for certificate programs to learn of program options.

****NOTE:** Full Degree

COLLEGE OF FINE ARTS

Contact College Advisor at 277-4817

Bachelor of Fine Arts:

- a) Media Arts – Major and minor (courses open to non – majors)
- b) A variety of college requirements in Media Arts, Art Studio, Art History, Theatre, Dance & Music

SCHOOL OF ARCHITECTURE & PLANNING

Contact College Advisor at 277-4847

Master's Degrees:

- a) Master of Architecture – core courses and select electives
- b) Master of Community and Regional Planning – some core courses available
- c) Certificate Program in Regionalism & Historic Preservation available
- d) Certificate Program in Town Design
- e) Master of Landscape Architecture – some core courses and select electives

SCHOOL OF PUBLIC ADMINISTRATION

Contact College Advisor at 277-1092

Master of Public Administration

- a) Human Resources Management Concentration
- b) Public Management Concentration

UNIVERSITY STUDIES

Contact College Advisor at 277-2631

Bachelor of University Studies (interdisciplinary, custom-tailored undergraduate degree)

EVENING ITV COURSES AVAILABLE

Summary

Students should check carefully on the availability of majors, minors and concentrations if they plan to take longer than several years to complete a degree at night. The University of New Mexico is rotating opportunities among majors. Each announced major or minor will ordinarily be available for three years. These may either be repeated or replaced by other majors/minors, depending upon student demand. Planning is very important for evening and weekend students. Consult your college advisors regarding Group Requirements and departmental advisors regarding major and minor requirements.

If you have general questions, concerns or requests for Evening/Saturday classes, you may also contact the Office of Evening and Weekend Degree Programs, Dane Smith Hall, Room 220. This office acts as an advocate for Evening/Saturday students who need specific courses scheduled to meet their needs. You may phone (505) 277-0896 between 8:00 a.m. and 5:30 p.m., Monday through Friday.

KEY TO SYMBOLS USED IN COURSE DESCRIPTIONS

Courses are numbered from 001 through 799. Courses from 001 to 099 may or may not carry credit but are not applicable toward a baccalaureate degree. The number 100 is reserved for courses designed to develop university skills for students whose preparation has been inadequate in the fields of English, mathematics, and reading comprehension. The courses numbered from 101–199, lower-division, are normally open to freshmen; from 200 to 299, lower-division, normally open to sophomores; from 300 to 499, upper-division, normally open to juniors, seniors, fifth-year undergraduates, and graduates; 500 to 799, graduate and professional, normally open to students enrolled in a graduate program only, the School of Law, or the School of Medicine.

Symbols used in course descriptions:

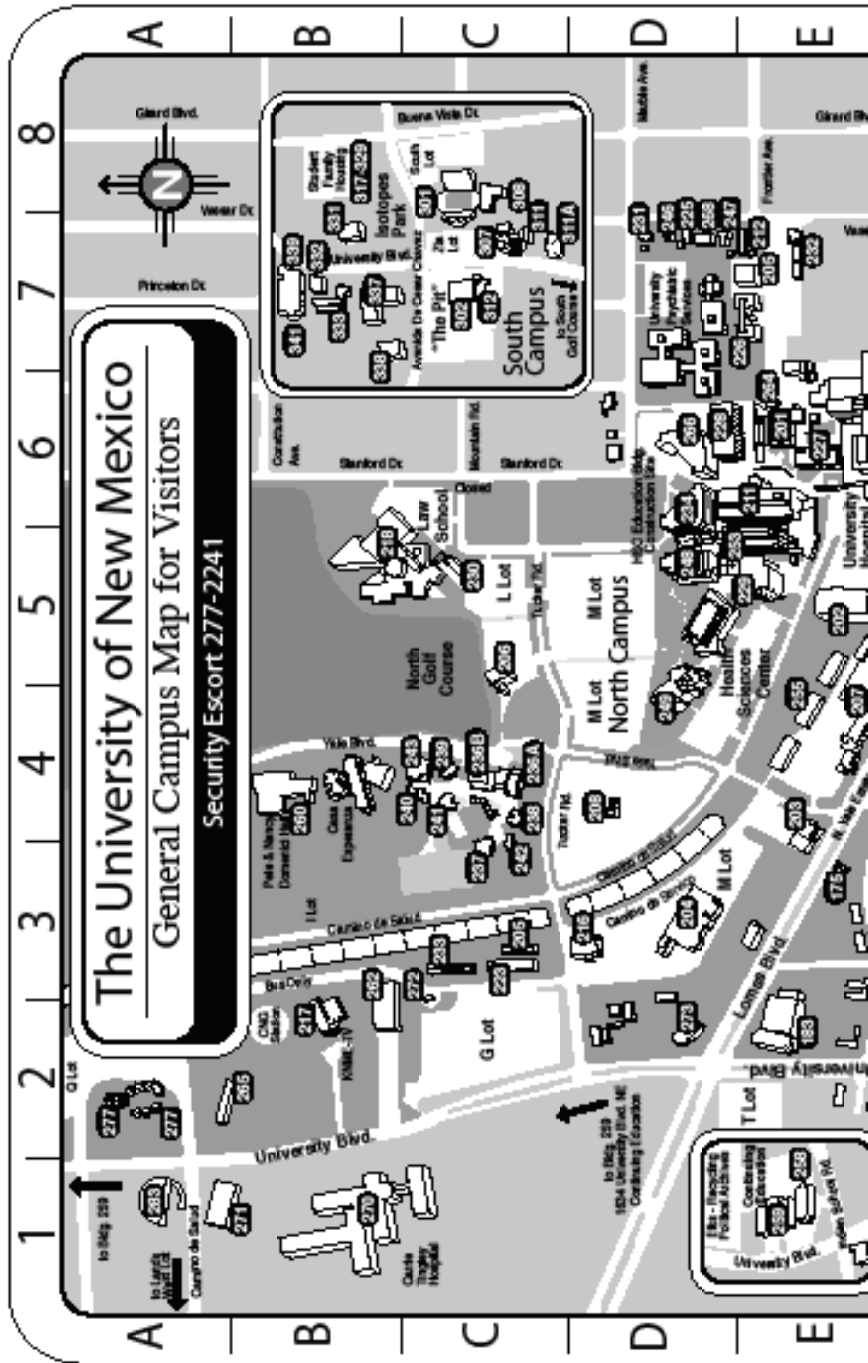
- * Course allowed for graduate credit to students enrolled in a graduate program. Normally, a graduate student enrolled in a starred course numbered below 500 is required to do extra work.
- ** Available for graduate credit except for graduate majors in the department.
- Δ May be repeated for credit because subject matter varies.
- L Part of the course is laboratory work; hours of lecture and laboratory are given at end of description.
- () Semester hours' credit; credit-hours separated by a hyphen (1-3) indicates variable credit in the course.
- [] Former course number or title.
- { } Session in which course is expected to be offered. Session indicated for the year courses (such as 301-302) refers to both semesters unless otherwise stated. Courses such as 551, 552, 599, 699 will be offered every session; no indication will be given unless it differs. Session offered for other courses not indicating this information must be obtained from department chairperson.

