

The University of New Mexico



UNNM

catalog

2005 – 2006



Message from the President

“Dream no small dreams,” wrote the German poet Goethe, *“for they have no power to move the hearts of men.”*

The University of New Mexico is the sum of many big dreams, from the ones of the first 75 students who took classes in Hodgkin Hall over a century ago, to those of the 26,000 undergraduate, graduate and professional students now enrolled at our renowned 600 acre campus. We invite you to be a part of those dreams as well.

UNM strives to give its students the distinctive opportunities of a great research institution, in an environment that supports their individual aspirations. Together with faculty, they are encouraged to explore their passions and hone their interests through one of the 200 degree programs described in this catalog, along with the university’s many student services, interest groups, extra-curricular and residence life activities.

Never has the world been more in need of the power of the large ideas, innovative discoveries and global understanding afforded by a university education. Meeting those needs is the challenge presented to all of us at the University of New Mexico. Welcome! We look forward to working – and dreaming – together with you.

Go Lobos!

A handwritten signature in black ink that reads "Louis Caldera". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Louis Caldera
President

The University of New Mexico Catalog

2005–2006
Edition

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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. This policy also applies to the recruitment, hiring, training and promotion of University employees (faculty and staff) 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.

Affirmative Action

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. It is the policy of the University in the case where a vacant position falls within a job group which is determined to have underutilization, that the hiring official give preference for selection to a finalist who is a member of the underutilized group, provided his/her qualifications and past performance are substantially equal to other finalists.

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 preference, ancestry, medical condition 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 on the basis of race, color, religion, national origin, physical or mental disability, age, sex, sexual preference, ancestry, or medical condition. Equal educational opportunity includes: admission, recruitment, extracurricular programs and activi-

ties, 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 preference, ancestry or medical condition, in recruiting, hiring, training, promoting and all other terms and conditions of employment. All personnel policies, such as compensation, benefits, transfers, layoffs, terminations, returns from layoff, University-sponsored training, education, tuition assistance, social and recreation programs will be administered without regard to the characteristics or conditions listed above, except when one of these is a bona fide occupational qualification.

Reasonable Accommodation

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 the Accessibility Services for information regarding accommodations in the academic and/or employment setting. 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).

ADA Compliance

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 please contact the Office of the Registrar, Scheduling Office, SSC Room 263 (505) 277-4336.

Directions for Correspondence

All departments of the University receive mail through a central post office. Please 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, please write to Recruitment Services at MSC06 3700.

The University of New Mexico office hours are, in general, 8:00 to 12:00 and 1:00 to 5:00 Monday through Friday. However, the Student Services Center which houses the Career Counseling and Placement, Dean of Students, Office of Admissions, Records and Registration Office, Student Accounting and Cashiers, and Student Financial Aid, is open from 8:00 through the noon hour to 5:00 Monday–Friday.

About This Catalog

This volume was produced by The University of New Mexico, Office of the Registrar; editing and cover design by Kim Lemons.

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 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.

This catalog is designed primarily to describe the programs, courses of instruction, and academic regulations of The University of New Mexico. 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, please contact individual departments or administrative offices.

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2005–2007 ACADEMIC CALENDAR UNIVERSITY OF NEW MEXICO

2005 Summer Session

(Dates subject to change.)

Undergraduate applications and credentials due in the Office of Admissions no later than	May 1, 2005
Pre-registration for current students begins	April 18, 2005
Registration for new students begins	May 2, 2005
Instruction begins.	
8-week term	June 6
First 4-week term	June 6
Second 4-week term.....	July 5
Registration closes; last day to add courses or to change sections.	
8-week term	June 10
First 4-week term	June 7
Second 4-week term.....	July 6
Last day to change grading options.	
8-week term	June 17
First 4-week term	June 10
Second 4-week term.....	July 8
Last day to drop course without a grade.	
8-week term	June 24
First 4-week term	June 15
Second 4-week term.....	July 13
Independence Day, holiday	
	July 4
Last day to withdraw without approval of college dean.	
8-week term	July 15
First 4-week term	June 24
Second 4-week term.....	July 22
Session ends.	
8-week term	July 30
First 4-week term	July 2
Second 4-week term.....	July 30

2005 Fall Semester (based on 16-week session)

(Dates subject to change.)

Undergraduate applications and credentials due in the Office of Admissions no later than	June 15, 2005
Pre-registration for current students begins	April 18, 2005
Registration for new students begins	May 2, 2005
Instruction begins.....	August 22
Late registration closes	September 2
Labor Day, holiday	September 5
End of second week; last day to add courses or change sections.....	September 2
End of fourth week; last day to change grading options.....	September 16
End of sixth week; last day to drop a course without a grade	September 30
Midsemester (eighth week)	October 15
Fall Break (no classes)	October 13–14
End of 12th week; last day to withdraw without approval of college dean	November 11
Thanksgiving, holiday.....	November 24–27
Withdrawal deadline; last day to withdraw from a course with approval of college dean	December 9
Last day of instruction	December 10
Final examination period	December 10–17
Last day for report of removal of Incomplete grade	December 16
Semester ends	December 17
Commencement (subject to change)	December 16

2005–2007 ACADEMIC CALENDAR UNIVERSITY OF NEW MEXICO

2006 Spring Semester (based on 16-week session)

(Dates subject to change.)

Undergraduate Applications and credentials due in the Office of Admissions no later than	November 15, 2005
Pre-registration for current students begins	November 28, 2005
Registration for new students begins	December 12, 2005
Martin Luther King Jr. Day, holiday	January 16
Instruction begins	January 17
Late registration closes	January 27
End of second week; last day to add courses or change sections	January 27
End of fourth week; last day to change grading options	February 10
End of sixth week; last day to drop a course without a grade	February 24
Midsemester (eighth week)	March 11
Spring Break (no classes)	March 12–19
End of 12th week; last day to withdraw without approval of college dean	April 14
Withdrawal deadline; last day to withdraw from a course with approval of college dean	May 5
Last day of instruction	May 6
Final examination period	May 6–13
Last day for report of removal of Incomplete grade	May 12
Semester ends	May 13
Commencement (subject to change)	May 13

2006 Summer Session

(Dates subject to change.)

Undergraduate Applications and credentials due in the Office of Admissions no later than	May 1, 2006
Pre-registration for current students begins	April 17, 2006
Registration for new students begins	May 1, 2006
Instruction begins.	
8-week term	June 5
First 4-week term	June 5
Second 4-week term	July 3
Registration closes; last day to add courses or change sections.	
8-week term	June 9
First 4-week term	June 6
Second 4-week term	July 5
Last day to change grading options.	
8-week term	June 16
First 4-week term	June 19
Second 4-week term	July 7
Last day to drop a course without a grade.	
8-week term	June 23
First 4-week term	June 14
Second 4-week term	July 12
Independence Day, holiday	July 4
Last day to withdraw without approval of college dean.	
8-week term	July 14
First 4-week term	June 23
Second 4-week term	July 21
Session Ends.	
8-week term	July 29
First 4-week term	July 1
Second 4-week term	July 29

2005–2007 ACADEMIC CALENDAR UNIVERSITY OF NEW MEXICO

2006 Fall Semester (based on 16-week session)

(Dates subject to change.)

Undergraduate applications and credentials due in the Office of Admissions no later than	June 15, 2006
Pre-registration for current students begins	April 17, 2006
Registration for new students begins	May 1, 2006
Instruction begins	August 21
Late registration closes	September 1
End of second week; last day to add courses or change sections	September 1
Labor Day, holiday	September 4
End of fourth week; last day to change grading options	September 15
End of sixth week; last day to drop a course without a grade	September 29
Fall Break (no classes)	October 12-13
Midsemester (eighth week)	October 14
End of 12th week; last day to withdraw without approval of college dean	November 10
Thanksgiving, holiday	November 23–26
Withdrawal deadline; last day to withdraw from a course with approval of college dean	December 8
Last day of instruction	December 9
Final examination period	December 9–16
Last day for report of removal of Incomplete grade	December 15
Semester ends	December 16
Commencement (subject to change)	December 15

2007 Spring Semester

(Dates subject to change.)

Undergraduate applications and credentials due in the Office of Admissions no later than	November 15, 2006
Pre-registration for current students begins	November 27, 2006
Registration for new students begins	December 11, 2006
Martin Luther King Jr. Day, holiday	January 15
Instruction begins	January 16
Late registration closes	January 26
End of second week; last day to add courses or change sections	January 26
End of fourth week; last day to change grading options	February 9
End of sixth week; last day to drop a course without a grade	February 23
Midsemester (eighth week)	March 10
Spring Break (no classes)	March 11–18
End of 12th week; last day to withdraw without approval of college dean	April 13
Withdrawal deadline; last day to withdraw from a course with approval of college dean	May 4
Last day of instruction	May 5
Final examination period	May 5–12
Last day for report of removal of Incomplete grade	May 11
Semester ends	May 12
Commencement (subject to change)	May 12

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Richard Holder, Ph.D.	Chief of Police
Roberto A. Ibarra, Ph.D.	Deputy Provost, Academic Affairs
Mary Kenney, M.A.P.A., M.A.C.R.P.	Special Assistant for Diversity
Beverly Kloeppel, M.D.	Associate Director, Health Sciences Center Facility Planning
Roger Lujan, B. Arch.	Student Health Center
Ricardo Maestas, Ph.D.	Facilities Planning
Stephen McKernan, M.A., CEO	Associate Vice President Student Services
Walter Miller, Ed.D.	The University of New Mexico Hospital
Leo Moya, B.A.	Associate Vice President, Student Development/Director, New Mexico Union
Kathleen O'Keefe, B.A.	Assistant Controller/Bursar
Rosalie Otero, Ph.D.	Student Financial Aid
Curtis Porter, M.A.	University Honors and Undergraduate Seminar Program
Kathleen F. Sena, B.S.	Budget
Melanie Sparks, B.A.	Registrar
Tom Tkach, B.S.	Director of Bookstores, Housing Dining Services, Lobo Card
Vacant	Public Events
Vivian Valencia, B.B.A.	Office of Equal Opportunity
Mary Vosevich, B.S.	Secretary of the University
Cheryl Willman, M.D.	Physical Plant Department
Luther Wilson, B.A.	The University of New Mexico Cancer Research and Treatment Center
Amy Wohler, Ph.D.	University Press
Deborah Yosmimura, M.B.A.	Associate Provost, Academic Affairs
	Internal Audit



GENERAL INFORMATION

VISION, MISSION, VALUES AND STRATEGIC ADVANTAGES

Vision

UNM will build on its strategic advantages:

- to offer New Mexicans access to a comprehensive array of high quality educational, research, and service programs;
- to serve as a significant knowledge resource for New Mexico, the nation, and the world; and
- to foster programs of international prominence that will place UNM among America's most distinguished public research universities.

Mission

The University will engage students, faculty, and staff in its comprehensive educational, research, and service programs. UNM will provide students the values, habits of mind, knowledge, and skills that they need to be enlightened citizens, to contribute to the state and national economies, and to lead satisfying lives. Faculty, staff, and students create, apply, and disseminate new knowledge and creative works; they provide services that enhance New Mexicans' quality of life and promote economic development; and they advance our understanding of the world, its peoples, and cultures. Building on its educational, research, and creative resources, the University provides services directly to the City and State, including health care, social services, policy studies, commercialization of inventions, and cultural events.

Values

The values of the individuals who teach, learn and work at UNM have shaped over time the values of the University. Our values provide a frame of reference for making decisions. They contribute to the general atmosphere of the University and then guide us in our teaching, our pursuit of knowledge, and our public service.

Academic Freedom: As a center of knowledge, the University adheres to the doctrines of academic freedom and free speech. The University will continue to protect the exploration of ideas and will encourage inquiry and creative activity by students, faculty and staff. At the same time, the University opposes statements and activities that reflect bigotry and prejudice, and that consequently tend to diminish active participation by all elements of the academic community and to inhibit the free expression of ideas.

Diversity Within the Academic Community: The University values the diversity of its students, faculty, staff and the other people with whom it interacts. Our differences assure that the University is a forum for the expression, consideration and evaluation of ideas. The educational process on our campus is clearly enriched and strengthened by the fact that these ideas arise and are evaluated from such diverse perspectives.

Creativity and Initiative: The University moves forward in its academic programs, student support services, and other operations by encouraging and rewarding creativity and initiative among faculty, staff, and students.

Excellence: At the University, we value excellence in our people, in our programs, and in our facilities. We have a responsibility to encourage and develop excellence among our faculty, staff and students. We are committed to be leaders.

Integrity and Professionalism: Integrity and ethical, professional behavior by all individuals associated with UNM are essential in order for students, faculty, staff and the public to have trust in the University.

Access and Student Success: We have a clear obligation to provide a quality higher education to all New Mexico students who have the capability to succeed. This obligation is combined with the responsibility to provide an environment and appropriate support that will give every individual his or her best chance of success.

Strategic Advantages

The University of New Mexico's location provides strategic advantages that define opportunities to realize the University's vision and mission.

- New Mexico's diverse demographic profile provides UNM the opportunity to create an exceptionally rich learning environment characterized by a wealth of different ideas considered from a multitude of perspectives.
- UNM is near an international border; the associated cultural, political, historical, economic, and social relations provide a foundation for a natural international orientation.
- The University's proximity to the internationally prominent scientific communities of the federal laboratories provides manifold opportunities for collaboration and synergy in scientific and engineering education and research.
- UNM's location in the midst of a world-class arts center, along with museums and other support facilities, provides unique opportunities for research and creative activity, as well as for educational programs in the arts and humanities.
- New Mexico's high-desert location, accompanied by the surrounding mountains, the Rio Grande Valley, and other natural features provides a laboratory for environmental, water, health, and other research and educational opportunities.
- New Mexico's rich cultural heritage, spectacular landscape, and climate provide a high quality of life that is appealing to many scholars, students, artists, business firms, and others for whom the state is a highly desirable place to locate.

Accreditation

North Central Association of Colleges and Schools, American Assembly of Collegiate Schools of Business, National Association of Schools of Public Affairs and Administration, National Architectural Board, Planning Accreditation Board, American Chemical Society, American Psychological Association, American Speech Language Hearing Association, American Art Therapy Association Educational Board, Commission on Accreditation for Dietetics Education, Council for the Accreditation of Counseling and Related Education Programs, National Council for Accreditation of Teacher Education, New Mexico State Board of Education, Commission on Accreditation for Dietetics Education of the American Dietetic Association, University Council for Educational Administration, Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Computing Accreditation Commission of the Accreditation Board for Engineering and Technology, American Council for Construction Education, National Association of Schools of Music, National Association of Schools of Theatre, National Association of Schools of Dance, National League of Nursing, New Mexico Board of Nursing, American College of Nurse-Midwives Division of Accreditation, American Council on Pharmaceutical Education, Liaison Committee on Medical Education representing the Association of American Medical Colleges and the American Medical Association, American Medical Association Joint Review Committee, Commission on Accreditation of Allied Health Education Programs, Council on Education for Public Health, Accreditation Council for

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Occupational Therapy Education, Commission on Accreditation in Physical Therapy Education, National Accrediting Agency for Clinical Laboratory Sciences, Commission on Dental Accreditation, American Bar Association, and Association of American Law Schools.

History and Location

A Brief History of the University of New Mexico

The University of New Mexico is today 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 the enabling legislation through the Territorial Legislature to create UNM on Feb. 28, 1889, there wasn't a single public high school 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 began to be added the following year, it would not be until WWI ended in 1918 that the university stopped taking in 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 including 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 the 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 it along the lines of the Spanish-Pueblo architecture that was prominent throughout the territory. Since that time, 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. It was in that same year that 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 of materials related to Latin America place it in the top ten in the nation and 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. It was he who 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 (today named 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 begun.

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 university has known. The great influx of veterans first resulted in the campus being crowded with barracks buildings, but immediately on taking office Popejoy began lobbying 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 both 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 was begun 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 toward the path of seeking 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 not only cutting-edge research for industry and national defense, but also multiple education and training opportunities for students as well.

From 1975-82, under President William Davis, research funding doubled, and the efforts that were 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 (2002-3), who also rose through the ranks, served as interim 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 became the eighteenth president in August 2003. He has increased the emphasis on seeking both scholarly and institutional research funding, while building on Gordon's freshmen initiatives and seeking refinements in the legislative funding formula. In 2004 the university held its first

ever freshman convocation and family day to not only welcome-and challenge-the incoming class, but to welcome their families as well.

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 population approaching 500,000 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 Symposium, 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.

Computer and Information Resources and Technology (CIRT)

The University of New Mexico
Computer and Information Resources and Technology
2701 Campus Boulevard NE
MSC02 1520
1 University of New Mexico
Albuquerque, NM 87131-0001
Support Center, (505) 277-4848
Administration, (505) 277-0752
Operations Center, (505) 277-4646

Computer and Information Resources and Technology, or CIRT, provides computing and data communication services and support for the academic and administrative communities at The University of New Mexico.

To meet the variety of computing needs at the University of New Mexico, CIRT has several different shared computing systems. CIRT also has a variety of Windows and Macintosh computers available in facilities around campus.

Basic computing is provided without charge to the individual student. Any for-fee services will be identified to students before the service is used.

Each student is authorized to have a computer account upon initial registration. This account will provide access to CIRT's shared systems. This account will remain active as long as the student is registered for a credit class. The account is activated when the student runs CIRT's account creation Web-based program which is available in all of CIRT's facilities.

Students' accounts provide the basic tools for academic use, class work, electronic mail—both on campus and internationally—and access to online campus-wide services. Among these services are the online phone directory, access to the library catalog and other information of interest to students.

Computer Networks. The network provides access to the computer systems from campus buildings connected to the network or through the use of modems and telephone lines. The network is also your conduit to the Internet.

Campus Computing Facilities. Computer clients at the University of New Mexico can access the shared-system computers at CIRT's campus computing facilities, called pods. The pods also contain computers and software, which students, faculty and staff may use free of charge. Equipment varies from pod to pod; in general, pods contain Windows and/or Macintosh computers, printers and software. Consultants are always on duty in the pods to help with the hardware and software. Pods are located in the CIRT Building, Lobo Lab in the SUB, Johnson Center, Dane Smith Hall, and in Building #2 (Engineering and Science). Hours vary for each pod.