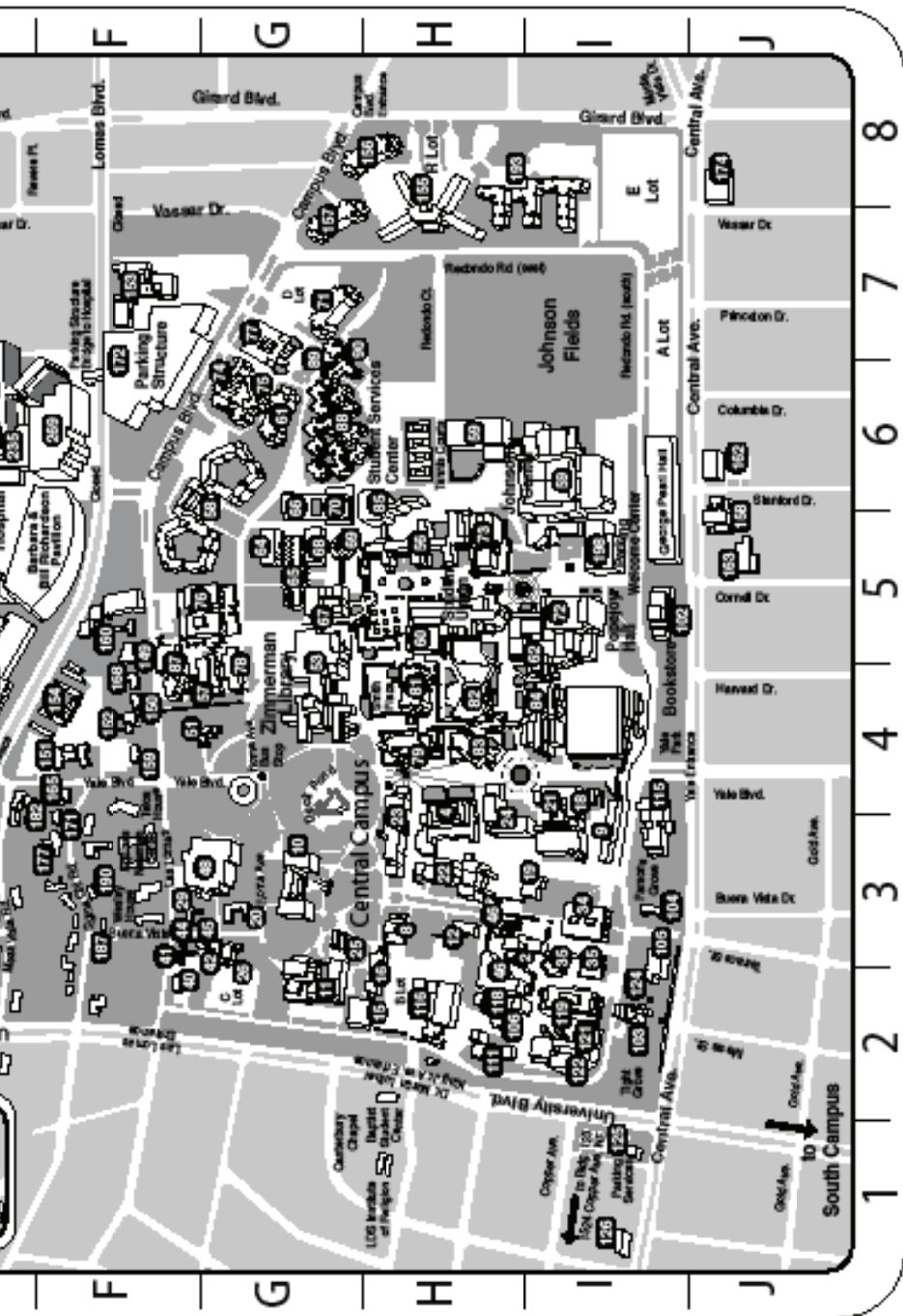
When a prerequisite course number is not preceded by a department designation, reference is to the department under which the prerequisite statement appears.

Course numbers appearing side-by-side (i.e., 300./500. or 500./300.) indicate there is also an undergraduate- or graduate-level offering of the course listed.

A schedule of course offerings, including hours of meeting, is issued at the opening of each session. **The University reserves the right to cancel, or substitute instructors.**







THE UNIVERSITY OF NEW MEXICO

Alphabetical List of Campus Buildings

Note: Some buildings may be listed here under several names or have more than one function. Building numbers are shown in boldface, but not all numbered buildings appear in this list. Co-ordinates given are for where major bulk of building lies; in cases where the structure lies equally in different grid sections both are indicated (example: *Parking Structure (172)...F-6-7*).

Administration Building (Scholes Hall) (10)	G-3	Domenici Hall (260)	B-4
Admissions (85)	H-6	Earth & Planetary Sciences (Northrop Hall) (24)	H-4
Aerospace Studies (159)	F-4	Economics (57)	G-4
African American Studies (56)	H-5	Education Administration (Travelstead Hall) (65)	G-5
Alvarado Hall (157)	G-7	Education Classrooms (67)	G-5
Alumni Memorial Chapel (25)	G-3	Education Offices (58, 70)	G-5
Alumni (103)	I-2	Electrical and Computer Engineering/ Centennial Library (46)	H-2
Ambulatory Care Center (269)	F-6	Engineering and Science Computer Pod (2)	H-2
Anderson School of Management (76)	F-G-5	Equal Opportunity Programs (42)	G-4
Anderson, Graduate School of Management and Parish Memorial Library (87)	F-4-5	Extended University 1800 Sigma Chi NE (187)	F-2
Anthropology (11)	G-2	Facility Planning (203)	E-4
Anthropology Annex (12)	H-3	Faculty Club (160)	F-5
Archeology (Office of Contract Archeology) (273)	D-2	Family Health: University Clinic and Pharmacy (271)	A-1
Architecture and Planning (158)	J-5-6	Family Practice Center (248)	D-5
Architecture and Planning Annex (162)	J-6	Farris Engineering Center (119)	I-2
Army ROTC (175)	E-3	Fine Arts Center (Music, Drama & Museum) (62)	H-5
Art (84)	I-4	Fine Arts Library (62)	H-5
Art Annex (105)	I-2-3	Ford Utilities Center (116)	H-2
Art Museum (72)	H-5	Health, Physical Education and Recreation (Johnson Center) (59)	H-6
Art Education (Masley Hall) (68)	G-5	Health Sciences and Services (266)	D-6
Art and Technology Center (83)	F-5	Health Sciences Learning Resource Center (See Medical Center Library) (234)	D-6
Arts of the Americas (40)	F-2	Hibben Center for Archeology Research (15)	G-2
Athletics Offices (307)	Inset C-7	Hodgkin Hall (103)	I-2
Automotive (216)	D-3	Hokona Hall Zia Wing- Residences, Zuni Wing Offices (58)	G-5
Bandelier Hall East (8)	H-2	Human Resources (Administration) (26)	G-2
Bandelier Hall West (16)	H-1-2	Human Resources Service Center (Employment and Benefits) (183)	E-2
Barbara and Bill Richardson Pavillion (under constructions) (224)	F-5	Humanities (81)	H-4
Basic Medical Sciences (211)	E-6	Indoor Tennis Dome (311A)	Inset C-7
Basketball Training Facility (312)	Inset C-7	Johnson Center (59)	H-6
Biology (Casetter Hall) (21)	I-3-4	Jonson Gallery (152)	F-4
Biology Annex (19)	I-3	Kiva Lecture Hall (69)	G-5
Biomedical Research (253)	E-5	KNME-TV (217, 265)	B-2
Bookstore (102)	I-5	Laguna Hall (74)	G-6
Bratton Hall (Law School) (218)	B-C-5	La Posada Dining Hall (77)	G-6
Bureau of Business and Economic Research Data Bank (168)	F-4	Latin American Institute (165, 182)	F-4
Campus Safety (Occupational Safety) (233)	C-3	Law School/ Law Library (Bratton Hall) (218)	B-C-5
Cancer Research and Treatment Center (227, 229)	E-5	Logan Hall (Psychology) (34)	I-3
Carlisle Gymnasium (4)	H-4	Lomas Parking Structure (172)	F-6-7
Carrie Tingley Hospital (270)	B-1	Manufacturing Technology & Training Center (341)	Inset B-7
Casetter Hall (Biology) (21)	I-4	Manzanita Hall (70)	G-6
Centennial Science and Engineering Library (46)	H-3	Marron Hall (9)	I-3
Center for High Tech Materials (CHTM) (338)	Inset B-7	Masley Hall (Art Education) (68)	G-5
Center for the Arts, Fine Arts Library, Art Museum (62)	H-5	Mattox Sculpture Center (123)	I-1
CERIA (Center for Environmental Research, Informatics, and Art) (83)	H-4	Maxwell Museum (in Anthropology) (11)	G-2
Chemical & Nuclear Engineering Laboratory (111)	H-2	Mechanical Engineering (122)	I-2
Chemistry (Clark Hall) (22)	H-3	Media Technology Services (in Woodward Hall) (82)	H-4
Children's Campus and Manzanita Education Center (277)	A-2	Medical Center Library (234)	D-6
Children's Psychiatric Center (236-243)	C-3-4	Mesa Vista Hall (56)	H-5
Civil Engineering (Tapy Hall) (118)	H-2	Meteoritics (Northrop Hall) (24)	H-4
Civil Engineering Research Laboratory (106)	H-2	MIND Institute (Mental Illness and Neuroscience Discovery) (260)	B-4
Clark Hall (Chemistry) (22)	H-3	Mitchell Hall (Classrooms) (23)	H-3
Communications (Journalism) (115)	I-4	Native American Studies (56)	H-5
Computer and Information Resources and Technology (CIRT) (153)	F-7	Naval Science (151)	F-4
Continuing Education (North Bldg.) (259)	Inset D-1	New Mexico Children's Psychiatric Center (236-243)	C-3-4
Continuing Education (South Bldg.) (285)	Inset D-1	Northrop Hall (Geology) (24)	H-4
Coronado Hall (155)	H-8	Novitski Hall (Dental Programs) (249)	D-5
Counseling & Family Studies (Simpson Hall) (66)	G-6	Nuclear Engineering Laboratory (121)	I-2
Crystal Growth Facility (331)	Inset B-7	Nursing/Pharmacy (228)	D-6
Dane Smith Hall (48)	F-3	Observatory (208)	D-4
DeVargas Hall (75)	G-6	Ocate Hall (156)	G-H-8
Dental Programs (Novitski Hall) (249)	D-5	Ortega Hall (79)	H-4
Diabetes Control and Complications (264)	E-6	Outpatient Surgery and Imaging (OSIS) (283)	A-1
Dispute Resolution (44)	F-3		
Division of Government Research (154)	F-4		