Consulting Services. In addition to the pod consultants, CIRT has senior consultants available for consultation.

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Senior consultants are available via the CIRT Support Center, (505) 277-4848.

Remote Network Access. The network also provides access to computer services and the Internet for those students, faculty and staff using broadband or modems and telephone lines. Dial-up access offers network services to off campus locations and to campus sites that do not have a direct connection to the network.

Other Services. Other services provided to the University of New Mexico community by CIRT include computer classrooms, computer documentation, a free newsletter, software site license distribution and computer network design and installation. For more information, contact the Support Center, (505) 277-4848.

University Libraries

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 two research programs and a research center which provide an entrance into the world of scholarship and information:

- Centennial Science and Engineering Library
- Fine Arts 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 and houses a large print collection, as well as electronic databases that provide access to bibliographic, fulltext and numerical information. 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

<http://elibrary.unm.edu/zimmerman/>

Zimmerman Library, located on the south 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

<http://elibrary.unm.edu/csel/>

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. It also provides space for the New Media & Extended Learning Center that support electronic classroom services such as WebCT. Individualized training sessions and regularly scheduled classes on the use of electronic resources are offered in the Library's Center for Electronic Instruction. Thousands of future engineers, scientists, information technologists, and science teachers congregate and become lifelong learners here.

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 Library

<http://elibrary.unm.edu/falref/>

The Fine Arts Library is located on the second floor of the Center for the Arts (and will soon be located on the third floor of the new School of Architecture and Planning's building now under construction). This library supports the teaching and research programs of the University in the fields of art and art history, music, photography, and architecture and planning. It provides an outstanding collection of more than 200,000 items, including books, periodicals, music scores, exhibition catalogs, videos, DVDs, and 33,000 sound recordings, as well as rare and unique works on photography, music and art. The Fine Arts Library provides full services, including reference instruction, self-service photocopying, Internet access,

video viewing, extensive listening facilities and access to special materials.

When construction is completed and the doors open on the new Fine Arts and Design Library, the library will double its space accommodating other important parts of the collection in the fields of theatre, film, dance, and landscape architecture. The new facility will offer an electronic classroom, media stations for listening and viewing resources, collaborative workspaces and study rooms, lounge seating, and a reading area with sweeping views of the mountains.

William J. Parish Memorial Library for Business and Economics

<http://elibrary.unm.edu/parish/>

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.

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.

Jonson Gallery of the University Art Museum is located at 1909 Las Lomas NE, MSC02 1710. The gallery houses the archival collection of its founder, modernist painter Raymond Jonson, and features exhibitions by University of New Mexico graduate students, faculty and contemporary artists, as well as free public programs. It is open to the public 10:00 a.m. – 4:00 p.m. Tuesday through Friday, and by appointment. The gallery is closed Mondays, weekends and holidays. For more information contact the gallery at (505) 277-4967 or visit the Web site at www.unm.edu/~jonson

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, on a daily basis.

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 Art Museum**, located in the University of New Mexico's Center for the Arts, houses more than 30,000 works of art. The permanent collection includes European art from the Renaissance to contemporary times, the Hispanic tradition in the Old World and the New, and American 19th and 20th century art in the Modernist tradition. Special strengths are its photography and print collections, among the finest nationwide. The Museum features five galleries and a photo/print seminar room. Noteworthy exhibitions and free programs are open to the public on a regular basis.

The University of New Mexico Student Union Building

After the completion of the \$25 million dollar reconstruction in June 2003, the new Student Union Building (SUB) has many updated features never existing in the previous facility or anywhere on campus. The technological advancements implemented into the design make the SUB a great place to study, hang out and grab a bite to eat.

SUB Services

The SUB offers office space for more than 60 chartered student organizations along with larger accommodations for ASUNM, GPSA, Recruitment Services and Student Activities. In the SUB, students can find the Lobo Computer Lab with more than 100 computers and e-mail stations. Wireless networking also exists in and outside the building. Data ports are conveniently installed throughout the entire building as well. The ASUNM Southwest Film Center offers many different movie genres throughout the semester and even in the summer to please everyone's film preference. The Lobo Card Office, ASUNM Crafts Studio and the cUeNM Game Room are also located in the SUB.

Dining Options

The SUB, partnered with Aramark, offers many different food options for the UNM community. Dining options include Mexican favorites to a soup, salad and hot/cold sandwich shop. On-the-go items include fresh pastries, gourmet coffee and hot, made-to-order sandwiches. There's something for every craving in the SUB.

Event Planning

The SUB also serves as a perfect spot for meetings, conferences and special events. It is equipped with 20 meeting rooms, a grand ballroom, audio-visual equipment, satellite conferencing capability and special setups to serve students, faculty and staff. These services are available for chartered student organizations free of charge if there is no admission for the event and discounted prices are available for UNM departments.

Catering is also available upon request. Our culinary and catering staff are trained professionals with more than 150 years of combined expertise in a multitude of food service venues ranging from small restaurant and retail outlets to five star hotels. Diverse menus are available, however, customized menus can also be created.

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Contact Information

SUB Administration Office: 277-2331
SUB Welcome Desk: 277-5626
SUB Event Planning: 277-5498
University Catering: 277-2331
Web site: www.unmsub.com

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 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 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, 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, 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 Economic Development Communications Office (EDCO) provides publications and communications support

for state and federal programs, designed to promote New Mexico's technology-based economic development and technology transfer efforts nationwide. EDCO is administered by the University of New Mexico under several contracts with the New Mexico Industry Network Corporation and the New Mexico Energy, Minerals and Natural Resources Department.

The UNM Center for High Performance Computing (HPC@UNM) supports interdisciplinary, faculty lead, 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) group from the College of Arts and Sciences, a digital photography group from the College of Fine Arts, a visualization group 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, businessmen, 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-around 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 Organizational Communication, a sub-unit of the Department of Communication and Journalism, is organized to coordinate research, consulting, training and organizational development with reference to the substance, structure and dynamics of communication in complex organizations. It serves a broad variety of clients in small and large businesses, governmental and educational institutions and agencies in both private and public sectors.

The Institute for Space and Nuclear Power Studies (ISNPS) is an academically-based, self-supported research and development organization with a focus 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 outreach activities in higher education K-12. The key to the Institute's success in meeting its objectives is to engage in partnerships with industry, government and academic institutions in multidisciplinary projects and programs that reach across a broad spectrum from basic research to product development. The Institute

conducts research in nuclear technologies (space and terrestrial) and possesses capabilities in heat transfer and thermal management, control, nuclear reactor thermal-hydraulics and safety, heat pipe technology and modeling, energy conversion, thermal aspects of and phase change in waste management and waste remediate, nuclear power and propulsion systems design and modeling, thermal energy storage, two phase flow and pool boiling heat transfer, and advanced materials and nuclear fuel behavior. ISNPS laboratory facilities include a Heat Transfer and Heat Pipe Laboratory, a Thermionics Laboratory, Laser Application Laboratory and a Research and Technology Laboratory. The Technology Development Laboratory is a 6,000 square foot high bay facility with adjoining office space. It is available to expand research into the development of advanced technologies and to support joint University, government and industry research, advanced development and commercial proto-type fabrication. ISNPS has started a partnership program to conduct joint projects and to explore and investigate potential ideas. The Institute will join with prospective partners in projects of mutual interest. The partnership can range from full venture to partial research, from research development to full product development. The Institute can leverage its resources—funds, equipment, researchers, facilities—to enable a strong partnership.

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. It is currently funded as a National Resource Center on Latin America by the U.S. Department of Education under Title VI for the Higher Education Act, in consortium with the Center for Latin American and Border Studies at New Mexico State University (NMSU). LAI administers Title VI Foreign Language and Area Studies fellowships, LAI Ph.D. fellowships, a Field Research Grant program for graduate students and a small Faculty Research Grant program. 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 LAI-supported Student Organization on Latin American Studies (SOLAS) hosts weekly “brown-bag” talks on Latin American topics, organizes an annual film festival and engages in other educational and outreach activities. LAI maintains a Web-based, searchable information clearing house on events, funding opportunities, faculty and student expertise on Latin America at the University of New Mexico and NMSU, and academic programs, including study abroad. LAI publishes research papers series and hosts national conferences. For more information, see <http://laii.unm.edu>.

The goal of **The Microelectronics Research Center (MRC)** is to advance special purpose Very Large Scale Integrated (VLSI) processors and VLSI electronics to benefit the electronics industry and the nation. Industrial needs are addressed through close interaction with major electronic companies and national needs through involvement with national research laboratories in NASA, DOD and DOE. The MRC was named The Institute of Advanced Electronics by NASA in April 1995.

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.

Technical Assistance Office (TAO) is a University Center sponsored by the U.S. Department of Commerce's Economic Development Administration. Operating at the University of New Mexico since 1976, it joins 63 other Centers in the U.S. in bringing university resources to the solution of regional economic problems.

UNM Business Link is a special door to University resources. The Link provides a single office and telephone number through which interested persons can access the resources of the University. UNM Business Link's challenge is to find the right resource to answer the question. When a helpful answer is given, the Link has been forged.

Teaching Assistant Resource Center

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

The TARC training program on classroom teaching skills is offered twice during the fall semester and once during the spring semester. During each workshop session, the teaching assistant receives printed materials pertinent to the session topic.

During the second half of the spring semester, the Teaching Assistant Resource Center offers one-session workshops for 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 brochures with program details and enrollment information are delivered to each teaching assistant's department mailbox. Enrollment in the TARC classroom teaching course is limited to 20 students. Enrollment is for one graduate credit.

TARC also sponsors a section of the classroom teaching skills course designed for international teaching assistants (ITARC). This course 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. The ITARC program is offered once each semester.

TARC also provides for videotaping of each teaching assistant during a class and for discussion of the tape. Teaching assistants are encouraged to make frequent use of the materials available at the Center and to meet with the TARC staff for consultation on specific situations as the need arises.

The Teaching Assistant Resource Center is a CASTL program.

For more information about the Teaching Assistant Resource Center, contact CASTL, 277-3341, tarc@unm.edu or castl@unm.edu. The TARC office is located on the southern side of the Communication & Journalism Building, Room 158.

Tamarind Institute

Marjorie L. Devon, Director
108–110 Cornell SE
Albuquerque, New Mexico 87106
<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, dis-

tinguished artists create original lithographs under conditions that fulfill the highest aesthetic and ethical traditions of the art.

Programs of advanced professional study are available to qualified individuals who seek to enter careers as master printers. Artists and printers at the institute have full access to the resources of the University, including the Fine Arts Library and the University Art Museum. The library has considerable strength in the history and practice of lithography, and the museum has an extensive collection of original lithographs by major artists of the 19th and 20th centuries. Courses in the history of graphic arts and workshop management are offered through the Department of Art and Art History and the College of Fine Arts.

Information on the institute's services for artists, its professional printer-training programs and its publications are available upon request.

Welcome Center

The new 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, class schedules 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 new Welcome Center and let us assist you with your University needs! Phone: (505) 277-1989, FAX: (505) 277-8978, e-mail: visitor@unm.edu, www.unm.edu/~visitor/.



UNDERGRADUATE 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.

Use of Social Security Numbers

The University of New Mexico uses the individual student's social security number as the student identification number at the University. This number is used for internal record-keeping purposes only and is not disclosed to other parties for any purpose without written authorization from the student. The authority to use the social security number comes from the Board of Regents and was adopted on March 24, 1967, prior to the Federal Privacy Act of 1975. It is, therefore, mandatory that students disclose their social security number to the University for identification purposes.

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 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.

When to Apply

We strongly encourage students to apply as early as possible. The deadlines for receipt of all application materials are: 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 three 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 (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 2.25 (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 13 specific high school college preparatory units (two semesters of class work equals one year-long unit) with a minimum 2.25 GPA:

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

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

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

* 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:

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Speakers of any or another 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

Meet specified standards based on high school academic performance (high school class rank) and performance on standardized college entrance examinations (ACT or SAT).

ACT Composite in Combination With High School Class Rank

2.25 GPA

Enhanced ACT effective October 1989

18–20	Top 25% of Class
21–24	Top 50% of Class
25–28	Top 75% of Class
29 or higher	No Rank Requirement

—or—

2.25 GPA

SAT Total (V+M) in Combination with High School Rank

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

Recentered SAT scores effective April 1995:

860–970	Top 25% of Class
980–1120	Top 50% of Class
1130–1270	Top 75% of Class
1280 or higher	No Rank Requirement

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 Comp
570 or higher	18–20	860–970
500–560	21–24	980–1120
450–490	25–28	1130–1270
400–440	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.

Concurrent Enrollment Option

This "honors" program permits highly qualified high school juniors and seniors to take University of New Mexico courses while simultaneously attending high school or during the summer between the junior and senior years. This is a part-time status and should not be confused with Early Admission.

Meeting the criteria listed below does not mean that the student will be automatically admitted to the Concurrent Enrollment Program. In all cases the final admission determination will be made by the Director of Admissions.

Important: In all cases, the minimum grade point average for acceptance is 2.25 on a 4.00 scale.

1. The student must be a high school junior or senior.
2. The student must have the certification and unconditional recommendation of the high school as well as proof of parental consent prior to participation.
3. The high school must furnish the Office of Admissions with an official high school transcript.
4. Minimum quantitative requirement (one or more of the guidelines listed below):
 - a. Class rank in top 25%
—or—
 - b. Cumulative grade point average of 3.00 or better on a 4.00 scale for 9th, 10th and 11th grades in subjects counted toward graduation
—or—
 - c. An ACT composite score of 23 or an SAT total score of 1060.
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.

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.

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 baccalaureate 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

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 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 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. The deadlines for receipt of all application materials are: 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 and fees are applicable for three 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).

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

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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. No junior college courses will 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

Students enrolling for first-year study who have not yet selected either an academic focus or the institution where they wish to graduate are advised to take courses during their freshman year outlined in the 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 institution 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

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
- Pre-Engineering
- Teacher Education
- Teacher Education—Early Childhood Education
- Biological Sciences
- Social/Behavioral Sciences
- Physical Sciences

Modules for additional areas of study are being developed. Copies of these Transfer Modules may be obtained from the University of New Mexico Admissions Office.

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 Albuquerque TVI, 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 Community 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 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 Commission on Higher Education, 1068 Cerrillos Road, Santa Fe, NM 87501-4295, (505) 827-7383 (www.nmche.org).

Evaluation of Credit

The evaluation of credit is ordinarily part of the admissions application procedure. It is a two-step process. An Admissions Officer first evaluates credits on a course-by-course basis to determine general transferability to the University, and a transfer evaluation is produced for students who are admitted. (Students who have completed courses in institutions utilizing non-traditional credit or grading systems may be required to provide additional information to facilitate the evaluation.) The evaluation is then mailed to the student, who must contact an academic advisor in the college of the desired major in order to determine how the transferred courses will be applied to a degree.

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 which 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	Art Hi 101	3
	5	Art Hi 201 & 201L	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 121L & 122L	8
	4, 5	Chem 131L & 132L	9
Computer Science			
C S A	5	C S 151L Sub. to Dept. Review**	3
C S AB	4, 5	C S 151L	3
	5	C S 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	Env Sc 101 & 102L	4
History			
Euro Hist	4, 5	Hist 102L	3
U.S. Hist	4	Hist 161L & 162L	6
World Hist	4	Hist 101L & 102L	6
Languages			
French Lang	3	French 101, 102, 201, 202	12
	4	French 101, 102, 201, 202, 301	15
	5	French 101, 102, 201, 202, 301, 302	18
French Lit	3	French 101, 102, 201, 202	12
	4	French 101, 102, 201, 202, 351	15
	5	French 101, 102, 201, 202, 351, 352	18
German Lang	3, 4, 5	German 101, 102	6
Latin	3	Latin 101, 102	6
	4, 5	Latin 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

UNDERGRADUATE ADMISSIONS

24 UNDERGRADUATE ADMISSIONS

Math				Amer Hist II	— 55	Hist 162L	3
Calc AB	3, 4, 5	Math 162	4	Biology	450 50	Biol 110	3
Calc BC	3, 4, 5	Math 162 & 163	8	Chemistry	520 63	Chem 121L,122L	8
Statistics	4, 5	Stat 145	3	Intro Macroecon	490 54	Econ 105	3
				Intro Microecon	470 54	Econ 106	3
				Western Civ I	500 55	Hist 101	3
Physics				Western Civ II	500 55	Hist 102	3
Physcs B	3	Dept. Review**	—	Amer Govt	550 65	Pol Sc 200	3
	4, 5	Physcs 151 & 151L, 152 & 152L	8	Human			
Physcs C Elec				Growth and			
& Magn	3	Dept. Review**	—	Develop	520 63	Psych 220	3
	4, 5	Physcs 161 & 161L	4	Princ of Mgt	500 54	Mgt 113	3
Mech	3	Dept. Review**	—	Princ of Acct	500 54	Mgt 202	3
	4, 5	Physcs 160 & 160L	4	Princ of Mkt	500 50	Mgt 222	3
				Coll Alg	560 59	Math 121	3
Political Science				Trig	610 65	Math 123	2
Amer Gov	3, 4, 5	Pol Sci 200	3	Calculus	510 70	Math 162	4
Compar Gov	3, 4, 5	Pol Sci 220	3	French			
				Language	400 48	French 101	3
				French			
				Language	450 52	French 101,102	6

** 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	

CLEP			
Subject Exam	Scores Paper CBT	Equivalent UNM Course	Sem. Hrs.
German			
Language	390 63	German 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	Psych 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, University College Building, Room 2, (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 on the Web at www.unm.edu. The application fee is not required.

1. Complete and return an application for readmission.
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 **three consecutive sessions only**. If you do not take advantage of admission and enroll within that period, a new application is 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 200s 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 which 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 College advisor prior to registration.

Non-Degree Credit Program Undergraduate Students

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

Students who have not completed a Baccalaureate Degree and all International students.

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

Admissions Office
MSC03 2190
1 University of New Mexico
Albuquerque, NM 87131-0001

Students may call (505) 277-2446 to request an application.

When to Apply

Students are encouraged to submit their applications as early as possible. 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 three consecutive sessions only. If you do not take advantage of admission by enrolling within that period, a new application and fee are required.

Students with a baccalaureate degree must apply at Graduate Non-Degree Student Services, Mitchell Hall, Rm. 108 (277-6044) and refer to the Graduate Program section of the Catalog.

Admission Requirements

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

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

NOTES:

- Students in Non-Degree status are not eligible to receive financial aid. Contact the Student Financial Aid Office at (505) 277-2041 for details.
- 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:

- A student who is under disciplinary or academic suspension from the University of New Mexico or any other collegiate institution.
- 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.
- 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.
- A student from another country who is in the United States on a student visa.

- A student who has been refused admission to degree status.
- 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

- A one-time \$10.00 application fee is required.
- 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.
- 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.
- If you have a baccalaureate degree, you must contact the advisor at Non-Degree Graduate Student Services, Mitchell Hall, Room 108, (277-6044). Refer to the Graduate Section of the catalog.
- 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.
- If you are planning to take education courses, you must contact the College of Education at (505) 277-3190 concerning requirements.
- 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

- Non-Degree application and \$10 application fee.
- Immigration documents that will not expire prior to the end of the semester of admission.
- 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 (www.ielts.org) - minimum scores are 6.5 for undergraduates and 7 for graduates;
 - TOEFL (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 (www.cambridge-efl.org) - minimum score is C.

Deadlines:

Deadlines vary from semester-to-semester. Please contact the International Admissions Office for additional information:

Phone: (505) 277-5829
Fax: (505) 277-6686
E-mail: goglobal@unm.edu

Graduate Non-Degree

Non-Degree is an academic unit that allows students holding bachelor's degrees to earn academic credit without being admitted into a graduate degree program of study. The Non-Degree program accommodates post-baccalaureate students who wish to begin taking academic graduate courses at UNM without taking college entrance exams, or those who may have missed the degree status application deadline. To accommodate the needs of our students, the Non-Degree Graduate Student Services Office provides convenient ser-

VICES which include academic advisement and registration assistance.

- Students in Non-Degree are typically not eligible to receive financial aid. An exception may be made for Non-Degree students enrolled in courses necessary for admittance into a degree program, or for teacher certification.
- All credit hours earned in Non-Degree are recorded on the students' permanent transcripts and may be applied to a degree plan if the courses meet degree requirements and are approved by the faculty in the academic program.
- Students who hold a baccalaureate degree may take an unlimited number of courses in Non-Degree status. However, students taking graduate level courses with the intent to transfer into a graduate degree program should consult with the departmental graduate advisor of their intended major for information on the number of Non-Degree credits that will transfer into the program when the student is admitted. For more information on applying to graduate school, contact the Non-Degree Academic Advisor at 277-6044.
- Students who have been previously enrolled at UNM in degree status as an undergraduate student but have not earned an undergraduate degree are not eligible for Graduate Non-Degree status.

Applications can be obtained from the Non-Degree Graduate Student Services office located in Mitchell Hall Room 108, the Office of Graduate Studies in Humanities Room 107, by calling (505) 277-6044, or on web at <http://www.unm.edu/grad/forms/ndcapplication.pdf>

- Mail completed applications to:
Office of Graduate Studies
Attn: Non-Degree Admissions
MSC03 21801
University of New Mexico
Albuquerque, NM 87131-0001

If you wish to deliver the application in person, please drop it off at the NDGSS office located in Mitchell Hall, Room 108.

Include a \$10 non-refundable application processing fee and an official transcript confirming your bachelors degree.

- If admitted, the applicant will receive a letter of acceptance by mail.
- Following admission, during the published registration dates listed in the Schedule of Classes, students can register. Schedules are available for pick-up on Main campus and at the Non-Degree Graduate Student Services office. The Schedule of Classes includes instructions on registration procedures, as well as general information, procedures, and important deadlines.

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 semester credit hours in non-degree status. No undergraduate college of the University will accept in a degree program more than 30 semester hours earned 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.

Normally a non-degree student may not enroll for more than 9 semester hours during a regular session without special permission. Contact the University College Advisement Center at (505) 277-2631 to discuss enrollment limitations and options. **This limitation does not apply to a student who has earned a baccalaureate or higher degree nor to a visiting student.** 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 Undergraduate Advisement Office

Non-Degree undergraduate advisement is part of the University College Advisement Center, located in the Student Services Center, Rm. 114.

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

The Advisement Center provides the following services for undergraduate 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 admission to the College of Education and Graduate Studies. 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 or 190 computer-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 (oips@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.
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 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.
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	March 1
Spring Semester	August 1
Summer Session	January 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 www.unm.edu.
2. **\$30.00 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 (www.ielts.org); TOEFL (www.toefl.org); or Cambridge CPE or CAE (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 (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.

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:

International Admissions
Office of Admissions
MSC06 3720
1 University of New Mexico
Albuquerque, NM 87131-0001

Note: Students applying for graduate programs (beyond the bachelor's degree) must also submit all required documents (except secondary academic records) to the Office of International Admissions by the published deadlines.

PLEASE 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. 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.

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 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

An earned degree that is equivalent to the American bachelor's degree. (Some bachelor's degrees are based on three-year programs and are not considered equivalent to the U.S. bachelor's degree. Also, completion of upper secondary or high school education is not equivalent to a U.S. bachelor's degree.)

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 or 213 computer-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 \$24,038 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.

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	March 1
Spring Semester	August 1
Summer Session	January 1

Please 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 www.unm.edu.

2. \$40.00 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 (www.ielts.org); TOEFL (www.toefl.org); or Cambridge CPE or CAE (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 (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.

PLEASE 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. 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.

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:

International Admissions
Office of Admissions
MSC06 3720
1 University of New Mexico
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 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 \$40 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.



THE UNDERGRADUATE PROGRAM

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.

Undergraduate 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 College. 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.

Refer to the *University College Advisement Center* section of this catalog.

Core Curriculum

The University has 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 reentering 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), 121L (lab required) or 131L (lab required), 122L (lab required) 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 223, 224; English 150, 292, 293; Foreign Languages (M Lang) 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 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 101; Art History 101, 201, 202; 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.

Graduation Requirements

Bachelor 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.

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

1. Students 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. Completion of 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 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. Students must contact their 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 "T" courses to satisfy any of these requirements.
11. Students will not be permitted to graduate if they have unresolved incomplete grades or not reported grades on their 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 they are graduating.
12. Once a student has completed academic requirements for a degree (certificate, associate, baccalaureate, master's, Ph.D.) and has received their diploma and appropriate notations on their official transcript, no modification of their 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.

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 college.

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 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.

Second Certificate/ Second Associate Degree

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.

Extension and Independent Study

The University of New Mexico allows credit for independent study, 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 independent study 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 independent study 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 independent study 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 stated in the current Independent Study Bulletin.

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.

Graduate students may graduate under the requirements of the catalog in effect during the year in which they were first enrolled in a degree-granting graduate program at the University of New Mexico, provided they complete the graduation requirements for the degree sought on the appropriate time scale, as prescribed elsewhere in this catalog. Alternately, students may elect to graduate under a later version of the catalog; in any event, they must meet all the requirements for graduation in the catalog chosen. Students who transfer from one degree-granting program to another within the University must graduate under the catalog in effect at the time of their transfer. The catalog under which students will graduate must be specified on the first page of the Application for Candidacy.

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

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.

Commencement

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

Honors Work/ Graduation With Honors

Graduation with honors, either university or departmental, is not automatic, and students are required to apply for candidacy. Information regarding application is available from the Honors Center or from individual departments.

Students may graduate with University Honors, Departmental Honors or both. The level of University Honors attained is determined by the Honors Council and may be **cum laude**, **magna cum laude** or **summa cum laude**. Students must apply to the University Honors Program for candidacy for graduation with University Honors.

The levels of Departmental Honors awarded are also cum laude, magna cum laude and summa cum laude. Students must also apply for candidacy to their departments (or in colleges without departments to the college).

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 above the minimum requirements set forth just above.

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.

Baccalaureate Honors

Baccalaureate level 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 (3.90-4.00) 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. **Please note that the above requirements, including the residency requirement ("minimum of 60 hours in resi-**

dence”) must have been met at least one semester prior to the graduation semester in order for the honors to be printed in 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.

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 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, Mesa Vista Hall, Room 3011, Telephone (505) 277-7269, 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 37 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 thirteen participating states. Qualified students from all 13 states may enroll in these programs at resident tuition rates. The Western Regional Graduate Programs at this institution are Latin-American Studies (M.A. and Ph.D.), Nursing and Latin-American Studies (M.S.), Print-Making (M.A., M.F.A.), Art History-Native American Art (M.A., Ph.D.), Art History-Pre-Columbian Art, Architecture (M.A., Ph.D.) and Water Resources Administration (M.S.).

Additional information about the Western Regional graduate programs may be obtained by contacting the New Mexico/WICHE Programs Office.

All New Mexico/WICHE Programs are administered through the Commission on Higher Education.

For additional information please call or write:

Western Interstate Commission on Higher Education (WICHE)
Western Regional Graduate Program
1068 Cerrillos Rd.
Santa Fe, NM 87501
505-476-6506



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. Please Note: proper photo identification (driver's license, Lobo Card, passport or other state issue identification) is required for all in-person transactions.

Use of Social Security Numbers

The University of New Mexico uses the individual student's social security number as the student's identification number at the University. This number is used for record-keeping purposes only. The authority to use the social security number comes from the Board of Regents and was adopted on March 24, 1967. It is, therefore, mandatory that students disclose their social security number to the University for identification purposes.

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 Services Center
- Career Counseling and Placement, Director, Career Counseling and Placement, Student Services Center
- Cashiers and Student Accounting, Bursar, Student Services
- 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, Student Services 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 Services Center
- Student Financial Aid, Director, Student Financial Aid, Mesa Vista Hall

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

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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, MSC 06 3650, 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 Services Center Room 250.

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 1997-98 school year and for whom 150% of the normal time-to-completion has elapsed.

During the Fall Semester of 1997, 2,111 first-time, full-time, certificate or degree-seeking undergraduates entered UNM. After 6 years (as of August 31, 2003), 42% 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 Services Building, Room 261, (505) 277-8466.

While reviewing this information, please bear in mind:

- The graduation/completion rate is based on 6 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.

Change of Name

Students who need to process a change of name 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 issue identification) and the social security card showing the new name. **No other type of documentation will be accepted.**

Transcripts

The Records and Registration Office issues both official and advisement copies of The University of New Mexico student records. A student may request a transcript of their academic record at the Records and Registration Office in the Student Services Center, Room 250, in person, by mail or by FAX. The address is Records and Registration, MSC06 3650, 1 University of New Mexico, Albuquerque, NM 87131-0001. The FAX number is (505) 277-6809. The following information is needed in order to process a request by mail or FAX: student name (all names used while at the University of New Mexico), social security number, date of birth and dates of attendance. The student's signature is required to authorize the release of any transcript. Proper photo identification (driver's license, Lobo Card, passport or other state issue identification) is required to obtain a transcript in person. A fee of \$3.00 is charged per official transcript. For rush requests, the fee is \$10.00 per transcript.

Transcript information and request forms are available online at www.unm.edu/~unmreg/trans.htm.

Transcripts from other institutions that are sent to the University of New Mexico for purposes of admission are not copied or returned to the student.

Transcript Holds

Transcripts may be held for financial reasons. No official transcripts will be released until the student's outstanding obligations to the University have been paid or until satisfactory arrangements have been made.

Grade Notification

Semester grades are available via I-TEL-UNM (246-2020) or <http://itel.unm.edu>. If a hard copy is required, it can be obtained via the CTT machines located in the lobby of the Student Services Center or at the Records and Registration Office, Room 250, Student Services Center.

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 rebut-

ted 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 petition with the appropriate documents of evidence in the manner described herein. *All documents submitted for this purpose will be kept confidential.* Residency petitions will be accepted until the second Friday of each Fall and Spring semester in the Office of the Registrar, Student Services Center, Room 261.

To become a legal resident of New Mexico, four basic requirements must be completed by the student. Each person must meet the requirements individually.

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 cannot be approved for residency who is financially dependent upon his or her parents or legal guardian who are non-residents of New Mexico. At the time the student applies for residency (if under 23 years of age), a copy of his or her parents' or guardians' 1040 or 1040A U.S. income tax form for the previous year must be submitted with the application. If the student is shown to be a dependent on this tax form, he or she will not be eligible to establish residency apart from his or her parents or guardian.

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.

The Overt Acts Requirement

New Mexico requires the completion of several "overt" acts which support the student's declaration of intent to become a permanent resident. The required overt acts are:

1. if employed, evidence of employment within the state of New Mexico;
2. if employed in New Mexico, evidence of payment of New Mexico state income tax;
3. a New Mexico driver's license;
4. a New Mexico vehicle registration; and,
5. voter registration in New Mexico.

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. For example, additional documentation which may be requested of the student may include: 1) evidence of a long established bank account of at least six months in New Mexico or 2) evidence of residential property ownership in New Mexico or evidence of a rental agreement within New Mexico.

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. The spouse and dependent children of a person who has moved to New Mexico and has obtained permanent full-time employment (sufficient documentation is required) shall not be required to complete the 12-month durational requirement. However, all other requirements must be satisfied.
3. Active duty military stationed in New Mexico, their spouses and dependents are eligible for waivers for non-resident tuition. Members of the New Mexico National Guard are also eligible for waivers for non-resident tuition. A form must be submitted 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 will be charged resident tuition rates regardless of residency classification.

Students enrolling for the summer session will be charged resident tuition rates regardless of residency classification.

A brochure explaining all requirements for establishing New Mexico residency and residency petitions are available from the Office of the Registrar, Student Services Center, Room 261, MSC06 3650. For more information please call (505) 277-8466.

NOTE: Changes to the Overt Acts Requirement are subject to change effective with the Fall 2006 semester. Consult with the Office of the Registrar for further information.

Registration

Academic Advisement

Academic advisement is required for all freshman and new transfer students with 26 or less transferable hours prior to registration. The School of Engineering and the College of Education **require** advisement every semester prior to registration. All students who are admitted or transferred 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. The University College Advisement Center exists to advise those students undecided about the specific field in which they wish to earn a degree. Students enrolled at the University are urged to take advantage of all academic advisement services available on a regular basis.

Schedule of Classes

The *Schedule of Classes* is an official publication of the Office of the Registrar, distributed to enrolled students each semester. 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://www.unm.edu/~unmreg/schedule.htm>.

Registration Procedures

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

Lobo Card and LOBOCASH

A nontransferable photo identification card is issued to each student at the University of New Mexico. The ID card, also known as the Lobo Card, allows you to check out materials from UNM libraries, access recreational services, the Student Health Center, athletic events, campus meal plans, it can be activated as a calling card, and more.

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 you use it (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, the UNM Bookstores, and select copying machines. Visit 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 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 of name or other student identifying information requires the reporting of the change 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-waiverable fee will be collected for replacement of damaged, lost or stolen 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, 24/7, via the lobocash.unm.edu Web site. LOBOCASH activity can be suspended via telephone only Monday–Friday, 8:00 a.m. – 5:00 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 both the Dean of Students Office for disciplinary proceedings or appropriate authorities for legal action.

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 *Schedule of Classes*.

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 dean of the student's college. Students in Non-degree status who have not earned at least a baccalaureate-level degree must obtain permission from the Vice Provost of Extended University (Woodward Hall Rooms 115C and 115D, 505/277-6089) to take more than 9 hours.

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

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 full- or part-time.

The National Student Clearinghouse is now the University of New Mexico's authorized agent for providing enrollment and degree verifications. If an employer or background screening firm requests this information, please have them contact the National Student Clearinghouse at (703) 742-4200 or visit their Web site www.studentclearinghouse.org.

The University of New Mexico will produce a standardized enrollment certification document validating a student's status for the current semester, preregistered semester and any semester for the past four calendar years. If a student wishes to have their entire academic history certified or semesters not covered by the certification process, they must request a transcript. The University of New Mexico does **not** certify expected graduation date.

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

The guidelines listed below are used primarily 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. Students withdrawing after the 6th week of classes will be subject to grades of WP (withdrawal passing) or WF (withdrawal failing). The grade WF is included in the total course load for purpose of enrollment verification. WP is not included in the total course load for purpose of enrollment verification. Courses taken in Audit, Extension or Correspondence status are also *not* included in total course load, for purposes of enrollment verification.

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.
- Half-time: 3–5 credit hours.
- Less than half-time: 1 or 2 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.
- Half-time: 3–5 credit hours.
- Less than half-time: 1 or 2 credit hours.

Changes in Enrollment

Once registered, students may process schedule changes through the drop/add procedures during appropriate periods. Procedures for schedule changes and deadlines are published in the *Schedule of Classes*.

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 *Schedule of Classes* for specific dates.

For 16-week courses, the following applies:

Add. Students 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 six weeks of the semester.

Withdrawal from a Course. After the sixth 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 will be calculated as a failing grade in the student's grade point average. After the 12th week, course withdrawals will only be accepted with approval from the dean or director of the student's college. No withdrawals will be 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 option, letter grade or graduate credit option) in any course may be made through the fourth week of the semester.

It is the student's responsibility to make certain that they are registered in any course for the proper grading option. (Graduate students see sections of this catalog that pertain to graduate courses.)

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 not following proper course or University withdrawal procedures may be given a failing grade and will be responsible for tuition changes associated with the course.

Withdrawal from the University

- Students can withdraw from all courses on or after the first day of classes through the last day of classes prior to final exams by using <https://itel.unm.edu> or I-TEL-UNM (246-2020) and selecting the semester withdrawal option. Students may contact the Dean of Students Office, (505) 277-3361, TDD (505) 277-6053, for advisement on withdrawing from all courses.
- Summer session and short courses follow a different deadline. Please see *The University of New Mexico Schedule of Classes*.
- Students who withdraw during the first six weeks of classes will not receive a grade notation on their academic record. The notation on a student's record will be "withdrew" followed by the date.
- University withdrawals initiated after the sixth week of classes will be subject to grades of WP or WF. The WF will be calculated as a failing grade in the student's grade point average. All withdrawal grades will be assigned by the instructor upon completion of the University withdrawal process. The notation on a student's record will be "withdrew" 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 become liable for grades of F in their classes, even though they may be passing their courses at the time of leaving the University.
- Students are responsible for all outstanding financial obligations when withdrawing.** See the "Tuition and Course Fee Refunds" 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 will receive full credit for each course in which they are enrolled provided the instructor certifies a grade of C or better for the course at the date of formal withdrawal. They will receive a grade of WP if the instructor certifies a grade of less than C. Students 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 in courses for which they are enrolled that semester, provided these would complete their degree requirements, may be certified for graduation by the faculty of their college.