Parish Library (87)	F-4	Speech and Hearing (183A)	E-7
Payroll (20a)	G-3	Stadium (Football, Track and Field Facilities) (301)	Inset, C-8
Pharmacy (Nursing/Pharmacy) (228)	D-6	Student Family Housing (317-329)	Inset, B-8
Physical Plant Dept. (Service Building) (204)	D-3	Student Health Center (73)	H-5
Physician Assistant Program (226)	E-7	Student Residence Center and Commons Building (88, 89 and 90)	G-6
Physics (Regener Hall) (35)	I-3	Student Support and Services Center (337)	Inset, B-7
Physics & Astronomy (207)	E-4-5	SUB Student Union Building (60)	H-5
"The Pit" (University Basketball Arena) (302)	Inset, C-7	Surge Building (226)	E-7
Police Administration (58)	F-35-6	Surplus Property (262)	B-2
Popejoy Hall (72)	I-5	Swimming Pools (See Johnson Center) (59)	H-6
Postal Services (262)	B-2	Tamarind Institute (163)	J-5
President's Home (University House) (51)	G-4	Tapy Hall (Civil Engineering) (118)	H-2
Project Link Service Center (20)	G-3	Technology and Education Center (64)	E-4
Psychology (Logan Hall) (34)	I-3	Telecommunications (255)	E-4
Psychology Clinic (44)	F-3	Testing Center (Woodward) (82)	H-4
Public Affairs (103)	G-3	Tow Diehm Athletic Facility (308)	Inset, C-8
Purchasing (Onate Hall) (156)	G-H-8	Travelstead Hall (Educational Administration) (65)	G-5
Real Estate (41)	D-3	University Arena (Basketball Arena, "The Pit") (302)	Inset, C-7
Records Management (262)	B-2	University College (73)	H-5
Recruitment Services (60)	H-5	University House (President's Residence) (51)	G-4
Redondo Village Apartments (193)	H-7	University of New Mexico Hospitals (235)	E-6
Regener Hall (Physics) (35)	I-3	University Psychiatric Services (212, 225, 231, 246, 247, 268)	D-6-7
Research Incubator Building (RIB) (205)	E-7	UNM/SNL Advanced Materials Laboratory at Science and Technology Park (337)	Inset, B-7
Rotunda at Science and Technology Park 801 University Blvd. SE (339)	Inset, B-7	Visitor Parking Structure and Welcome Center (198)	I-5
Safety, Health and Environment Affairs (SHEA) (205, 223, 233)	C-3	Welcome Center/Strategic Communications and Marketing (198)	I-5
Santa Ana Hall (71)	G-7	Woodward Hall (Classrooms and Media Technology Services) (82)	H-4
Santa Clara Hall (61)	G-6	Zimmerman Library (53)	G-5
Sara Reynolds Hall (Classroom Building) (104)	I-3		
Scholes Hall (Administration Building) (10)	G-3		
Science and Technology at UNM (332)	Inset, B-7		
Simpson Hall (Counseling and Family Studies) (66)	G-6		
Social Sciences (78)	G-4		
Southwest Hispanic Research Institute and Chicano Studies (171)	F-3		
Special Programs (149)	F-4		



INDEX

A

absence(s), 53
 academic
 calendar, 6-7
 regulations, 29, 69
 academic renewal, policy on, 44
 accreditation, 11. See also specific school, college,
 department or division.
 ACT, American College Test (ACT). See *examination(s)*.
 administration, 8
 admissions, 17. See also specific school, college,
 department or division.
 admission, 17
 beginning freshmen, 17
 admission requirements, 17
 other admission opportunities, 18
 transferring students, 19
 alternative credit options, 22
 readmitted students, 23
 admission categories, 24
 non-degree credit program, 25
 international students, 26
 admission processes and policies (graduate), 58
 admission process-international applicants (graduate), 60
 advanced placement, 22
 advisement, undergraduate, 30, 38 See also specific school,
 college, department or division.
 Aerospace Studies, courses, 634
 Africana Studies: programs, requirements,
 courses, 138
 Aging Studies, 618
 Air Force ROTC, 633
 American College Tests (ACT). See *examination(s)*.
 American Studies: programs, requirements, courses, 141
 Americans with Disabilities Compliance & Accommodations, 4
 Anderson, Robert O., Schools of Management: programs,
 requirements, courses, 89
 Anesthesiology, 530
 Anthropology: programs, requirements, courses, 146
 Anti-harassment policy, 4
 Applied Music, courses in, 504
 Applicability policy, 4
 Arabic, 204
 Archeology. See *Anthropology*.
 Architecture and Planning, School of, 109
 Architecture Program, 112
 Community and Regional Planning Program, 121
 Landscape Architecture, 128
 Army ROTC, 635
 Art and Art History: programs, requirements, courses, 467
 Art Education: programs, requirements, courses, 328
 Art History, courses, 477
 Art Studio, courses, 481
 Arts and Sciences, College of: programs and
 requirements, 133
 Africana Studies, 138
 American Studies, 141
 Anthropology, 146
 Art, 158
 Arts and Sciences, 158
 Arts and Sciences Cooperative Education Program, 159
 Biochemistry, 159
 Biology, 160
 Chemistry and Chemical Biology, 168
 Communication and Journalism, 172
 Earth and Planetary Sciences, 179
 Economics, 187
 Economics-Philosophy, 191
 English, 191
 English-Philosophy, 202
 Family Studies, 202
 Foreign Languages and Literatures, 208
 Arabic, 204
 Chinese, 205

 Classical Studies, 205
 Comparative Literatures and Cultural Studies, 206
 Foreign Languages (Modern Languages), 208
 Arts and Sciences, College of (cont.)
 French, 208
 German, 210
 Greek, 212
 Italian, 213
 Japanese, 213
 Latin, 214
 Russian, 214
 Geography, 215
 Health, Medicine and Human Values, 219
 History, 222
 International Studies, 236
 Asian Studies, 236
 European Studies, 236
 Russian Studies, 241
 Latin American Studies, 241
 Linguistics, 247
 Mathematics and Statistics, 254
 Medieval Studies, 266
 Peace Studies, 266
 Philosophy, 268
 Physics and Astronomy, 273
 Political Science, 280
 Psychology, 285
 Religious Studies, 293
 Science, Technology and Society Minor, 297
 Sociology, 297
 Spanish and Portuguese, 304
 Speech and Hearing Sciences, 311
 Sustainability Studies, 314
 Women Studies, 316
 Arts and Sciences Cooperative Education Program, 159
 Arts and Sciences, courses, 158
 Asian Studies, 236
 associate degrees, 31
 associate degree programs, 19
 Astronomy, 280
 Astrophysics, 280. See also *Physics and Astronomy*.
 Athletic Coaching, minor in, 373
 Athletic Training: programs and requirements, 373
 attendance, 45
 audit, 40

B

B.A./M.D. Program, 219
 baccalaureate (bachelor's) degree requirements. See
 specific school, college, department or division.
 bachelor degrees, 30
 Bachelor of University Studies (B.U.S.), 616
 beginning freshmen, admission, 17
 Biochemistry: programs, requirements, courses, 159
 Biochemistry and Molecular Biology, 531
 Biology: programs, requirements, courses, 160
 Biomedical Sciences, programs, requirements, courses, 531
 Branch Campuses, 648
 Gallup, 648
 Los Alamos, 650
 Taos, 650
 Valencia, 651
 Branch Directors, 648
 Bureau of Business and Economic Research (BBER), 15
 Bursar's Office, tuition, fees, payment, etc., 45, 47