Change of College

Undergraduate students who desire to gain admissions to a degree granting unit or to change their enrollment from one college to another within the University must apply with the advisement center of the college where they wish to enroll. A change in college after the third week of the semester will not be effective until the following semester.

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 799:

- 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 799, graduate and professional, normally are open only to students enrolled in the graduate degree programs, the School of Law, the School of Medicine or the College of Pharmacy.

NOTE: Undergraduate or non-degree students without a degree may not enroll in any graduate problems (courses numbered 591, 592 and 593) for undergraduate credit.

- T-suffix indicates a technical, vocational or special course. T-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.

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 credit 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. This grade is used to indicate that a thesis or dissertation is in progress but not complete. In the semester when the thesis or dissertation is complete, CR or NC is reported.
I	Incomplete. The grade of I is 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	Audit is recorded for completion of enrollment in an audited course. No credit is earned for an audit grade option.
WP	Withdrawal Passing. All approved course withdrawals after the sixth week of classes are subject to the grade of WP, if passing the course at the time of withdrawal.
WF	Withdrawal Failing. All approved course withdrawals after the sixth week of classes are subject to the grade of WF, if failing the course at the time of withdrawal. The grade of WF will be 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).
W	Withdrawal. A W grade is 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 599 or 699 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 grade points earned at the University of New Mexico by the total number of hours attempted. 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.

The grade point average and earned hours for unclassified, non-degree, certificate and associate degree students will include all course work taken at any level at the University of

New Mexico. Upon the student's acceptance into a baccalaureate level program, all nonbaccalaureate level courses (suffix "T") will be excluded from the calculation of earned hours and grade point average.

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.

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.

Grade Options

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 current *Schedule of Classes* 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) 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 having taken 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

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, the chairperson of the department and the dean of their college. 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. The courses taken will 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 which may be attained at the Office of Graduate Studies. Non-degree, graduate-level course work may be transferred into a graduate degree program on a limited basis.

Audit

A student may register in a course for audit, provided written permission of the instructor is obtained. (See current *Schedule of Classes* 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. Audited courses appear on the academic record. Courses taken for Audit may be repeated for credit.

Repetition of a Course

A student may repeat any course but will receive credit only 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."

42 STUDENT SERVICES INFORMATION

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 only affects 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 who are in undergraduate status are eligible to use this policy and only course work being applied toward an undergraduate degree will be 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 will remove the lower 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. No substitute courses are acceptable.** Forms will be accepted after the second attempt in the course has been completed.
5. A grade replacement may be applied to only 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 will remain on the record. An "I" will appear on the transcript next to the course that has been replaced.

NOTE: This policy applies only to courses taken and repeated 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 course-work 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 must be resolved by the published ending date of the next semester in attendance or within the next four semesters if the student does not re-enroll in residence. An Incomplete may be resolved even though a student is not enrolled in residence. Incomplete grades not resolved within the time frames stated in this policy will be converted automatically to F (failure).

Incomplete grades received Summer 2005 and after 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, SSC 250) 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 will report the final grade for the course in which the Incomplete was assigned to the Records and Registration Office, SSC 250. 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 required course work removing the "I" grade. The request for extension may be obtained in the Office of Records and Registration. 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.

Change of Grade

The instructor of a course has the responsibility for any grade reported. Once a grade has been reported to the Records and Registration Office, it may be changed by submitting a grade change form to the Records and Registration Office. Only the instructor who issued the original grade (instructor of record) may submit any change. The change of grade must also 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 for approval.

Grade Petition Procedure

1. A student seeking retroactive withdrawal, enrollment or disenrollment; extension of time for removal of an incomplete grade or a grade option change; or further academic record changes involving exceptions to the rules governing registration and academic records may submit petitions to the Records and Registration Office, Student Services Center, Room 250. 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. Students 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 will be contacted for a statement concerning the request.
5. The petition (along with instructor comments) will be forwarded to the Grade Petition Subcommittee of the Faculty Senate Admission and Records Committee for review and a decision. If the petition is approved, appropriate modifications will be made to the student record.
6. Students will be 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 that their academic record be reviewed for the purpose of evaluating 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 the Records and Registration Office, Room 250, Student Services Center. If all criteria are satisfied, the petition will be approved and the academic record appropriately noted.

Academic Renewal Guidelines

NOTE: Non-degree, second undergraduate degree or graduate students 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 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 credit hours, but no more than 36 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 will not count toward satisfying the residence credit requirements.

6. All courses taken prior to Academic Renewal will remain unaltered on the record. An appropriate notation will be added to the record to indicate Academic Renewal. Courses with a grade of C or CR or better taken prior to Academic Renewal will be carried forward as earned credits. Acceptability of these credits towards a degree will be determined by the degree-granting unit.
7. Courses with a grade of C- or below taken prior to Academic Renewal will be noted and will not count for earned credits or for satisfying any graduation requirements.
8. Academic Renewal, when applied, will be effective as of the date of the readmission following the five-year absence.
9. The cumulative grade point average after academic renewal will be calculated on the basis of courses taken since the readmission following the five-year absence.

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 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 in filling out applications or other University records will make a student liable for disciplinary action, including possible dismissal from the University.

Scholastic Regulations

Attendance

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

Students should not assume that nonattendance will lead to being dropped from class. It is the student's responsibility to initiate drops or complete withdrawals utilizing <https://itel.unm.edu> or I-TEL-UNM (246-2020).

A student with excessive absences may be dropped from a course with a grade of WF, upon recommendation of the instructor. Instructor initiated drops will be submitted to the Records and Registration Office.

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

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 as published in *The University of New Mexico Schedule of Classes*.

Examination to Establish or Validate Credit (Challenge a Course). Degree seeking students in undergraduate colleges of the University may, with appropriate written approval, take an examination to establish or validate credit in courses appearing 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. Students enrolled in the Graduate School have the same privilege, except that only undergraduate credit can be earned in this manner.

Credit cannot be earned by examination to establish credit in nonprofessional physical education activity courses and in some professional physical education courses. A check with the department will be necessary to determine which professional physical education courses can be challenged by examination.

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Upon authorization, the dean or director of the college offering the course will issue a permit for the examination. This permit must be approved by the department concerned and the dean or director of the student's college. The student must then pay the current tuition rate per credit hour and submit the permit to the person who will administer the examination. Once the examination has been administered and graded the instructor will complete the form and send it to the Records and Registration Office for recording 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 will be allowed and placed on the student's permanent record as of the semester in which the examination is completed. A grade of CR will be recorded for successful completion of examination and a notation of credit by examination will be made on the tran-

script. Credits earned by examination at the University of New Mexico count 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. Please 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.

Registration, Tuition, and Fee Charges (rates in effect 2005–2006)

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				
	Under-Grad U-Grad/Nd ***	Graduate *** Grad/Nd ****	Law **	Graduate ASM	Pharm.D. **	Under-Grad U-Grad/Nd ***	Graduate *** Grad/Nd ****	Law **	Graduate ASM	Pharm.D. **
Per Credit Hour	\$171.20	\$188.20	\$367.35	\$238.20	\$288.05	\$559.90	\$575.60	\$891.40	\$625.60	\$869.00
Full Time	\$2054.40	\$2238.40	\$4388.20	\$2838.40	\$3436.60	\$6718.80	\$6887.20	\$10676.80	\$7487.20	\$10408.00
Charges per credit hour above 18 hours	\$171.20	\$188.20	\$367.35	\$238.20	\$288.05	\$559.90	\$575.60	\$891.40	\$625.60	\$869.00

* Non-resident students enrolled for 6 hours or less pay resident tuition rates. Non-resident students enrolled for 7 or more hours pay the indicated Non-resident tuition for all credit hours taken.

** All Graduate, Law, Dissertation, Pharmacy and Medical students pay a mandatory \$20.00 GPSA fee per semester (\$40.00 per year).

*** Non-degree—rates for students with no baccalaureate degree.

**** Non-degree—rates for students with baccalaureate degree or higher.

Medical Students

Tuition for resident students: \$12,933.00 per year (includes \$40 GPSA fee)

Non-resident students: \$37,072.00 per year (includes \$40 GPSA fee)

Mandatory Curriculum fee for 2005–2006: \$1500.00

Medical Student Disability insurance fee for 2005–2006: \$49.00.

Mandatory Needlestick insurance fee for 2005–2006: \$60.00.

Mandatory Microscope fee (1st year) for 2005–2006: \$100.00.

Dissertation Students

Tuition for resident students: \$505.00

Non-resident students: \$505.00 for 6 hours or less. Each hour above 6 hours at \$575.60 per credit hour.

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 international students are required to have this coverage for both themselves and their dependents. Please check with Student Health Center insurance coordinator for current rates, and to complete an application and make a payment.

Special Course Fees

See each semester's *Schedule of Classes*.

1. Special Course Fees and GPSA Fee are refunded using the same refund schedule as tuition and fees. See Tuition Refund Policy.
2. A variable charge is assessed to students taking Applied Music classes. Please contact the Music Department for details. Charges: \$75.00 for 1 credit hour and \$150.00 for 2 or more credit hours.

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 cumulative grade point average to remain in good standing is at least a 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.

Tuition, Fees, Current and Past Due Charges

Tuition, fees and outstanding charges must be paid and received in the Bursar's Office by the posted financial disenrollment deadline each semester. This deadline can be found in the *Schedule of Classes*. Please allow sufficient time if you

are mailing in your payment. Payments are posted on the day received.

Financial Disenrollment

Students whose current balance is not paid by the posted disenrollment deadline will be disenrolled from all classes. Your account balance includes, but is not limited to, the following: Tuition and Fees, Special Course Fees, GPSA Fee, Parking fines, Library charges, Housing, Child-care, Student Health and Pharmacy charges, Late fees, Bookstore charges, Short Term Loans, Orientation fees and all other current charges. Please refer to the current *Schedule of Classes* for additional information.

Fees (Subject to Change)

Charges for Special Services

1. Admission: (nonrefundable)

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

2. Administration Charges (nonrefundable)

- | | |
|--|------------------|
| a. Deferred Tuition Payment Fee | \$5.00–\$10.00 |
| | per payment |
| b. Returned Check | \$15.00 |
| c. Master's Thesis Binding | \$15.00 |
| d. Dissertation Binding | \$15.00 |
| e. Registration transaction Fee
(start of second week of classes) | \$10.00 |
| f. Late Registration/Reregistration Fee
(starting first day of semester—non-refundable) | \$30.00 |
| g. 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 will be charged separately to the student responsible for the breakage.

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 this fee as an accommodation to ASUNM. Fee amount is determined by vote of the ASUNM members and is subject to change. The fee is included in the tuition paid by all undergraduate students. More information about the allocation of funds received from this 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 this fee. More information about the allocation of GPSA funds may be obtained in the *Pathfinder*, as well as from the GPSA office.

Tuition and Course Fee Refunds

Effective 2004/2005 Tuition and Fees, Special Course Fees and GPSA fee will be refunded in accordance with the following schedule.

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 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%

Four-week Courses:

Withdrawal or drop in hours:

First week of classes	100%
After first Friday of classes	0%

See *Schedule of Classes* for courses less than four weeks in duration. Students who drop classes after refund deadlines are still responsible for payment of tuition and special course fees.

Refunds For Paid Charges:

All tuition and special course fee charge adjustments are based on date of official drop, withdrawal or disenrollment. To receive consideration for a refund of paid tuition and fees, students must complete drop procedures for their courses.

All refunds (except housing deposits) are requested at the Bursar's Office in person or by phone at (505) 277-5363. Immediate cash refunds are not given for withdrawal from the University or for reduction in paid credit hours. If a refund is due and payment was made by check, there is a 21-day hold period from the payment receipt date before refund is processed. Mastercard/Visa card refunds will be credited to the charge card. Students must provide credit card number and expiration date to the Bursar's Office.

If mailed, the refund check will be sent to the student's current system mailing address. Please confirm your address with the Bursar's Office when making a refund request.

Methods of Payment

Payment by Mail:

Make your check or money order payable to the University of New Mexico. If you use the U.S. Postal System to send us your payment please send it to:

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

If you are using a private carrier to send us your payment, please send it to:

Student Services Center
Bursar's Office—Room 170
The University of New Mexico
Albuquerque, New Mexico 87131-3036

Payment must be *received* prior to the published deadline date.

Express or Overnight Mail—Must be received in the Bursar's Office by the close of business of the published deadline date to ensure proper credit.

Drop Box—Students may use the drop box located in the wall directly to the right of the Cashier Department windows (next to pay phones). **No Cash Please. Deadlines are published in the *Schedule of Classes* for the respective semester.**

Payments received by mail or drop box will first be applied to any and all previous semester balances. No receipts will be mailed unless a self-addressed, stamped envelope is provided with the payment envelope.

Payment by Telephone:

Mastercard and Visa (505) 277-4748

Payments by credit card (Mastercard and Visa only) may be made seven days per week, 24 hours per day, *except* between 7:00 and 8:00 p.m. On the Friday of disenrollment, payments can only be made until 5:00 p.m. Disenrolled students are subject to a \$30.00 late fee; therefore, call in your credit card payment early to avoid possible late fees and disenrollment. You may also make a credit card payment over I-TEL-UNM (246-2020).

NOTE: Mastercard and Visa are the only credit cards accepted for payment of tuition and fees at the University of New Mexico. To avoid long wait periods using the automated system, please call in your payment as early as possible prior to disenrollment.

Payment on the I-TEL-UNM Web Page:

You may pay for your charges at <https://itel.unm.edu> by clicking on the Credit Card Payment button. We take Visa and Mastercard. If you have registered for classes, all of your charges must be paid by 5:00 p.m. on the disenrollment date (see *Schedule of Classes*) to avoid being disenrolled from all of your classes.

NOTE: Netscape Version 6.0 and later is not compatible with this Web page at this time.

Payment in Person:

Pay tuition and fees in person at the Cashier's Office (Student Services Center, Room 160) from 8:00 a.m. to 5:00 p.m., Monday through Friday. In-person payment deadlines are published in the *Schedule of Classes* for the respective semester.

Payment by Financial Aid:

Financial Aid disbursement starts with first day of classes.

- Registered students can call I-TEL-UNM (246-2020) in order to obtain information as to required payment and anticipated financial aid.
- Student charges for any services, sales or fines will be collected from the first available source of financial aid (grants, scholarships or loans) even if due date is later than aid release date.
- Students must be registered full time prior to receiving aid or have Financial Aid adjust required number of hours to be eligible for aid.
- Disbursement Schedule will be posted in the current *Schedule of Classes*.
- To limit waiting in line and to create an orderly process during the first week of classes, financial aid disbursement, if available, will be made according to the Disbursement Schedule.

It is your responsibility to visit the Student Financial Aid Office to be certain your aid will be available, and you will not be disenrolled. If a delay in receipt of your financial aid occurs, you may wish to complete a promissory note application and pay the first installment and processing fees at the Bursar's Office to avoid disenrollment.

College Work-Study awards will not be considered in arranging for payment.

Paperwork for Graduate Assistants, Teaching Assistants, Research Assistants, Tuition Remission recipients and students sponsored by external agencies such as DVR, Sandia Labs, Pathways etc. must be received in the Bursar's Office by the published deadline to avoid disenrollment. Paperwork for late registrants must be received in the Bursar's Office by the end of the first week of classes. Late registrants must pay a \$30.00 late registration fee.

If your tuition has been deferred based on financial aid and you decide not to attend the University of New

Mexico you must officially withdraw through I-TEL-UNM (246-2020) prior to the 100% refund deadlines published in the *Schedule of Classes*.

Crediting Financial Assistance to a Student's Account

Students who are receiving financial assistance through programs detailed below will have their awards automatically credited to their accounts beginning on the Friday before classes if financial aid has been approved and awarded. These programs include:

1. PELL Grant
2. Supplemental Educational Opportunity Grant (SEOG)
3. State Student Incentive Grant (SSIG)
4. Federal Perkins Loan
5. Access Grant
6. Medical Grants and Scholarships
7. Other Grants and Scholarships
8. FFELP Loans/LINK Loans

Financial assistance awards will not be credited to a student's account until student has registered for the required number of hours and has met all respective financial assistance source program requirements. Students will receive any remaining balance after deductions of current and past due charges in a refund check. Students with credit balances must come in to Cashier's to receive the balance of their financial aid.

Students who are eligible for and will be receiving funds from external scholarships will not have those funds automatically credited to their accounts but must visit the Cashier's Office to have scholarships applied to their account and/or receive any surplus funding.

After Financial Aid has processed external scholarships and sent checks to the Cashier's Office, each student must visit the Cashier's Office to endorse the check(s). Any refund check and/or replacement check will be available in Bursar's Office once you have completed your transactions in the Cashier Department. Students who do not need to endorse a check may have their check mailed to the student's current mailing address by calling Cashier's.

Restriction of Services and Sanctions

Financial Holds

No official transcripts will be released to the student, or on behalf of the student, until all debts to the University and all of its affiliates including, but not limited to, NMSL and ICR, have been paid.

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

Registration Sanction

No student may register at the University of New Mexico until he or she has paid **ALL** past due charges or completed financial arrangements with the Bursar's Office.

Disenrollment: Cancellation of Registration

Students who fail to pay their full required tuition and fee charges (including second 8-week courses) or make adequate financial arrangements with the Bursar's Office the week prior to the beginning of the semester will have their registration cancelled and be disenrolled from **all** classes. Failure to receive a Statement of Account does not relieve

students of the responsibility for payment. Students with cancelled registration who wish to be enrolled at the University of New Mexico must re-register. The student will need to make full payment or must complete financial arrangements for all University charges and pay a re-registration/late registration fee of \$30.00.

Service Charge on Delinquent Accounts

A service charge will be assessed on a student's past due account balance. An account is considered past due if the **billed** current amount is not paid by the next billing date.

Collection Agencies

Monthly Statements of Account are mailed to all students. Failure to receive a Statement of Account does not relieve students of the responsibility for payment. If payments or arrangements are not made on a timely basis, the account may be placed with a collection agency, with a collection fee added to the account. Should it be necessary for an outside agency to effect a collection, reasonable collection costs of at least 30% of delinquent amount shall be added to the amount due and shall be paid by debtor. If the University of New Mexico obtains judgement from a court of competent jurisdiction, the debtor shall be liable for collection agency fees as well as reasonable court costs and attorney's fees.

Withholding Services

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

1. Future registration
2. Readmission
3. Official transcripts
4. Installment payment participation
5. Future parking and library privileges

Third Party Sponsored Students

If your tuition and fees are being paid by a third party, the Bursar's Office must be in receipt of your approved billing authorization letter or award.

- To avoid disenrollment, your third party sponsor must provide the Bursar's Office with approved billing authorization prior to the posted disenrollment deadline.
- You must be enrolled in all of your approved classes.
- All prior charges from previous semesters must be paid.
- Sponsored students registering on or after the first day of the semester are responsible for late fees.
- At the department's or agency's request the late fee will be charged to them.

Enrollment Requirements for Financial Aid

To receive financial aid, students must generally be enrolled **at least** half-time as a **regular** student in an **eligible** program. Scholarships generally require full-time enrollment. Courses taken as audit are not included toward financial aid enrollment requirements. Award amounts are generally prorated according to enrollment status.

The student is responsible for meeting minimum enrollment requirements. Students knowingly receiving aid to which they are not entitled may be in violation of University policy and state or federal laws. If you have any questions please contact the Financial Aid Office.

Enrollment Requirements

Undergraduate Students	Full-time 12 hours Half-time 6 hours
Graduate Students	Full-time 9 hours Half-time 5 hours

Disbursement Schedule

See the current *Schedule of Classes* for disbursement dates. After the first week of classes, disbursement is open to all students.

Non-resident 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 will be charged as a non-resident. Please refer to the Residency section in this catalog.

Federal Student Loans

The University of New Mexico is no longer a participant in the William D. Ford Direct Loan Program. Federal loans are now serviced by New Mexico Student Loans. Students wishing to borrow can contact the Financial Aid Office for more information.

Payment Plan

Payment of tuition and fees may be deferred under the University's Payment Plan, which requires a down payment and payment of a nonrefundable set-up fee. All deferments require a signed promissory note. All deferred charges must be paid in full before a subsequent deferment will be granted. Please call the Bursar's Office for additional details at (505) 277-5363.

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 three traditional residence halls (Coronado, Hokona and Laguna/DeVargas) where students contract for room and board services. Double rooms and limited singles and deluxe singles are available. The University also operates single-student apartment facilities (Student Resident Center 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 the 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 in the housing materials accompanying the housing application and contract. 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 entire semester.

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, \$100 performance deposit 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. Although continuing residents are not required to enroll for the summer, new summer student residents are required to enroll for at least 1 semester hour. All freshmen residents are required to take a meal plan. All student 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.

Room and Board Fees. The 2004–2005 rates for room and board range from \$4,770 to \$7,370 per academic year, depending on the type of living arrangement desired. To gain the maximum financial advantage from the housing contract, students should remain in the residence halls for both the fall and spring semesters. Students in residence for the fall semester may extend their contracts for room and board for the spring semester. A deferred payment plan is available. Rates include utilities, a telephone and cable TV, including HBO, plus Internet connection in each student's room. Except for the apartment 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 obtained by e-mail at reshalls@unm.edu or by writing to: Housing Reservations MSC02 1530, The University of New Mexico, Albuquerque, NM 87131-3151, FAX (505) 277-4712, Telephone (505) 277-2606. You may also visit the Web site www.unm.edu/~reshalls.

Student Family 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.

Rental Rates. The 2004–2005 monthly rental rates range from \$478 to \$646, including utilities. Rates are subject to adjustment, with appropriate notice, reflecting changes in operating costs. A \$200 performance deposit is required prior to move in.

Reservation Procedure. Because the number of apartments is limited, applicants are 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 reshalls@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 Web site <http://www.unm.edu/~reshalls/index2.htm>.

Student Financial Aid

A college education is an investment in your future. It is an investment that will pay increasing dividends in earning power and in the quality of your life. The basic premise underlying student financial aid is that the primary responsibility for a student's education rests with his or her family. When the resources of the family are not sufficient to meet college costs, the student may be eligible to receive financial assistance. This aid may come in the form of scholarships, grants, work programs and/or student loans.

If you feel you need financial help to pay for college expenses, you should apply for financial aid to determine your eligibility. The following information will explain the application process and answer 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, please access our Web page at: <http://www.unm.edu/~finaid/finaid.html>.

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 Associate Degree or 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 will be con-

sidered completed. Repeated courses were already counted as completed, and will not be 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 will 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 the criteria listed above, you will no longer be eligible to receive financial aid at the University of New Mexico. Petitions will be allowed for students with extenuating circumstances beyond their control, such as a serious personal illness, divorce, or the death of a close family member.

Typical Sources of Financial Aid

Program	Per Academic Year	Maximum Award Amount
Federal Pell Grant	Maximum	\$ 4,050
Federal Supplemental Ed. Opportunity Grant	Maximum	\$ 3,000
State Student Incentive Grant	(Based on 2003-04)	\$ 2,500
UNM Grant		\$ 2,500
UNM Bridge to Success Scholarship		\$ 1,000

NM Lottery Success Scholarship	\$3,360.60	\$3,360.60
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Program	Per Academic Year	Award Amount
Federal/State College Work-study	Undergraduate Graduate	\$ 4,000 \$ 5,000
Federal Perkins Loan	Maximum	\$ 4,000
Federal Stafford Loan (Subsidized)	Freshman Sophomore Junior/Senior Graduate/Professional	\$ 2,625 \$ 3,500 \$ 5,500 \$ 8,500

Federal Stafford Loan (Unsubsidized)	Freshman Sophomore Junior/Senior Graduate/Professional	\$ 6,625* \$ 7,500* \$10,500* \$18,500*
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* Minus any subsidized amount borrowed

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PLUS Loans

(Parent Loan for Undergraduate Students)		
Loan for Service	up to	Cost of education minus financial aid awarded
Nursing, Medicine, Pharmacy and Allied Health students only		\$12,000 (maximum)

Student Employment

Students 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/~wsestudy/index.html>.

Scholarships

More than 600 individual scholarships exist at the University of New Mexico for qualified students. Students receiving scholarships awarded through the Scholarship Office must reapply each year. Incoming freshmen must complete the freshmen scholarship portfolio application by **December 1** for Regents' and Presidential Scholarships, by **February 1** for the University of New Mexico Scholars Program. 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, each renewable for four years, will be awarded to entering freshmen in each academic year. The Regents' Scholarship recipients will be 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 will be admitted to the University of New Mexico University Honors Program and will receive specialized advisement and course registration privileges. Regents' Scholars will 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.

• *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.

• *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 2005 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.

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 3.3 grade point average with 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.

• *UNM Affiliated Merit Awards*

To encourage students of high academic potential to attend the University of New Mexico, the University sponsors scholarships of \$750 to \$2,000 for National Merit Scholars who specify the University of New Mexico as their first choice of an institution to attend.

• *Amigo Scholarships*

This scholarship entitles outstanding out-of-state students to an award of \$500 per semester plus waiver of non-resident tuition rates, for a total effective scholarship value of approximately \$9,300 per year. 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); 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).

• *Amigo for International Students*

For details contact the Scholarship office.

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.

• *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 30 semester hours of credit with a 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 nearing the completion of a degree, have a 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.
- **Other scholarships**
A wide variety of organizations offer scholarships to eligible students. Many scholarships are awarded through the Scholarship Office. All students applying for an academic scholarship will be considered for these individual scholarships. The Navy and Air Force offer scholarships to students enrolled in their programs; contact them directly for details.

NOTE: For more complete information about these and other scholarship programs, contact:

The University of New Mexico
Department of Student Financial Aid
Scholarship Office
MSC06 3670
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 277-6090
schol@unm.edu
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 Provided 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 you can house on-line your references, transcripts, performance evaluations, and even your portfolio 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 you 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 on-line through the Career Services Web page at www.career.unm.edu

Workshops – Upon request, Career Services will provide your class or 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 Student Services Building, Room 220, (505) 277-2531. Web site: www.career.unm.edu.

Veterans Office

The University of New Mexico is approved for certification of students eligible to receive educational assistance through the Veterans Administration. To make application 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 the Student Services Center, Room 257, MSC06 3650, for additional information call (505) 277-3514.

Finding Out About The University of New Mexico

The Office of Recruitment Services, Room 180, Student Services Center, MSC06 3700, (505) 277-2260, provides general undergraduate information about the University to prospective students. This information includes degree and course offerings, admission requirements and procedures, expenses, financial aid, scholarships, registration, housing, and special services and programs.

With sufficient notice, the Office of Recruitment Services can arrange for appointments with faculty, academic advisors, admissions officers, university representatives and a tour of the residence halls and the campus through the Campus Visit Program.

In the spring, for high school seniors only, the Host/Hostess Program offers the opportunity for prospective students to stay on campus overnight with a current University of New Mexico student who will share information about the University of New Mexico. Please go to www.unm.edu/preview/ for more information.

Dean of Students Office

In addition to overseeing residence hall operations, Commuter and Nontraditional Student Services and the Student Activities Center, the Dean of Students Office serves many academic as well as extracurricular needs of University students. The office handles student withdrawals, student discipline, leadership programs, new student orientation, Student Conduct Committee and diversity programs. The Dean of Students Office encourages student participation in the University community and gives special recognition of outstanding students and supports student organizations. Their other programs are designed to help students cope with any difficulties, academic or extracurricular, students 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 Student Services Center, Room 280, (505) 277-3361, TDD 277-6053, Web site: www.unm.edu/~doso.

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 then 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.

New Student Orientation

Orientation is designed to assist new students in making a successful transition into the University. The orientation programs include information on the University of New Mexico

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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-freshmen 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 Student Services Center, Room 280, (505) 277-3361, TDD 277-6053.

Student Attendance/Class Absences

Students are expected to attend all meetings of the classes in which they are enrolled. Absences due to illness, or to authorized University activity such as field trips, athletic trips, etc., are to 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 in 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 will be 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 will send 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 Student Services Center, Room 280, (505) 277-3361, TDD 277-6053. E-mail address is doso@unm.edu.

Student Activities Center

Your life outside the classroom is an important part of your educational experience. The Student Activities Center offers many opportunities for involvement. The Center offers information on more than 350 student organizations, Welcome Back Days, Homecoming, leadership workshops, student government, calendars of activities and programs, the student handbook, LeaderHints, recognition and award programs, fraternities and sororities, honor societies and more. Check the Student Activities Center Web page at www.unm.edu/~sac for information. Student Activities also provides the University of New Mexico student handbook *The Pathfinder*, the Campus and City Map, the Lifeskills Calendar, Student Organization Handbook, LeaderHints and other publications and newsletters. Please stop by our office at the Student Union Building, lower level, or call (505) 277-4706, sac@unm.edu.

Student Activities also offers the Off-Campus Housing Service which lists rentals of apartments, houses, rooms and roommates wanted. Off-Campus Housing is on the Web at <http://och.unm.edu>.

Student Activities also offers the Emergency Message Service listed separately in this Student Services Section of *The University of New Mexico Catalog* and numerous publi-

cations listed under "General University Publications and Services."

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. Any questions about these procedures should be directed to the Dean of Students Office. The complete procedures are published in the *UNM Pathfinder*.

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. It is published annually by the Student Activities Center. 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. Free copies of the *UNM Pathfinder* may be obtained from the Student Activities Center, Student Union Building, lower level, (505) 277-4706. *The Pathfinder* is available online at www.unm.edu/~sac.

The University of New Mexico Directory

A directory listing departments, faculty and staff members, as well as each student's local and home address, telephone number, academic classification and University of New Mexico e-mail address, is published by Computer and Information Resources and Technology (CIRT). These directories are free to students. A valid student identification card is required to obtain a directory. Students can request that their listings be deleted from the directory at the Records and Registration Office in the Student Services Center, Room 250.

The directory is also published online. Click the Directory button on the University of New Mexico home page or go to the directory at <http://www.unm.edu/phone.html>.

Other Useful Publications

The following publications are available at the Student Activities Center, located in the Student Union Building, lower level.

- *Student Activities Newsletter for Student Organizations.*
- *Life Skills Calendars*—listing workshops, support groups on health, career, academic, spiritual, recreation, leisure and other life skills issues.
- *Guide to Chartered Student Organizations*—published annually, lists all student organizations officially chartered at the University of New Mexico.
- *The University of New Mexico Campus Map.*

- *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

Alpha Epsilon Delta
 Alpha Kappa Delta
 Eta Kappa Nu
 Golden Key International Honor Society
 Hispanic Honor Society
 Honors Student Advisory Council
 Iota Iota Iota
 Kappa Kappa Psi
 Kappa Omicron Nu
 Mortar Board Senior Honorary Society
 National Society of Collegiate Scholars
 Order of Omega
 Phi Alpha Theta
 Phi Eta Sigma National Honor Society
 Phi Lambda Sigma
 Pi Sigma Alpha National Political Science Honor Society
 Psi Chi National Psychology Honor Society
 Tau Beta Pi
 Tau Sigma Delta National Honor Society Gamma Lambda Chapter

Current student organization listings can be found at www.unm.edu/~sac.

Student Organizations

There are about 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 also found at www.unm.edu/~sac. Student Activities also publishes the *Guide to Chartered Student Organizations* each year which lists all chartered student organizations on campus. Student organizations include: academic, ethnic and cultural, graduate, honorary, military, political, religious, residence hall, service, special interest and sports organizations. The undergraduate student government, national fraternities and sororities are advised and assisted by the Student Activities Center, www.unm.edu/~sac/.

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 students 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 Theatre and Dance 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 chairperson is elected by the Council representatives at the regular April meeting. All graduate and professional students are encouraged to participate in the GPSA through the GPSA

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 \$20.00 per semester collected from each student by the University. From these funds, graduate organizations and programs apply for funding of 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 in Building 83, Room 124, has a computer lab for student use. For more information, please call (505) 277-3803 or visit the Web site www.unm.edu/~gpsa.

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 atmosphere 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.

African-American, Chicano and Native American Studies programs offer courses and seminars and also conduct original research. In addition, African-American Student Services, El Centro de la Raza and American Indian Student Services offer support services and cultural programs to enhance retention and campus climate. The Special Programs Office also supports the efforts of the University of New Mexico to retain and promote minority students by providing training, mentoring, advisement and tutoring for undergraduate students, in order to help these students continue on to graduate studies. In addition, Special Programs provides other student recruitment programs for underrepresented populations.

Also on campus are numerous other programs to 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.

Recreational Services

The University of New Mexico students have access to outstanding recreational opportunities through Recreational Services. The program is designed to serve the entire University community by promoting relaxation, proper use of time, achievement and mental and physical health. To participate, you need to present your University of New Mexico

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Lobo Card to the attendant at the western Main Entrance of Johnson Center to gain access to the facilities. The facilities and programs available include:

Facilities—Available to students are three gymnasiums, seven tennis courts, three swimming pools, wrestling-combative area, weight room, handball, racquetball courts and numerous playing fields.

Fitness & Lifestyle Programs—A variety of classes, clubs and workshops offered to promote lifestyle health and fitness. Offerings include: aerobic dance, water aerobics, step aerobics, walking fitness, body sculpting, modern dance and fencing. In addition there are volleyball, golf, aerobic and relaxation workshops.

Getaway Adventure Program—Fostering skills and opportunities to “get away” by offering activities and clinics such as cross-country skiing, camping and fishing, white-water rafting and exploring ancient cliff dwellings.

Team Activities—Coordinating men, women and “co-rec” competition in such sports as basketball, cross-country, flag football, skiing, slow pitch, soccer, swimming, track, volleyball and wrestling.

Individual and Dual Activities—In such sports as archery, badminton, billiards, bowling, diving, karate, racquetball, table tennis, tennis, golf and arm wrestling.

Outdoor/Bike Shop—Rent camping and backpacking equipment—tents, skis, backpacks and much more—at very reasonable rates. The shop also rents other recreational equipment such as volleyball sets, golf clubs, softball equipment and horseshoes. The bike shop offers bike maintenance and bike rentals.

Individuals with Special Needs—This program provides recreational opportunities for disabled students, faculty, staff and community members. The program offers water exercise and modified deep water aerobics for adults.

Sports Clubs—If you are interested in becoming a member of sport club or starting your own club, we will point you in the right direction. Just a few of the clubs that are currently offered include: Karate, Rodeo, Ultimate Frisbee, Gymnastics and Rugby.

Recreational Services Challenge and Ropes 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, cooperative games and outdoor experiences. The focus for the program is to provide unique team building experiences for UNM student groups and UNM departments.

Office of International Programs and Studies

The University of New Mexico, through its involvement in the various dimensions of educational and cultural exchange, endeavors to strengthen global communication and understanding. It is the mission of the Office of International Programs and Studies (OIPS) to develop and implement campus activities in support of this commitment.

For the more than 1100 international students and visiting scholars in residence at the University of New Mexico each year, OIPS is an important resource center for information and assistance. Each semester new international students and scholars participate in orientation activities which familiarize them with the campus, immigration requirements and the many services available to them. The office acts as liaison with the U.S. Citizenship and Immigration Services and provides information on immigration policies and procedures to students, faculty and staff. OIPS works with Friends of International Students, a friendship program which matches international students with members of the community. A weekly social hour is held to provide cultural enrichment and socialization for international students. Additionally, each Fall semester, during International Education Week, OIPS sponsors an International Festival to highlight the diverse cultures

represented at the University of New Mexico and an international symposium on a special topic.

The Center for English Language and American Culture (CELAC), administered through OIPS, provides intensive English courses to non-native English speakers intending to develop college-level English skills in order to prepare for U.S. academic studies, or for work purpose. CELAC offers five levels of English instruction in the following subjects: Grammar, Written Composition, Listening Comprehension and Conversation, and Reading Comprehension and Vocabulary. CELAC classes meet Monday through Friday, for four hours everyday. For more information on this program, please visit our Web site: www.unm.edu/celac, or contact the OIPS office.