C

calendar, academic, 6-7
 campus(es). See *Branch Campuses*.
 Career Services, 52
 catalog, about this, 4
 catalog requirements, undergraduate, 29
 Cell Biology and Physiology, 543
 Centennial Science and Engineering Library, 14

Center for Academic Program Support (CAPS), 56
 Center for Advanced Research Computing (CARC), 16
 Center for Advanced Studies, the 15
 Center for the Arts, 12
 Popejoy Hall, 12
 Keller Recital Hall, 12
 Rodey Theatre, 12
 Theatre X, 12
 Center for High Technology Materials (CHTM), the, 15
 Center for Micro-Engineered Materials (CMEM), the, 15
 Center for Southwest Research, 13
 certificate(s) (certification). See also *license and endorsement*.
 enrollment, 40
 programs listed, 3
 change(s) (change of, change in),
 degree level or program (graduate), 60
 enrollment, 40
 name, 37
 grade, 44, 73
 grading option, 40
 Chemical and Nuclear Engineering: programs,
 requirements, courses, 409
 Chemistry and Chemical Biology: programs, requirements,
 courses, 168
 Chicano Hispano Mexicano Studies, 618
 Chinese, 205
 Cinematic Arts: programs, requirements, courses, 485
 Civil Engineering: programs, requirements, courses, 424
 Classical Studies, 205
 classroom conduct, 45
 CLEP, 23
 Clinical Science, 530
 collection agencies, 49
 College Enrichment and Outreach programs, 55
 College Entrance Examination Board (CEEB), Advanced
 Placement Program, 22
 commencement, 31
 Communication & Journalism: programs, requirements,
 courses, 172
 Community and Regional Planning: programs, requirements,
 courses, 121
 Comparative Literature and Cultural Studies, 206
 computer facilities, 13
 Computer Engineering, 441
 Computer Science: programs, requirements, courses, 433
 concurrent enrollment, 23
 confidentiality of records, 35
 Conservation Biology, concentration in, 161
 Construction Engineering (Civil Engr), 425
 Construction Management (Civil Engr), 426
 Continuing Education, Division of, 645
 Conference Center, 648
 Programs, 648
 continuing education units (CEUs), 648
 cooperative education
 Arts and Sciences, program in, 158
 Chemical Engineering, 415
 Civil Engineering, 427
 Electrical and Computer Engineering, 445
 Engineering, program and requirements, 461
 Engineering, courses in, 461
 Mechanical Engineering, 454
 Nuclear Engineering, 415
 Core Curriculum, 29
 correspondence, directions for,
 the University of New Mexico, 4
 Counselor Education: programs, requirements, courses, 331
 course(s) (courses in). See specific school, college,
 department and division.
 adding, dropping, 40
 audit, 40
 introductory studies, 19, 620
 load guidelines, 39
 numbering system, 41
 prerequisites. See specific school, college, department,
 and divisional requirements. 39
 repetition of, 43

Creative Writing (English) concentration, 193
 credit(s)
 alternative options, 22
 college level examination program, 23
 credit/no credit (CR/NC) courses, 41
 Engineering, credit hour (load) restrictions, 394
 evaluation of, 20
 graduate credit, 71
 military, 22
 technical credit, 22
 training, 22
 transfer of, 20. See also specific school, college,
 department or division requirements.
 Criminology, 299

D

Dance, courses, 519
 dates and deadlines, 5. See also specific school, college,
 department or division.
 Dean of Students Office, 53
 deans, officers and administrators of the University, 8
 degree programs listed, 2-3
 Dental Hygiene, Division of: programs, requirements,
 courses, 552
 Departmental Honors Program. See specific school, college,
 department or divisions.
 Dermatology, 543
 Design Planning Assistance Center (DPAC), 15, 110
 Diagnostic and Therapeutic Sciences, 552
 Dental Hygiene, 552
 Emergency Medicine, 556
 Health Sciences, courses in, 579
 Medical Laboratory Sciences, 559
 Nuclear Medicine Imaging Certificate Program, 576
 Occupational Therapy, 556
 Physical Therapy, 566
 Physician Assistant Studies Program, 571
 Radiologic Sciences, 575
 Dietetics. See Nutrition and Dietetics.
 dishonesty in academic matters, 46
 dismissal, 46. See also specific school, college, department
 or division.
 distributed minor, 135. See also specific school, college,
 department or division.
 Division of Government Research (DGR), 15
 Doctoral Degrees, 3
 Drug Free Campus, policy on, 54
 dual degree, 65. See also specific schools, colleges,
 departments and divisions.

E

early admission, 18
 Early Childhood Multicultural Education: programs,
 requirements, courses, 334
 Earth and Planetary Sciences: programs, requirements,
 courses, 179
 Earth Data Analysis Center (EDAC), 16
 Earth Science Education, concentration in, 396
 Economics: programs, requirements, courses, 187
 Economics-Philosophy, 191
 Education, College of, programs and requirements, 321
 Art Education, 328
 Counselor Education, 331
 Early Childhood Multicultural Education, 334
 Educational Leadership, 337
 Educational Linguistics, 342
 Educational Media/Library Science, 342
 Educational Psychology, 343
 Elementary Education, 392
 Family Studies, 346
 Health Education, 352
 Language, Literacy and Sociocultural Studies, 356
 Mathematics, Science, Environmental and Technology
 Education, 399
 Education, College of (cont.)
 Nutrition and Dietetics, 363
 Organizational Learning and Instructional Technology, 366
 Professional Physical Education, 371