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 www.unm.edu/~oips.

Other Resources for Students

Center for Academic Program Support

The Center for Academic Program Support (CAPS) is the University of New Mexico's tutoring center. CAPS offers tutoring free of charge to any University of New Mexico student enrolled in courses numbered 100-499. The peer tutors assist students with academic subjects (physics, chemistry, math, sociology, etc.), writing of course-required papers, and study strategies. The Center is located in Zimmerman Library, third floor; tutoring takes place in many locations including Zimmerman Library, classroom buildings, dormitories and online. For more information call (505) 277-7205 or visit <http://www.unm.edu/~caps>.

THE GRADUATE PROGRAM

Teresita E. Aguilar, 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 student applications for admissions, 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 Committee (SGC)

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 SGC 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 Associate 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 major fields. 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.)
 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.)
 Communication (I, II; M.A.)
 Community and Regional Planning (I, II; M.C.R.P.)
 Comparative Literature and Cultural Studies (II; M.A.)
 Computer Science (I, II; M.S.)
 Counseling (I, 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.)
 Nuclear Engineering (I, II; M.S.)
 Nursing (I, II; M.S.N.)
 Nutrition (I, II; M.S.)
 Occupational Therapy (I, II; M.O.T.)
 Optical Science and Engineering (I, II; M.S.)

Organizational Learning and Instructional Technologies (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.)

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.)

Recreation (I, II; M.A.)

Secondary Education (I, II; M.A.)

Sociology (I; 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.)

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
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., Ed.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.)
Nursing (Ph.D.)
Optical Science (Ph.D.)
Organizational Learning and Instructional Technologies (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:

Post Master's Certificate in Management

Educational Specialist Certificate

(NOTE: These are the EdS certificates offered in numerous fields in COE)

Historic Preservation and Regionalism

Post Masters Certificate in Nursing

Computational Science and Engineering

Town Design

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:

- a. the relevance and extent of the applicant's professional experience;
- b. 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;
- c. the department's belief that the applicant's objectives in seeking the advanced degree are realistic and reasonable; and
- d. 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 Graduate Studies 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/grad>). Click on "Admissions." A \$40 non-refundable Application Fee will be charged with the online application. Credit card required.
To complete the online application process, students must submit two official transcripts (unopened) from each academic institution (except UNM) previously attended to the Office of Graduate Studies by the academic unit's published deadline:

NOTE: Do not list study abroad programs on the application form under "Colleges and Universities Attended."

- 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)

- 2) **Hard Copy Application (Domestic Students Only).** The following materials must be submitted to Graduate Studies by the academic unit's published deadline:
 - a) A completed and signed Application Form
 - b) A Residency Form
 - c) A non-refundable \$40 Application Fee*
 - d) Two official transcripts (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.

- 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>). The Graduate Studies office holds application files for two years.



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.

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 Graduate Studies 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 Graduate Studies, along with two official transcripts from any institution they have attended since they last applied to the University of New Mexico. Applicants who earned a degree during that two-year period must provide an official transcript indicating that the degree was conferred. All materials must be received in OGS 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.

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

An earned degree that is equivalent to the American bachelor's degree. (Some bachelor's degrees are based on three-year programs and are not considered equivalent to the U.S. bachelor's degree. Also, completion of upper secondary or high school education is not equivalent to a U.S. bachelor's degree.)

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) (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 \$23,000 U.S. dollars is required (based on 2002–2003 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

Please 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—whichever 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 www.unm.edu. Click "Apply Online."
2. **\$40 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 (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. **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.

PLEASE 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
 MSC06 3720
 1 University of New Mexico
 Albuquerque, NM 87131-0001

Shipping/Delivery Address:
 International Admissions
 Office of Admissions
 The University of New Mexico
 Student Services Center, Room 140
 Albuquerque, NM 87131-0001

**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.

Temporary (T) Status

On occasion a student's degree will not have been conferred before submission of an application for graduate status. Temporary admission is granted for one semester during which the student must submit official transcripts indicating the confirmed degree. A student in T-status will not be allowed to register for subsequent semesters until the confirmation of degree is certified. [T status will affect financial aid eligibility.]

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.

**Graduate Student Classifications
 (College 13)**

All students fully admitted to a graduate program will be assigned one of the classification code numbers below:

Master's (Class Code 01, 02): A student admitted to a master's degree program.

Post-Master's (Class code 03): A student admitted for doctoral studies.

Graduate Certificate (Class code 04): A student who has been admitted to pursue a transcribed graduate certificate, including the Education Specialist certificate within the College of Education.

Doctoral Candidate (Class code 06): A student advanced to candidacy in a doctoral program (see Advancement to Candidacy for the Doctoral Degree).

M.F.A. (Class code 08): A student admitted to a Master of Fine Arts program.

NOTE: Non-degree (College 14) is not a graduate classification. Courses taken in non-degree status prior to admission to a graduate program are considered to be transfer credits and will be evaluated accordingly.



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>).

Dual Degrees Programs — Graduate and Professional

The University of New Mexico offers both formal and individualized dual programs. 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. 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.

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 toward 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.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.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 Master of Public Administration

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.A. in Latin American Studies

The University of New Mexico's educational sites in Latin America, as well as its geographical location in the culturally rich Hispanic heritage of the Southwest, provide the opportunity for an interdisciplinary dual degree program leading to the degrees of Master of Science in Nursing and Master of Arts in Latin American Studies. The program is offered cooperatively by the College of Nursing and the Latin American Studies program. The program prepares nurses for leadership roles in health care delivery systems serving populations in Latin America or Hispanic populations in the United States. A minimum of 53 graduate credit hours in required courses in the two graduate programs plus language proficiency in Spanish or Portuguese are required. Applicants must satisfy the admission and other academic requirements of both graduate programs. Students interested in the program should consult the graduate advisor in the College of Nursing and the Latin American Studies program.

The M.S.N. and M.A. in Public Administration

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 (requiring a minimum of 55 credit hours) or the non-thesis option (requiring a minimum of 56 credit hours) may be chosen.

The M.S.N. and Master's in Public Health

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:

C S 492	Introduction to Computers in Manufacturing	3
M E 583	Statistical Methods for Improving Product Quality	3
M E/ECE 585	Modern Manufacturing Methods	3
M E/ECE 586	Design for Manufacturability	3
Mgt 502	Accounting and Management Information Systems I	3
Mgt 504	Microeconomics for Managers	3
Mgt 506	Organizational Behavior and Diversity	3
Mgt 508	Ethical, Social, Political and Legal Environment	3
Mgt 511	Technology Commercialization and the Global Environment	3
Mgt 521	Manufacturing Systems Management	3
Mgt 522	Marketing Management	3
Mgt 526	Financial Management	3
Mgt 598	Strategic Management	3
Mgt 5XX	MOT/OM Elective (512, 513, 514, 515, 516, 519, 530, 532)	3
Mgt 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
C S/ECE/M E	Project (or 6 hours Thesis, Plan I)	3
Total Credit Hours		60

GRADUATE 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 an emphasis 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.

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 (emphasis 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.

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.

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 field may be counted toward degree requirements in the other field.
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). The completed proposal must be submitted to the Graduate Dean for final approval.

2. 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.
3. 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.
4. 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.
5. Time limits for completion of the two degrees:
 - A. 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).
 - B. 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.
 - C. 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.

made to the five-year limit for the doctoral degree to accommodate completion of the master's degree.

5. 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.
6. 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.

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: Art History; Art of the Americas, Art of the Modern Age (M.A., Ph.D.); Latin American Studies (M.A., Ph.D.); Nursing & Latin American Studies (MSN; M.A., Latin American Studies); Optical Science & Engineering (MS, Ph.D.); Art Studio Printmaking (M.F.A.); Water Resources Administration (MWR).

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/rop/Application_2001.pdf.

Project 1000

Project 1000 is a national program created to assist underrepresented 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

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:

1. Students must complete departmental and university requirements for the master's degree.
2. Students must adhere to departmental and university policies regarding the master's degree.
3. 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.

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:

1. Students must have written permission from their doctoral program to pursue the master's degree.
2. Students must complete application materials and be formally admitted to the new master's program.
3. 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).
4. 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

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: 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: www.unm.edu/grad under the heading of "Funding Resources."

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/>.

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.

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.

Procedures for Petition for Assistantship Awards

A student who desires to hold an assistantship appointment under conditions different from those described above 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.

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 begin one week before the start date of each 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.

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.

NOTE: Read contract for payment variances.

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.

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 con-

siders this tuition waiver as a scholarship and not as payment for services rendered. Unused hours of waived tuition may be carried over from the fall semester to the spring semester and/or summer session but not beyond.

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.

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 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.

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.

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 in Scholes Hall 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

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 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 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. Policies and procedures, however, may change at any time within a student's term of residence and the student is held accountable to the most current policies and procedures.

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.

Doctoral students have a five-year time limit for completion of degree requirements commencing with the semester in which they pass the 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 though many students on assistantships complete 12 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.

Program of Studies (Master's Degrees and Transcribed Certificates Only)

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/>).

Application for Candidacy (M.F.A./Ph.D./Ed.D. only)

A student seeking an M.F.A., Ph.D. or Ed.D. must 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/>).

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 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.

NOTE: Honors (cum laude, magna cum laude or summa cum laude) are not awarded at the graduate level.

Graduate Credit

With the exceptions noted below, graduate credit is earned only by students admitted to the University for graduate study and properly registered in courses approved for graduate credit. Graduate credit cannot be earned by examination, as in the College Level Examination Program (CLEP).

Regular Graduate Students

Students enrolled in graduate status will receive graduate credit for all courses approved for graduate credit numbered 500 or higher. They will receive graduate credit for upper division undergraduate courses (3XX or 4XX level) provided the courses are listed in the Catalog as approved for graduate credit (noted by a single asterisk), and the additional work required for graduate credit is completed.

If a course is listed in the Catalog as approved for graduate credit only for those students outside that particular program (double asterisk), a Graduate Credit Authorization card must be completed by those students who are eligible (see section below).

Non-Degree Students

No special action needs to be taken by non-degree students who hold baccalaureate degrees and who wish to enroll in courses numbered 500 or higher, as these courses automatically carry graduate credit. To receive graduate credit for an approved 3XX or 4XX level course, a non-degree student must obtain signatures from the course instructor and the OGS on a Graduate Credit Authorization card. Non-degree, graduate-level course work may be transferred into a graduate degree program on a limited basis.

Undergraduate Students

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; and
- 2) Have an overall cumulative grade point average of at least 3.0.

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.

If these requirements are met, the student must complete a Graduate Credit Authorization card, signed by the instructor, college advisement office and the OGS. The courses taken may apply toward a graduate degree after completion of the baccalaureate (within the constraints listed under the "Applied Credit" section of this catalog). The same course cannot be counted for both graduate and undergraduate credit.

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

Graduate Credit Authorization Card (GCA)

By signing the Graduate Credit Authorization card, a course instructor acknowledges that a student taking a 3XX or 4XX level course available for graduate credit will be held accountable for graduate-level work and requirements. GCA 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.

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 Dean of Graduate Studies 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.

Grade Replacement

Graduate students may not repeat a course for a higher grade and have the lower grade removed from their grade point average.

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. Graduate units may impose additional restrictions on the acceptance and use of transfer credit.

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 Credit

Graduate-level University of New Mexico courses taken in non-degree status, University of New Mexico extension credit, University of New Mexico Law credit, and up to 9 hours of approved graduate-level course work taken in undergraduate status may be applied toward a graduate degree within the limits described in the Catalog sections on Master's, Master of Fine Arts, and doctoral degrees. Graduate units may impose additional limits on the acceptance of applied credit.

Undergraduate and graduate course work applied toward another degree at The University of New Mexico, or at any other institution, may not be applied toward a 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.

The University of New Mexico non-degree, Law and University of New Mexico extension credit applied toward a graduate degree must 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 if appropriate;
2. A grade of B (3.0) or better must have been earned;
3. The course must fall within the seven year rule when applied to Master's-level degrees;
4. The courses must have been approved by the student's advisor, the graduate unit chairperson and, where applicable, the Committee on Studies;
5. The courses must have been taught by faculty members approved for graduate instruction; and
6. The University of New Mexico Law credit applied toward a graduate degree must be approved by the major professor or Committee on Studies (if applicable), the graduate unit chairperson, the Dean of the Law School and the Dean of Graduate Studies. Such hours may not be counted toward requirements for the J.D. degree, except for dual degree programs (see Graduate/Professional Dual 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 according to guidelines provided by 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.

Concentrated Courses and Workshops

The Dean of Graduate Studies must approve all concentrated courses and workshops offered for graduate credit. Concentrated 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.

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.

Students should not re-enroll or re-register for credit in a course for which an Incomplete has been received in order to resolve the Incomplete. If required by the instructor to repeat the class to resolve the Incomplete, the student must register for the course on an audit basis.

Incomplete grades must be resolved by the published ending date of the next semester in attendance or within the next four semesters if the student does not re-enroll in residence. An Incomplete may be resolved even though a student is not enrolled in residence. Incomplete grades not resolved within the time frames stated in this policy will be converted automatically to F (failure).

Incomplete grades received Summer 2005 and after 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 unless the student has completed a "Request for an Extension of an Incomplete" (including all required signatures) and submitted the form to the Office of Graduate Studies prior to the published end date of the semester.

Students are responsible for arranging with the instructor the resolution of an Incomplete grade. They must complete the

work prescribed by the instructor in adequate time for the instructor to report the resolved grade to the Office of the Registrar (SSC 250) by the appropriate deadline. It is the student's responsibility to inform the instructor of the deadline date.

Students may not graduate with an Incomplete pending in any graduate courses. Those resolving any Incomplete in their semester of graduation must have the process completed (including the reporting of the grade to the Office of the Registrar) by November 15 for Fall graduation, April 15 for Spring graduation or July 15 for Summer graduation. Failure to complete this process could result in the postponement of graduation until the following semester.

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 grade points earned (see Catalog section on Grades) by the total number of course work hours taken. 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.

Grade Replacement

Graduate students may not repeat a course for a higher grade and have the lower grade removed from their grade point average.

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.

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 (the graduate unit may suspend the student 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, a graduate unit, 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.

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 Dean of Graduate Studies. This petition process does not cover disputes involving academic judgments. Petitions must include the student's current return mailing address.

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>

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.
3. 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.
4. 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.
5. 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

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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.

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 "Financial Aid."

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:

Post Master's Certificate in Management
Educational Specialist Certificate

(NOTE: These are the EdS certificates offered in numerous fields in COE)

Historic Preservation and Regionalism
Post Masters Certificate in Nursing
Computational Science and Engineering
Town Design

Admission Requirements

Applicants to a graduate certificate program must either be current graduate students at the University of New Mexico, or they must comply with the Graduate Admission Processes and Policies described earlier in this catalog. The certificate program may establish additional admission 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-fourth (1/4) of the total course work credits required for the degree may be graded C, C+ or CR (See Grade Point Average policy);
7. Must complete 75% of the course work credits required for the certificate at UNM; and
8. 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 graduate 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 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 but not before completion of 12 credits of course work. 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 grad-

uate 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 or 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 at least 1 graduate credit either in thesis (599) for Plan I, or in project, problems (not to exceed 12 credit hours) or another graduate course for Plan II for the semester (including the summer session) in which they complete degree requirements. Typically Plan I master's students complete degree requirements in the semester during which they pass the master's examination and submit a thesis to the Dean of Graduate Studies for approval. Typically Plan II master's students complete degree requirements in the semester

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during which they pass the master's examination and complete all Plan II 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 three members approved for graduate instruction, at least two of whom must be tenured or tenure-track faculty members at the University of New Mexico with regular graduate faculty approval. The chairperson of the examination committee must be a tenured or tenure-track faculty member with regular graduate faculty approval at the University of New Mexico. Non-regular faculty may serve as co-chairpersons. Each member of the master's examination committee must receive prior approval from the major graduate unit and the Dean of Graduate Studies.

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 graduation 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.

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 of three members approved for graduate instruction, at least two of whom must be tenured or

tenure-track faculty members at the University of New Mexico with regular graduate faculty approval. The thesis chairperson, who will assume the major responsibility for guiding the student's work, must be a tenured or tenure-track faculty member with regular graduate faculty approval at the University of New Mexico.

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 summers) must petition for reinstatement and pay a reinstatement fee. (Procedures for reinstatement are available on the OGS Web site <http://www.unm.edu/grad>.)

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.

Submission of the Thesis

Two copies of the unbound thesis manuscript, each 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 manuscript is not submitted by these deadlines the student will not graduate in that semester. One copy will be placed in the library archives and the other in circulation. The student's graduate unit may require additional copies.

Thesis Format

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

reproduction 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 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).

Accompanying Forms

The following forms, which must be submitted along with the manuscript, may be obtained from the graduate unit or the OGS:

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 may be submitted with the student's manuscript, and they 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" (which should be included in the box with the manuscripts).
4. The UMI Agreement Form and Cashier's Check (optional).

Students are responsible for including two complete sets of the "red-bordered pages" (Approval Page, Abstract and Abstract Title Page) with the two manuscripts 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.

NOTE: The student's graduate unit may require copies of the manuscript and forms.

Fees

A thesis binding fee must be paid at the Bursar's Office for the two manuscript copies submitted to the OGS and forwarded to the University library. For the exact amount of the fee, please check with the OGS. A copy of the thesis binding fee receipt must accompany the 2 copies of the manuscript submitted to OGS.

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.

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 concentration, 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.

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. Application/Transfer Credits

The following regulations apply to the application or transfer of credits toward a M.F.A. 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. Course must be approved by the M.F.A. Committee on Studies and the graduate unit.
5. Course must be listed on Application for Candidacy form.
6. 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.

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), must be approved by the Graduate Dean. The examining committee must consist of at least three members approved for graduate instruction. Two examination committee members, including the chairperson of the committee, must hold tenure or tenure-track appointments at the University of New Mexico and have regular graduate faculty approval.
4. In order to qualify to sit for the M.F.A. comprehensive exam during the intercession, the student must be registered for the following semester.
5. 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.
6. The results of the examination (pass or fail) must be reported to the Dean of Graduate Studies on the "Report of Examination" form.

7. 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.

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 process is begun by completion of the "Application for Candidacy," which formally summarizes a student's M.F.A. program of studies. Approval of that program of studies by the student's M.F.A. comprehensive examination committee is indicated by their signatures on the form, along with that of the graduate unit chairperson.

The completed "Application for Candidacy" is forwarded to the Dean of Graduate Studies during the semester in which the student has passed his/her M.F.A. comprehensive examination. It should be accompanied by the "Report of Examination" and, if the program has a language or a skill requirement that the student has met, completion of this requirement should be noted on the application form where indicated. If the language/skill requirement is not noted on the Application for Candidacy a "Certification of Language or Research Skill Requirement" form must be submitted before the student is advanced to candidacy.

After determining that all requirements except for outstanding course work and the dissertation or final project have been fulfilled, the Dean of Graduate Studies will advance the student to candidacy.

The 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 manuscript to the OGS, the manuscript must adhere to the dissertation format outlined under the doctoral section of this catalog.

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.

1. A minimum of three committee members must hold tenure or tenure-track positions and must have regular graduate faculty approval.
2. At least two members must hold tenure or tenure-track faculty appointments at the University of New Mexico and have regular graduate faculty approval.
3. At least one of the members must be from the student's graduate unit and must hold a tenure or tenure-track faculty appointment with regular graduate faculty approval at the University of New Mexico.
4. The dissertation director must be a tenured or tenure-track member of the University of New Mexico faculty and have regular graduate faculty approval.
5. A required external member must hold 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).
6. One of the committee members may be a non-faculty expert in the student's major research area.

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.

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 petition for reinstatement and pay a reinstatement fee. (Procedures for reinstatement are available on the OGS Web site <http://www.unm.edu/grad>.)

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.

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 student is responsible for providing each member of the dissertation committee with complete copies of all written materials 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 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.

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. Please 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

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.

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."

Application/Transfer of 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. Course must be approved by the doctoral Committee on Studies and the graduate unit.
5. Course must be listed on Application for Candidacy form.
6. 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 degrees, 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.

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) must be approved by the Graduate Dean. The examining committee must consist of at least three members approved for graduate instruction. Two examination committee members, including the chairperson of the committee, must hold tenure or tenure-track appointments and have regular graduate faculty approval at the University of New Mexico.
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.

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 process is begun by completion of the "Application for Doctoral Candidacy," which formally summarizes a student's doctoral program of studies. Approval of that program of studies by the student's doctoral Committee on Studies is indicated by their signatures on the form, along with that of the graduate unit chairperson.

The completed "Application for Doctoral Candidacy" is forwarded to the Dean of Graduate Studies during the semester in which the student has passed his/her doctoral comprehensive examination and no later than the semester before he/she wishes to graduate. It should be accompanied by the "Report of Examination" and, if the program has a language or a skill requirement that the student has met, completion of this requirement should be noted on the application form where indicated. If the language/skill requirement is not noted on the Application for Candidacy a "Certification of Language or Research Skill Requirement" form must be submitted before the student is advanced to candidacy.

After determining that all requirements except for outstanding course work and the dissertation have been fulfilled, the Dean of Graduate Studies will advance the student to candidacy.

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.

1. A minimum of three committee members must hold tenure or tenure-track positions and must have regular graduate faculty approval.
2. At least two members must hold tenure or tenure-track faculty appointments at the University of New Mexico and have regular graduate faculty approval.
3. At least one of the members must be from the student's graduate unit and must hold a tenure or tenure-track faculty appointment with regular graduate faculty approval at the University of New Mexico.
4. The dissertation director must be a tenured or tenure-track member of the University of New Mexico faculty and have regular graduate faculty approval.
5. A required external member must hold 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).
6. One of the committee members may be a non-faculty expert in the student's major research area.

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 petition for reinstatement and pay a reinstatement fee. (Procedures for reinstatement are available on the OGS Web site <http://www.unm.edu/grad>.)

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.

Dissertation Format

The student is responsible for preparing a dissertation in proper format that is of high reproduction 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 Manuscript Manual and most required forms are available on the OGS Web site (<http://www.unm.edu/grad>). 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).

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.

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.

Submission and Approval of the Dissertation

The dissertation defense is scheduled once the student and their major advisor have agreed that the manuscript is in its final form. Doctoral students must submit their dissertations to the Dean of Graduate Studies within ninety (90) days of their 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.

Two unbound copies of the dissertation, each with an abstract of not more than 350 words, all in certified final form and approved by at least three members of the dissertation committee, must be submitted for approval by the Dean of Graduate Studies. The deadline dates for submission are: November 15 for Fall graduation, April 15 for Spring or July 15 for Summer. The graduate unit may require additional copies of the dissertation. The "Certification of Final Form,"

certifying that the director of the dissertation has proofread the final manuscript, must accompany the dissertation.

This form may be obtained from the OGS Web site (<http://www.unm.edu/grad>). If the format of the manuscript is incorrect, the author and the committee chairperson will be immediately notified. A letter from the Dean of Graduate Studies will also notify the student when the manuscript has been officially accepted.

Accompanying Forms

The following forms, which must be submitted along with the manuscript, may be obtained from the OGS or the OGS Web site (<http://www.unm.edu/grad>):

1. A "Report on Thesis or Dissertation" completed by each committee may accompany the manuscript, and 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" which should be included in the box with the manuscripts.
4. A "Survey of Earned Doctorate."
5. The "UMI Dissertation Microfilm Agreement" form and Cashier's check.

Students are responsible for including two complete sets of the "red-bordered pages" (Approval Page, Abstract and Abstract Title Page) with the two manuscripts 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.

Fees

A manuscript binding fee must be paid at the Bursar's Office. The fee covers the cost of binding for the two manuscript copies submitted to the OGS and forwarded to the University Library. One copy will be placed in the library archives and the other in circulation. Students should check with the OGS for the exact amount of the fee.

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.



THE ROBERT O. ANDERSON SCHOOLS OF MANAGEMENT

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 Jack Che Ping Su, Ph.D., Georgia Institute of Technology
 Douglas E. Thomas, Ph.D., Texas A&M University
 Harry J. Van Buren III, Ph.D., University of Pittsburgh

Research Professor

Gerald Albaum, Ph.D., University of Wisconsin, Madison

Lecturers

John Ackerman, M.S., New Mexico State University
 John D. Benavidez, M.B.A., The University of New Mexico
 Ann K. Brooks, M.B.A., The University of New Mexico
 Norman H. Colter, M.B.A., The University of New Mexico
 Eddie Dry, Ph.D., Texas A&M University
 David O. Harris, Ph.D., University of Lancaster
 Alex Seazzu, M.B.A., The University of New Mexico

Visiting Lecturers

Ronald Johnson, M.B.A., The University of New Mexico

Professors Emeriti

Edwin H. Caplan, Ph.D., University of California, C.P.A.
 Janice B. Corzine, Ph.D., The University of New Mexico
 Patricia Elliott, D.B.A., University of Colorado, C.P.A.
 John M. Finkelstein, Ph.D., University of Pennsylvania
 Howard Finston, Ph.D., Stanford University
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 Perry T. Mori, M.B.A., Northwestern University; J.D., The
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 G. Edward Philips, Ph.D., Michigan State University, C.P.A.
 James L. Porter, J.D., Temple University School of Law
 Raymond Radosevich, Ph.D., Carnegie-Mellon University
 Robert R. Rehder, Ph.D., Stanford University
 Richard A. Reid, Ph.D., Ohio State University
 Robert D. Rogers, Ph.D., University of Nebraska
 Abraham Shama, Ph.D., Northwestern University
 Donald G. Simonson, Ph.D., University of Michigan
 Daniel M. Slate, Ph.D., University of Washington
 Lothar G. Winter, Ph.D., University of Freiburg
 John A. Yeakel, Ph.D., University of Florida, C.P.A.

Introduction

The mission of the Anderson Schools of Management is to provide quality management education that enables New Mexico to be economically competitive.

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. The Anderson Schools of Management education enables individuals to manage existing businesses, develop new businesses and define public policy that encourages economic development balanced with social and environmental responsibility. The Schools are 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.

The Schools offer 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 Schools of Management foster an exciting academic environment with collaborative student-faculty interaction, active adult learning approaches, team-based experiences and practical applications. The Schools are committed to providing facilities and learning technologies consistent with this academic environment. Students are encouraged to think critically, to practice intellectual curiosity, to explore the bounds of creativity and innovation, to demonstrate scholarly enthusiasm and to pursue business rele-

vance. 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://asm.unm.edu

Learning Assessment Test (LAT)

In order to meet AACSB accreditation requirements and allow The Anderson Schools of Management to assess educational performance, all newly admitted students to The Anderson Schools of Management are required to take a LAT before or during their first semester at ASM. All ASM graduating students are required to take the LAT the semester of graduation. The ultimate goal of LAT is to help nurture continual improvement of the educational experience for all ASM students. Other LAT activities will include student portfolios and evidence of concentration mastery. The LAT will be an ongoing process with changes being incorporated as warranted. For additional details, please see an ASM advisor and/or go to <http://asm.unm.edu/assessment>.

Degree Programs

Undergraduate Degree Offered

At the undergraduate level, the Robert O. Anderson Schools of Management offer the Bachelor of Business Administration.

Graduate Degrees Offered

Graduate degrees include the Master of Business Administration (offered through the regular M.B.A. and Executive M.B.A. Programs), Master of Accountancy, Dual Degree Programs and the Post-Masters Certificate Program.

The Anderson Schools of Management may change curriculum, degree requirements and policies at anytime, without notice, for all degree programs. Please check with ASM advisors for current information and assistance with program planning.

Admission Requirements

Minimum requirements for transfer or admission to the Bachelor of Business Degree 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 Schools Advisement and Placement Center during the semester when the pre-admission course work is to be completed. Application procedures must be completed by:
 - March 1 for Summer admission
 - June 1 for Fall admission
 - October 1 for Spring admission

NOTE: Students not completing their application by

the deadline date 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 ASM core curriculum list.
- (D) Social Science and Behavioral Science: Econ 105, 106, 3 credit hours from either *General Psychology* (Psych 105) or *Introduction to Sociology* (Soc 101) and 6 additional credit hours selected from Anthropology, Economics, History, Political Science, Geography, Psychology or Sociology.
- (E) Humanities: 3 credit hours chosen from ASM's core curriculum course list. Note that the University of New Mexico core curriculum requires 6 credit hours of Humanities. ASM 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 ASM'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 Mgt 290
- (J) Students must pass a computer skills competency test administered by the Anderson Schools of Management. This competency test may be waived by completing C S 150L, Computing for Business Students.

Pre-admission total: 52 credits

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 Schools.
2. Completion of a minimum of 128 hours, excluding Management courses for non-majors, 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 required all pre-admission course work. A minimum grade of "C-" is required in all 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 economics and management courses while enrolled at the Anderson Schools.
4. Completion of the following course requirements:

Pre-admission course work	52
Anderson Schools Core	30
Upper-Division Humanities	3
Concentration and other electives	31
Free electives outside of ASM	12
Total degree requirements	128
5. Application for graduation in the semester prior to a student's final semester. Applications are available in ASM's Advisement and Placement Center.

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.

Anderson Schools Core courses are the following:

Mgt 300	Operations Management	3
Mgt 301	Computer-Based Information Systems	3
Mgt 303	Managerial Accounting	3

Mgt 306	Organizational Behavior and Diversity	3
Mgt 308	Ethical, Political and Social Environment	3
Mgt 310	Legal Issues for Managers	3
Mgt 322	Marketing Management	3
Mgt 326	Financial Management	3
Mgt 328	International Management	3
Mgt 498	Strategic Management	3
Total Anderson Schools Core **		30

** 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 Schools.

(B) Upper-Division Humanities: an additional 3 credit hours at the 300 or higher level from: American Studies, Classics, Comparative Literature and Cultural Studies, 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 31 credit hours. Students are encouraged to complete a Minor degree outside of the Anderson Schools. This can be accomplished by combining pre-admission core, upper-division requirements and free electives.

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. If one wishes to declare a concentration, it should be decided no later than the first semester of their senior year. The specific concentration requirements are listed below.

Accounting—18 hours

In addition to the core courses required of all B.B.A. candidates (which for accounting majors must include Mgt 310), the accounting concentration consists of these courses: Mgt 340, 341, 343, 346, 443, 449.

Mgt 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 Schools. 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.

Finance—15 hours

In addition to Mgt 326, required courses are Mgt 340 and four of the following: Mgt 426, 470, 471, 473, 474. In addition, Mgt 341 is encouraged.

Human Resources Management—15 hours

Students must take Mgt 463 and 464 plus any three of the following courses from Mgt 457, 465, 466, 468, 469, 492 and 493. Other Anderson Schools courses, or courses outside the Anderson Schools, may be substituted with the department chair's prior written approval.

International Management—18 hours

Students who are interested in careers in International Management 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. For all but a handful of countries, students will benefit greatly from mastering a foreign language.

Course Requirements:

1. Students must complete Mgt 421 (Entry Strategies for International Marketing) and Mgt 474 (International Finance).
2. Four elective concentration courses must be taken from among the following courses, or other appropriate courses with the approval of a faculty advisor: Mgt 420 (Management in Latin America), Mgt 422 (Seminar on Mexican Economy Markets), Mgt 481 (Marketing Research I), Mgt 483 (International Marketing), and special topics courses offered in the department.

Students must complete a minimum of two upper division (i.e., 300-level and above) foreign language courses.

International Management in Latin America—18 hours

Students who are interested in careers in International Management 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 Mgt 420 (Management in Latin America), Mgt 421 (Entry Strategies for International Markets), Mgt 422 (Seminar on Mexican and Economy Markets), and Mgt 474 (International Finance).
2. Two elective concentration courses must be taken from among the following courses, or other appropriate courses with the approval of a faculty advisor: Mgt 481 (Marketing Research I), Mgt 483 (International Marketing), and special topics courses offered in the department.
3. Students must complete a minimum of two upper division (i.e., 300-level and above) foreign language courses in Spanish or Portuguese. Under limited circumstances, appropriate substitutes may be used to fulfill this requirement.

Management Information Systems—21 hours

The required courses are: C S 152L, Mgt 329, 331, 337, 459, 460 and 461.

Marketing Management—15 hours

Mgt 480 and 481 plus three additional marketing electives from 483, 484, 485, 486, 487, 488, 489 and 433. Other Anderson Schools courses or courses outside Anderson Schools may be substituted with faculty advisor prior written consent. Students may also take any three of the following 1 credit courses as one of the required electives: Mgt 370, 371, 372, 373, 374, 375, 376.

Organizational Management—15 hours

Serves students with diverse interests in the types of organizations in which they will work and the types of professional activities they wish to pursue. This concentration's three tracks, which all require Mgt 362, serve a different student base along the following lines:

Entrepreneurial Studies Track: Students who expect to form their own businesses or work in small business with

an entrepreneurial focus. Students are required to take Mgt 324, 362 and 384 plus any two of: Mgt 493, 495, 496.

Organizational Leadership Track: Students who expect to work for organizations of all types (private, government, non-profit) in which they expect to play a leadership role. Students are required to take Mgt 362, 307 and 458 plus any two of: Mgt 462, 457, 469, 492.

Tourism Management Track: Students who expect to work in the travel and tourism industry or hospitality organizations. Students are required to take Mgt 362, 411, 412, 413 and 493.

Within each track, students may substitute other Anderson Schools courses, or courses outside the Anderson Schools, with the department chair's prior written approval; however, required courses cannot be substituted.

Operations Management—15 hours

Mgt 434, plus four courses from 433, 462, 486, 488 and C S 452, or other courses approved by faculty advisor. Students may also take any three of the following 1 credit courses as one of the required electives: Mgt 370, 371, 372, 373, 374, 375, 376.

Minor Study

For those schools and colleges accepting a minor in management, the requirements are a minimum total of 18 credit hours. Six to 9 hours must be selected from Mgt 113, 202, and one of the following economics course: Econ 105 or 106 or 300 (economics courses are allowed for non-economics majors only). The remaining credit hours should be selected from 300-level Management 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) ASM 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) ASM students according to their semester grade point average.

Pass/Fail (CR/NC) Option

Course work 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 course work, Management Core Courses, upper-division Humanities requirement and Concentration classes. Students should refer to the Grade Options section of the General Academic Regulations 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 Schools. Other students will be accepted on a space available basis, provided they satisfy prerequisites. Students not admitted to the Anderson Schools of Management are limited to a maximum of 9 credit hours of 300-level and 400-level courses. Students enrolled in two sections of the same course may be dropped from both sections.

Prerequisites

It is the firm policy of the Schools that course prerequisites must be observed. Management courses taken out of sequence may not be used to fulfill degree requirements of the Schools regardless of the grades earned in such courses. The Anderson Schools reserve the right to disenroll from a class any student who lacks proper prerequisites.

The University of New Mexico Probation and Dismissal

Please see the regulations concerning academic probation and dismissal shown in the General Academic Regulations 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 Schools and University of New Mexico probation. In addition, any student who fails to meet pre-admission requirements after provisional admission will be placed on internal probation at the Anderson Schools. Students placed on probation may be dismissed from the Anderson Schools if they fail to improve their academic performance or to complete pre-admission requirements 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 Schools 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 Schools.

Transfer of credit is a two-part process. 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. 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 Schools. Evaluations or opinions offered prior to admission are unofficial and non-binding.

Students desiring to transfer credit for any upper-division Anderson Schools course must receive prior approval from a faculty member possessing expertise in the area. Forms for such approval are available at the B.B.A. Advisement Center at the Anderson Schools. 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 ASM. Individual departments may establish additional residency requirements. The Anderson Schools 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.

The Five-Year Rule

The Anderson Schools believe 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 ASM within five years of admission. Generally, a student continuously enrolled in ASM 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 ASM 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 Schools 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 include:

- Advanced Accounting
- Finance
- International Management
- International Management in Latin America
- Management Information Systems
- Management of Technology
- Marketing Management
- Operations Management
- Organizational Behavior/Human Resources Management
- Policy and Planning
- Professional Accounting
- Tax Accounting

The general M.B.A. core consists of 10 courses (30 credit hours), as follows:

- Mgt 501 Statistical Analysis for Management Decisions

- Mgt 502 Accounting and Management Information Systems I
- Mgt 504 Microeconomics for Managers
- Mgt 506 Organizational Behavior and Diversity
- Mgt 508 Ethical, Social, Political and Legal Environment
- Mgt 511 Technology Commercialization and the Global Environment
- Mgt 520 Operations Management
- Mgt 522 Marketing Management
- Mgt 526 Financial Management
- Mgt 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 Schools of Management or at a comparable AACSB accredited program may request waivers from some core courses, with the exception of Mgt 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 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.

Master of Accounting Degree

The Master of Accounting degree offers three concentrations. The Advanced Concentration is designed for individuals who have already earned a B.B.A. with a concentration in accounting. 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 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. All concentrations are a 33 credit hour program of study. 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. The Professional Concentration has two prerequisites consisting of an introductory financial accounting course and a managerial accounting course prior to admission in the program and consists of 24 credit hours of specified graduate accounting classes, plus 9 hours of graduate non-accounting electives. 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.

The "Three-Two" Program

ASM's Three-Two Program allows students completing an undergraduate degree outside the Anderson Schools to begin their M.B.A. studies early. For the first three years of university studies, the student pursues a normal program of undergraduate work. During the third year of academic work, the student applies for admission to the M.B.A. program of the Anderson Graduate School. In the fourth 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 fifth year of study, the student completes the second-year requirements and electives of the M.B.A. program. It is recommended that students complete Business Calculus and Microeconomics before applying. Students must not take any undergraduate

management courses in order to be eligible for this program, with the exception of Mgt 113.

Dual-Degree Programs

For information on the J.D./M.B.A., M.B.A./M.A. in Latin American Studies and joint M.B.A./Engineering degrees dual-degree programs please 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.

Current Policies

This catalog provides basic information about the Anderson Schools graduate programs. Students admitted to the graduate program should consult the Anderson Schools of Management Graduate Programs Policy Manual for additional information about current policies.

Admission Requirements:

The minimum requirements for admission to the M.B.A. and Master of Accountancy programs are as follows: for the M.B.A., a grade point average of 3.0 for the last 60 hours of college course work including any post baccalaureate work; for the Master of Accountancy, a grade point average of 3.0 for all undergraduate course work as well as an average of 3.0 for all accounting courses; and an acceptable score on the Graduate Management Admission Test (GMAT) is required (normally, this means a minimum score of 500).

A formal application plus all additional admission requirements must be submitted by all students, including graduates of the Anderson Schools of Management. Applications for admission are available from the Anderson Schools Graduate Program Office. A nonrefundable application fee of \$40.00 must accompany the application. Deadlines for admission are:

Domestic Students:

Fall semester:	June 1
Spring semester:	November 1
Summer session:	April 1

International Students:

Fall semester:	March 1
Spring semester:	August 1
Summer session:	January 1

Prospective applicants with questions concerning the curriculum or other matters are invited to write or contact the ASM Graduate Programs Office, Robert O. 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.

The Executive M.B.A. Weekend Program

The Executive M.B.A. program (EMBA) is an intensive, two-year course of study designed specifically for experienced, highly motivated individuals who wish to enhance their managerial acumen, accelerate their career progression or pursue new business 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 on The University of New Mexico's main campus on Friday afternoons (1:00–6:00 p.m.) and Saturday mornings (8:00 a.m.–1:00 p.m.) for approximately 25 months. Successful completion of the program leads to the M.B.A. degree. EMBA classes are limited to EMBA program participants.

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 Graduate 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 is used, including the case method, group projects and peer learning through formal study teams.

The EMBA program sets its own all-inclusive fee each year to include tuition, books, parking, refreshments and complete administrative support. The only additional cost is for participation in the optional, international seminar and 10-day trip abroad. Payments are prorated over the course of the two-year program and student loans are available. Approximately 75% of the participants receive partial or full financial support from their sponsoring organizations, which also provide release time to attend classes.

The EMBA program starts once each year in late June with a mandatory, two-day orientation; however, applications are accepted year-round through a rolling admissions process. Candidates must have at least three years of significant work experience (managerial, supervisory or project management) and hold an undergraduate degree in any field.

For consideration, applicants should submit the following: EMBA application form and fee, current resume, statement of purpose, official copies of all transcripts, official GMAT 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 faculty selection committee.

For more information, contact the EMBA Program Office, Anderson Schools of Management, MSC05 3090, 1 University of New Mexico, Albuquerque, New Mexico 87131-0001. Telephone: (505) 277-2525, FAX: (505) 277-0345. E-mail address: emba@mgt.unm.edu

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 ASM graduate courses if there is space available and if the student meets the prerequisites for the course.

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. 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.

Post-Masters Certificate in Management Program

The Post-Masters Certificate in Management Program offered by the Anderson Graduate School provides holders of the M.B.A. degree from an AACSB-accredited institution an opportunity to further their professional management education through the regular graduate seminar offerings of the Schools.

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 may 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 five of the following courses: MGT 570, 571, 573, 574, 576, 577, or other courses approved by the finance graduate advisor.

International Management

Students must complete MGT 574, 583, 596, 597, and one other course approved by the international management graduate advisor.

International Management in Latin America

Students must complete MGT 524, 583, 595, 596, and one of the following courses: MGT 548, 560, 574, and 597.

Management Information Systems

Students must complete five of the following courses: MGT 437*, 630, 631, 632, 635, 636, 637, 638, 639, and other courses approved by the management information systems graduate advisor. CS 152L, MGT 329, and MGT 459 must be completed or waived by the graduate advisor prior to enrolling in 600-level management information systems courses.

Management of Technology

Students must complete MGT 512 and 513 and three of the following courses: MGT 514, 515, 516, 517, 518, 519, or other courses approved by the management of technology graduate advisor.

Marketing Management

Students must complete MGT 580 and 581 and three of the following courses: MGT 489, 523, 583, 584, 586, 587, 588, or other courses approved by the marketing graduate advisor.

Operations Management

Students must complete five of the following courses: MGT 521, 523, 525, 529, 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: MGT 463*, 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: MGT 411*, 412*, 413*, 458*, 495*, 496*, 505, 509, 553, 554, 555, 556, 557, 558, 594, 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 Schools of Management.

Management (Mgt)

Prerequisites and Corequisites

First preference for enrollment in all upper-division Management courses will be given to students who have been admitted to the Anderson Schools.

Students not in the Schools 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 Schools 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 Schools reserve 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.

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.
Prerequisite: Permission of instructor.

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.
Prerequisites: two semesters of college-level mathematics and one semester of economics with a grade of "C" or better in each course.

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)

(Also offered as Stat 245.) 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 or equivalent.

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: 290 or Stat 145, or Stat 245, or Stat 345.

301. 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.
Prerequisites: 300, 303, 306, 322.

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.

Prerequisites: Engl 102, 6 hours of behavioral science.

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.

Prerequisites: Engl 102, Econ 106.

309. Law and Society. (3)

Examination of the nature, functions and ends of law. Philosophical schools of thought concerning the nature of man, organizations and government from Aristotle to the present. Emphasis on law as an external constraint on decision-making by individuals and organizations.

Prerequisite: Engl 102.

310. Legal Issues for Managers. (3)

A conceptual approach to transactions between people and organizations. Development of an understanding of the elements of agreements, the types of agreements which are legally enforceable and the legal remedies available to the parties thereto.

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.

Prerequisites: Engl 102, Econ 106.

324. New Venture Strategies. (3)

Examines strategies, both personal and commercial, for effectively embarking on new ventures. Focuses on phase of entrepreneurship occurring between generation of the initial new venture idea, up to and including the first commercial sale.

Prerequisites: Engl 102, 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.

Prerequisites: 202, Math 180, Econ 106, C S 150, and one of the following courses: Stat 145, 245, 345, or Mgt 290.

***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 or permission of instructor.

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.

Prerequisites: C S 152 L, Mgt 459.

331. Business Application Programming. (3)

Development of complex business application programs with object-oriented tools and techniques.

Prerequisites: 459, C S 152L.

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.

Prerequisites: 329, 331.

340. Financial Accounting I. (3)

Financial reporting theory, applied financial accounting problems, contemporary financial accounting issues. The accounting cycle, asset valuation; income determination; issues resulting from the corporate form of organization; current assets.

Prerequisite: grade of C- or better in 202.

341. Financial Accounting II. (3)

Continuation of 340. Problems relating to liabilities and non-current assets; the analysis and interpretation of financial statements including the impact of income taxes and changing price levels.

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.

Prerequisite: 340 or permission of instructor.

343. Income Tax Accounting II. (3)

Continuation of 342. Covers corporation, partnerships, estate and gift taxes, fiduciaries, tax planning and tax shelters.

Prerequisite: 340.

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.

Prerequisites: 310, 340.

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.

370. Structured Management Decision Making. (1)

An introduction to the elements of quantitative decision analysis—structuring decision problems through influence

diagrams and decision trees, the value of information, risk attitudes and assessment of preference.
Prerequisite: 290 or Stat 145, or Stat 245, or Stat 345.

371. Applied Business Statistics Using Excel®. (1)
Focus is on the use of Excel® to perform statistical analysis for managerial decision making. Topics include descriptive statistics, hypothesis testing, correlation, regression, analysis of variance and non-parametrics.
Prerequisite: 370.

372. Acquiring Information for Managerial Decision Making. (1)
This course focuses on finding and acquiring secondary data to aid management decisions. Primary interests are trade sources, professional business sources, commercial sources and government sources. Other topics include competitor information and strategic intelligence.
Prerequisite: 290, or Stat 145, or Stat 245, or Stat 345.

373. Analysis of Secondary Data. (1)
The purpose of this course is to enable students to critically evaluate secondary data. This class requires a position paper developed from available secondary data.
Prerequisite: 371.

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: 290, or Stat 145, or Stat 245, or Stat 345.

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: 290, or Stat 145, or Stat 245, or Stat 345.

376. Forecasting Using Excel®. (1)
Introduction to forecasting methods and business applications using spreadsheets. Topics include time series decomposition, exponential smoothing methods, the Box-Jenkins methodology, long-term forecasting methods and judgmental forecasting methods.
Prerequisite: 370.

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) [1 credit hour for undergraduate students; 0 credit hours for graduate students]
Develop career management skills to prepare for entrance into the professional job market. Emphasis on cover letters, resumes, interviewing skills, networking, organizing job search and salary negotiations. **Graded on a CR/NC basis.**

***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.
Prerequisites: 202, Econ 105, 106 and one of the following: Stat 145, 245, 345 or Mgt 290.

***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 eco-

nomi, 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. Entry Strategies for International Markets. (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.
Prerequisite: 337.

439. Management of Information Systems. (3)
Strategic management issues in information systems and technology. Management of information resources and organizations, long-range planning and technology applications to functional areas of management.
Prerequisites: 329, 460.

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.
Prerequisite: 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: 440 or permission of instructor.

***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.

Prerequisite: 341 or permission of instructor.

449. Accounting Information Systems. (3)

Special permission of the advisor and of the Dean of the Anderson Schools 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.

Prerequisites: 303, 340.

451–452. Problems. (1-3, 1-3)

Special permission of the advisor and of the Dean of the Anderson Schools 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.

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.

Pre- or corequisite: C S 152L.

460. Information System Design. (3)

The design and development of information systems and software. Topics include software design, systems design and systems implementation. Emphasis is on tools and techniques.

Prerequisites: 329, 331.

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.

Prerequisites: 329, 460.

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.

Prerequisites: 306.

464. Human Resources Theory and Practice. (3)

Behavioral theories and applications in HR. HR planning, job analysis and design, recruitment, selection, performance man-

agement, training and development, employee involvement, compensation, labor relations, occupational health and safety. Prerequisites: 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.

Prerequisites: 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.

Prerequisites: 306 or permission of instructor.

***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.

Prerequisites: 306 or permission of instructor.

***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.

Prerequisites: 306 or permission of instructor.

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. (526 for graduate students.)

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.

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 or equivalent.

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, 480.

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. Emphasis on Latin America.
Prerequisite: 322 or equivalent.

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. Pre- or corequisite: 480.

485. Retailing Management. (3)

Management of the retail level of the distribution system. Emphasis on management decision making. Project orientation.
Prerequisite: 322. Pre- or corequisite: 480.

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.
Prerequisites: 300, 322 and 328.

487. Promotion Management. (3)

Analysis of personal and non-personal forms of marketing communications including market, audience and individual behaviors in both industrial and consumer markets. Emphasis of promotion as a marketing mix strategy, budgeting and media analysis for private, non-profit and public institutions.
Prerequisite: 322. Pre- or corequisite: 480.

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, 322, 328. Recommended prerequisite: 486.

***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.
Prerequisites: 322, 480; recommended: 481.

490, 493. Special Topics in Management. (3, 3)

Selected offerings of management topics not represented in the regular curriculum.
Prerequisites: 301, 309 or 322, 326. (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 busi-

nesses faced with resource constraints. Semester-long field cases of real businesses are the focus of study.
Prerequisites: Engl 102, 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.
Prerequisites: Engl 102, 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.
Prerequisites: students must be within the last 15 hours of completing the B.B.A. to take this course.

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. Course includes supplemental lab.

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)

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, analysis of variances, budgeting and responsibility accounting, planned capital expenditures.

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 or equivalent.

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.

509. Legal Topics in Management. (3)
Contemporary legal topics relevant to an ever-changing environment.

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. Permission of the instructor required.

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.

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}

515. Innovative Product Development. (3)
Topics covered include innovation diffusion models, consumer needs models, marketing mix and organizational mechanisms such as Venture teams.

516. Technology-based Strategic Alliances and Consortia. (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.

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.

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.

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.

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: 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: 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: 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.
Prerequisites: 501. Corequisite: 504.

528. International Management. (3)
Theoretical foundations and conceptual frameworks for analyzing international management problems in diverse international institutions. Analysis of foreign environments within which multinational organizations operate; survey of various dimensions of international operations; awareness of differences in management practices around the world.
Prerequisites: 501, 503, 504, 506, 508, 510, 522, 526.

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: 520 or permission of instructor.

532. Simulation. (3)
 (Also offered as C S 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: 502 or equivalent.

541. Financial Accounting II. (3)
 The application of advanced accounting principles to practical cases and accounting problems.
 Prerequisite: 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.
 Corequisite: 540.

543. Seminar in Business Tax Planning. (3)
 Continuation of 542. Covers corporation, partnerships, estate and gift taxes, fiduciaries, tax planning and tax shelters.
 Corequisite: 540.

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: 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 or equivalent.

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: 540 or equivalent. Corequisite: 541 or equivalent.

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.
 Prerequisites: 542 or 543 or equivalent.

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: 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.
 Corequisite: 540.

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: 540 or equivalent.

551-552. Problems. (1-3, 1-3) ††

553. Industrial Organization Economics Seminar. (3)
 Tools of microeconomic analysis to investigate the structure of firms and markets, including market structures, economies of scale, contestability and antitrust. Particular attention to the theory of the firm, agency problems within the firm and their solutions and the market for corporate control.
 Prerequisite: 504 or equivalent.

554. Public Control of Business Seminar. (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 or equivalent.

555. Washington Campus Program. (3)
 One week intensive "Washington Back-Stage: A Primer on the Public Policy Process for M.B.A. Students." Three sessions offered (spring break, late May and late June). Limited enrollment; special application required. Additional fees for travel and cost of the program.
 Prerequisite: 508 recommended.

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 Mgt 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.

558. Seminar in Corporation and Society. (3)
 Seminar study of organizations and issues in complex social, political and ethical environments. Topics vary. See instructor. Past topics: ecology and management, public affairs and public relations, nonprofit management.
 Recommended prerequisite: 508.

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.

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 substance 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.

563. 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 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. Corequisite: 556.

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. Corequisite: 556.

572. Security Analysis. (3)

Teaches the practical science and craft of analysis of primary financial assets, such as equities, for investment purposes. The common stock of a company is analyzed through fundamental analysis and technical analysis using various data sources and software.

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.

575. Seminar in Finance. (3)

Supervised reading and discussion in areas of recent theoretical interest. Emphasis on the structural development of models (used to characterize the financial environment and financial behavior of individuals and firms), the implications of such models for decision making and their relevance in providing insight into behavioral processes.

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.

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: 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.

Prerequisites: 501, 522; recommended prerequisite: 580.

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: 522 or equivalent.

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.

Prerequisites: 522; pre- or corequisite: 580; 581 recommended.

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.

Prerequisites: 520, 521, 522 recommended.

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: 522. Pre- or corequisite: 580. 581 recommended.

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.
 Prerequisites: 520, 521, 522, and 586 all recommended.

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: 542 or 543 or equivalent.

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: 542 or 543 or equivalent.

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: 542 or 543 or equivalent.

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: 542 or 543 or equivalent.

594. Special Topics in Management. (3)
 Selected offerings in management covering topics not represented in the regular curriculum.
 Prerequisite: permission of instructor.

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. Entry Strategies for International Markets. (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. General Management of International Operations. (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: 528, and at least one of 548, 574, 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.
 Prerequisite: completion of all but 12 hours (including 598) of the requirements for the 48-hour M.B.A. program or last semester of course work.

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.

Prerequisite: C S 152L, Mgt 329, Mgt 459, or instructor permission.

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.
 Prerequisite: C S 152L, Mgt 329, Mgt 459, or instructor permission.

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 Mgt 461.
 Prerequisite: C S 152L, Mgt 329, Mgt 459, or instructor permission.

635. Decision Support Systems. (3)
 An examination of interactive computer systems that support the decision-making process in unstructured or semi-structured environments through the use of dialogue, database, modeling and expert subsystems. Analysis, design and implementation issues are covered.
 Prerequisite: C S 152L, Mgt 329, Mgt 459, or instructor permission.

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.
 Prerequisite: C S 152L, Mgt 329, Mgt 459, or instructor permission.

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: C S 152L, Mgt 329, Mgt 459, or instructor permission.

638. Management Information Systems Design Applications. (3)
 Integrative case or field studies of MIS applications. Individual or team application design projects, synthesis of applications into a MIS.
 