- Professional Physical Education Courses, 379
 - Non-Professional Physical Education Courses, 383
 - Secondary Education, 395
 - Special Education, 385
 - Teacher Education, 392
 - Educational Leadership: programs, requirements, courses, 337
 - Educational Linguistics: program, 342
 - Educational Media/Library Science: programs, requirements, courses, 342
 - Educational Psychology: programs, requirements, courses, 343
 - Electrical and Computer Engineering: programs, requirements, courses, 441
 - Elementary Education, programs and requirements, 392
 - Emergency Message Service, 54
 - Emergency Medical Services: programs, requirements, courses, 556
 - employment, student, 57
 - Engineering, courses for non-majors, 461
 - Engineering, School of, programs and requirements, 403
 - Chemical and Nuclear Engineering, 409
 - Civil Engineering, 424
 - Computer Science, 433
 - Electrical and Computer Engineering, 441
 - Manufacturing Engineering, 407
 - Mechanical Engineering, 453
 - Other Engineering Options, 461
 - English: programs, requirements, courses, 191
 - English as a Second Language (ESL), 193
 - English Language and American Culture (CELAC), see *Office of International Programs and Services*, 55
 - English-Philosophy: programs, requirements, courses, 202
 - enrollment
 - certification of, 40
 - changes in, 40
 - concurrent, 23
 - limit, 39
 - cancellation, 47
 - Environmental Planning & Design, bachelor of arts in, 121
 - Environmental Science, 186
 - Equal Educational Policy, 4
 - Equal Employment Policy, 4
 - Ethnic Programs, 55
 - Ethnology. See *Anthropology*.
 - European Studies, 236
 - Evening and Weekend Programs, 651
 - examination(s)
 - admission by, 18
 - American College Tests (ACT), 17
 - College Entrance Examinations, 17
 - Engineering, CLEP, AP, ACT, 405
 - to establish credit (challenge), 46
 - Master's, 78
 - regular, 46
 - Scholastic Aptitude Test (SAT), 17
 - Exercise Science: program, requirements, 375
 - Extended University, 646
 - extension and correspondence study, 32
- F**
- facilities
 - Center for the Arts, 12
 - Continuing Education Conference Center, 648
 - Information Technology Services (ITS), 12
 - Libraries, 13
 - Museums, 14
 - New Mexico Student Union, 15
 - Research Centers and Institutes, 15
 - Teaching Assistant Resource Center, 16
 - Tamarind Institute, 463
 - Welcome Center, 16
 - Family and Community Medicine, 544
 - Family Studies: 346, 202
 - Federal Student Loans, 51
 - fee(s), 47
 - collection agencies, 49
 - credit card payments, 47
 - enrollment cancellation for non-payment of, 47
 - graduate, and non-degree graduate students, 45
 - refunds of, 48
 - room and board, 50
 - service charge, delinquent accounts, 49
 - special course fees, 47
 - student association, 47
 - undergraduate and non-degree students, 45
 - financial aid, 49
 - academic progress, 50
 - employment, student, 51
 - graduate, 67
 - scholarships, 51
 - sources of, 51
 - Veterans Administration Educational Benefits, 52
 - Fellowships, 67
 - FERPA (Family Education Rights and Privacy Act), 35
 - Fine Arts, College of, programs and requirements, 463
 - Art and Art History, 467
 - Cinematic Arts, 485
 - Interdisciplinary Film and Digital Media, 466
 - Music, 488
 - Theatre and Dance, 509
 - Fine Arts, courses, 467
 - Fine Arts Library, 14
 - Foreign Languages (Modern Languages), 208
 - Foreign Languages and Literatures: programs, requirements, courses, 203
 - Arabic, 204
 - Chinese, 205
 - Classical Studies, 205
 - Comparative Literature and Cultural Studies, 206
 - Foreign Languages, (Modern Languages), courses in, 208
 - French, 208
 - German, 210
 - Greek, 212
 - Italian, 213
 - Japanese, 213
 - Latin, 214
 - Russian, 214
 - fraternities, see *organizations, honorary*, French, 208
 - Freshman Interest Groups, 619
 - Freshman Learning Communities, 619
- G**
- Gallup Branch Campus, 648
 - General Information, 9
 - Geography: programs, requirements, courses, 215
 - Geology Museum, 14
 - German, 210
 - German Summer School in Taos, 212
 - grade(s) (grading), 42
 - audit, 40
 - change of, 44
 - grade-point average, 43
 - graduate credit option, 40
 - incomplete, 43
 - pass/fail (CR/NC) option, 41
 - petition procedure, 44
 - replacement policy, 43
 - repetition of a course, 43
 - grade-point average, 43
 - Graduate and Professional Student Association (GPSA), 54
 - graduate credit option, 41
 - Graduate Program, 57
 - the Senate Graduate Committee (SGC), 57
 - graduate unit, 57
 - college and school graduate committees, 57
 - admission processes and policies, 58
 - application process—domestic applicants, 59
 - admission process—international applicants, 60
 - Graduate program (cont.)
 - admission decisions, 62
 - graduate/professional dual degrees, 62
 - regional and/or targeted programs, 66
 - financial assistance and support programs, 67
 - graduate research and scholarship stipulations, 69
 - general academic regulations, 69
 - graduate credit, 71

academic standing and grade requirements, 72
 academic probation and consequences, 73
 suspension, 73
 petitions to modify academic requirements, 74
 graduate student academic grievance procedures, 74
 graduate student recognition and awards, 75
 transcribed graduate certificates, 76
 Master's Degrees, general requirements, 77
 Master of Fine Arts degree, 80
 Doctoral Degrees (Ph.D. and Ed.D.), 83
 Graduate Programs. See specific school, college, department or division.
 graduation. See specific school, college, department or division.
 Graduation Requirements, undergraduate, 30
 grievance(s), 54, 74
 Greek, 212

H

health insurance, group, 45
 Health Education: programs, requirements, courses, 352
 Health, Medicine and Human Values, 219
 Health Sciences Center, University of New Mexico, 529
 Clinical Science courses, 530
 Anesthesiology, 530
 Biochemistry and Molecular Biology, 531
 Biomedical Sciences, 531
 Biomedical Sciences Courses, 534
 Master of Public Health Program and Courses, 537
 Cell Biology and Physiology, 543
 Dermatology, 543
 Family and Community Medicine, 544
 Medicine, 544
 Molecular Genetics and Microbiology, 546
 Neurological Surgery, 546
 Neurology, 546
 Neurosciences, 547
 Obstetrics and Gynecology, 547
 Orthopaedics and Rehabilitation, 548
 Pathology, 548
 Pediatrics, 549
 Psychiatry, 549
 Radiation Oncology, 550
 Radiology, 550
 Surgery, 551
 Diagnostic and Therapeutic Sciences, 552
 Dental Hygiene Program and Courses, 552
 Emergency Medicine Program and Courses, 556
 Health Sciences Courses, 579
 Medical Laboratory Sciences Program and Courses, 559
 Occupational Therapy Program and Courses, 556
 Physical Therapy Program and Courses, 566
 Physician Assistant Studies Program and Courses, 571
 Radiologic Sciences Program and Courses, 575
 Health Sciences courses, 579
 High Performance Computing Center (HPC), 16
 history and location of the University, 11
 History: programs, requirements, courses, 222
 honors work/graduation with honors, 32. See also specific school, college, department or division.
 honorary organizations, 54
 hour(s). See *credit(s)*.
 housing, policy on, 49
 student family, 50
 Human Development and Family Relations, 347
 Human Evolutionary Ecology. See *Anthropology*.
 Human Services Program. See *Family Studies*.

I

identification card. See *Lobo Card*.
 incomplete (I) grades, 43
 Information Technology Services (ITS), 12
 Institute for Applied Research Services (IARS), 16
 Institute for Astrophysics, 16
 Institute for Environmental Education, 16
 Institute for Space and Nuclear Power Studies (ISNPS), 16
 Institute of Meteoritics, 14
 insurance, group health, 45

Interdisciplinary Film and Digital Media, 466, 631
 Interdisciplinary Studies, graduate, 639
 Nanoscience and Microsystems, 639
 Optical Science and Engineering, 643
 Interdisciplinary Studies, undergraduate, 631
 Interdisciplinary Film and Digital Media, 631
 Military Studies, 633
 University Library, 631
 International Admissions, 27, 60
 International Programs and Studies, 55
 International Students,
 graduate application and admissions, 27, 60
 undergraduate application and admissions, 27
 International Studies, 236
 Asian Studies, programs and requirements, 236
 European Studies, programs and requirements, 236
 International Studies, programs and requirements, 237
 Russian Studies, programs and requirements, 241
 interpreting, signed language, 247, 253
 Introductory Studies Program, courses, 620
 Italian, 213

J

Japanese, 213
 Jonson Gallery, 14
 Journalism. See *Communication & Journalism*.

K

Keller Recital Hall, 12

L

Landscape Architecture: programs, requirements, courses, 128
 Language, Literacy and Sociocultural Studies: programs, requirements, courses, 356
 Latin American and Iberian Institute (LAI), 16
 Latin American Studies: programs, requirements, courses, 241
 Latin, 214
 Law, School of: programs, requirements, courses, 523
 Liberal Arts (English) concentration, 192
 libraries, 13
 Centennial Science and Engineering Library, 14
 Center for Southwest Research, 13
 Fine Arts, 14
 William J. Parish Memorial, 14
 Zimmerman, 13
 license (licensure, licensing). See specific school, college, department or division.
 Life Science Education, concentration in, 396
 Linguistic Anthropology. See *Anthropology*.
 Linguistics: programs, requirements, courses, 247
 lithography, Tamarind Institute, 463
 Living and Learning Communities, 619
 Lobo Card, 37
 Los Alamos branch campus, 650

M

majors listed, 2-3
 Management, Robert O. Anderson Schools of. See *Anderson, Robert O.*
 Manufacturing Engineering, 407
 map, campus, 654-655
 Marine Corps Option, 633
 Master's Degrees, 77. See also specific school, college, department or division.
 Master of Public Health, 537
 Mathematics and Statistics: programs, requirements, courses, 254
 Mathematics Concentration, 397
 Mathematics, Science, Environmental and Technology Education: programs, requirements, courses, 399
 Maxwell Museum of Anthropology, 14
 Mechanical Engineering: programs, requirements, courses, 453
 Medieval Studies, minor in, 266
 Medical College Admission Test, 529
 Medical Laboratory Sciences: programs, requirements, courses, 559

662 INDEX

- Medicine, 544
message, emergency, 54
military credits, 22
Military Studies, 633
 Aerospace Studies, courses in, 634
 Air Force Option, 633
 Air Force ROTC, 633
 Army Option, 633
 Army ROTC, 635
 Marine Corps Option, 633
 Military Science and Leadership, courses in, 636
 Navy Option, 633
 Naval ROTC, 637
 Naval Science, courses in, 638
Military Withdrawal, policy on, 41
minor. See specific school, college, department or division.
mission, characteristics, values and vision of the University, 9
Modern and Classical Languages. See *Foreign Languages and Literatures*.
Molecular Genetics and Microbiology, 546
Museum Studies, graduate minor of, 470
museums, 14
 Anthropology, Maxwell Museum of, 14
 Art Museum, The University, 14
 Biology, Southwestern Museum of, 14
 Geology, 14
 Jonson Gallery, 14
 Meteoritics, Institute of, 14
Music, programs, requirements, courses, 488
- N**
- Nanoscience and Microsystems: programs, requirements, 639
National Student Exchange Program, 33
Native American Studies: programs, requirements, courses, 621
Natural Science, courses, 186
Navajo, courses, 252
Naval ROTC, 637
Naval Sciences, courses in, 638
Neurological Surgery, 546
Neurology, 546
Neurosciences, 547
New Mexico Student Union, 15
New Mexico/WICHE, 32
non-degree credit program, 25
 application for, 25
 Continuing Education and Community Services, Division of, 645
 limitations on, 25
 Non-Discrimination Policy, 4
Non-Professional Physical Education courses, 383
Nuclear Engineering, 413
Nuclear Medicine Imaging: programs, requirements, courses, 576
Nursing, College of: programs, requirements, courses, 583
Nutrition and Dietetics: programs, requirements, courses, 363
- O**
- Obstetrics and Gynecology, 547
Occupational Therapy: programs, requirements, courses, 556
Office of Graduate Studies, 57
Optical Science and Engineering: programs, requirements, 643
Organizational Learning & Instructional Technology: programs, requirements, courses, 366
organizations
 student, 54
 honorary, 54
orientation, new students, 53
Orthopaedics and Rehabilitation, 548
- P**
- Parish, William J., Memorial Library, 14
pass/fail (CR/NC) (grade option), 41. See programs and requirements in specific school, college, department, or division.
Pathfinder. See *UNM Pathfinder*.
Pathology, 548
payment(s), 47
Peace Studies Certificate and Minor, 266
Pediatrics, 549
Period Studies Minor (English), 193
Pharmacy, College of: programs, requirements, courses, 599
Philosophy: programs, requirements, courses, 268
Physical Education: programs, requirements, courses, 371
 Athletic Coaching, minor in, 376
 professional, courses in, 379
 nonprofessional, courses in, 383
Physical Science Education, concentration in, 397
Physical Therapy: programs, requirements, courses, 566
Physician Assistant Studies Program: programs, requirements, courses, 571
Physics and Astronomy: programs, requirements, courses, 273
placement (placement in). See *programs and requirements* in specific school, college, department or division.
Political Science: programs, requirements, courses, 280
Popejoy Hall, 12
Portuguese. See *Spanish and Portuguese*, 304
Pre-Professional (English) Concentration, 192
Pre-Law (Philosophy) Concentration, 269
preparatory (pre-), programs offered
 pre-Dentistry, 137
 pre-Medicine, 137
 pre-professional, Arts and Sciences, 137
prerequisites. See *programs and requirements* under specific school, college, department and division.
probation and suspension, see specific schools, colleges, departments and divisions.
Professional Physical Education: programs, requirements, courses, 371
Professional Writing (English) concentration, 193
Professional Writing (English) minor, 193
program(s). See *programs and requirements* under specific school, college, department or division.
Psychiatry, 549
Psychology: programs, requirements, courses, 285
Public Administration, School of: programs, requirements, courses, 611
publications and services, 54
- R**
- Radiation Oncology, 550
Radiologic Sciences: programs, requirements, courses, 575
Radiology, 550
readmitted students, admissions, 23
Reasonable Accommodation, policy
 Americans with Disabilities Act, 4
Records and Registration, 35
Recreational Services, 55
refunds, tuition, 48
Regents of the University, 8
Regional Planning, School of. See *Architecture and Planning, School of*.
registration, 39. See also specific school, college, department or division.
Religious Studies: programs, requirements, courses, 293
repetition of course, 43
Research Centers and Institutes, 15
Reserve Officer Training Corps (ROTC), 633
residence halls, student, 49
residency, 37
Rights and Privacy Act, 35
Rodey Theatre, 12
room and board, 50
Russian (language), 214. See also *Foreign Languages and Literatures*.
Russian Studies, 241. See also *International Studies*.
- S**
- SAT. Scholastic Aptitude Test. See *examination(s)*.

Schedule of Classes, 39
 scholarships, 51
 scholastic regulations, 45
 Science, Technology, and Society Minor Program, 297
 second certificate/associate degree, 31
 second undergraduate degrees, 31
 Secondary Education: programs and requirements, 395
 Senate Graduate and Professional Committee (SGPC), 57
 Signed Language Interpreting, courses 253
 social security number, 17, 35
 Social Studies Education, concentration in, 396
 Social Welfare Minor (Sociology), 299
 Sociology: programs, requirements, courses, 297
 sororities, see *honorary organizations*.
 Southwest concentration, 141
 Southwest Hispanic, Research Institute (SHRI), 16
 Southwestern Museum of Biology, 14
 Spanish and Portuguese: programs, requirements, courses, 304
 Spanish as a Heritage Language, 305
 special characters (used in course descriptions), 653
 special course fees, 47
 Special Education: programs, requirements, courses, 385
 Special Programs, 645
 Division of Continuing Education and Community Services, 645
 Extended University, 646
 Branch Campuses, 648
 Evening and Weekend Degree Programs, 651
 Speech and Hearing Sciences: programs, requirements, courses, 311
 Sport Administration, 377
 Statistics, courses 263. See also *Mathematics and Statistics*.
 Student Academic Choices, 619
 Freshman Interest Groups, 619
 Freshman Learning Communities, 619
 Living & Learning Communities, 619
 Sophomore Seminars in Career Awareness, 620
 Student Activities Center, 53
 Student Conduct, Grievance and Appeals, 54
 Student Exchange Program, 33
 Student Housing, 49
 Student Services Information, 35
 records, 35
 grade notification, 42
 residency, 37
 registration, 39
 enrollment limit, 39
 course load guidelines, 39
 changes in enrollment, 40
 withdrawal from the University, 41
 grades, 42
 grade options, 40
 academic renewal policy, 44
 classroom conduct, 45
 dishonesty in academic matters, 46
 scholastic regulations, 45
 Student Services Information (cont.)
 registration, tuition and fee charges, 45
 fees, 47
 student housing, 49
 student financial aid, 49
 scholarships, 51
 career services, 52
 Veterans Office, 53
 finding out about the University, 53
 Dean of Students Office, 53
 general University publications and services, 54
 honorary organizations, 54
 student organizations, 54
 Graduate and Professional Student Association (GPSA), 54
 drug-free campus, 54
 ethnic programs, 55
 recreational services, 55
 Office of International Programs and Studies, 55
 Student Union Building (New Mexico Student Union), 15
 Surgery, 551

suspension, 46
 Sustainability Studies: minor in, 314
 symbols used in course descriptions, 653

T

Table of Contents, 5
 Tamarind Institute, 463
 Taos branch campus, 650
 Teacher Education, 392
 Teaching Assistant Resource Center (TARC), 16
 technical credit, 22
 test(s), testing. See *examination(s)*.
 Theatre and Dance: programs, requirements, courses, 509
 Theatre X, 12
 Three-Two Program, 96, 403
 Tireman Learning Materials Center, 322
 training credit, 22
 transcripts, 42
 transfer (transferring), see also specific school college, department and division.
 advanced, 24
 general, 19
 New Mexico General Education Common Core, 20
 transferring students, admissions, 19
 tuition and fees, 45
 Tutoring (Center for Academic Program Support), 56

U

Undergraduate Program, 29
 undergraduate advisement, 30
 core curriculum, 29
 graduation requirements, 30
 honors work/graduation with honors, 32
 National Student Exchange, 32
 New Mexico/WICHE, 32
 Undergraduate Seminar program, 627
 University Administrators and Officers, 8
 University Art Museum, 14
 University College, 615
 Aging Studies, 618
 University Advisement Center, 29
 Bachelor of University Studies, 616
 Chicano Hispano Mexicano Studies, 618
 Student Academic Choices, 619
 Introductory Studies, 620
 Native American Studies, 621
 University Honors courses, 625
 Water Resources Program, 627
 University Honors Program, 625
 University Libraries, 631
 University of New Mexico, general information, 9. See also specific school, college, department and division.
 University Science Teaching, certificate in, 532
 University Studies, bachelor of, 616
UNM Pathfinder, 54

V

Valencia County branch campus, 651
 Veterans Administration Educational Benefits, 53
 Veterans Certifying Office, 53
 Veterans Outreach Center, 52

W

Water Resources Program, 627
 weekend programs. See *Evening and Weekend Programs*.
 Welcome Center, 16
 Western Regional Graduate Programs, 33
 withdrawal, 41
 Women Studies: programs, requirements, courses, 316
 Writing Proficiency Portfolio, 192

Z

Zimmerman Library, 13



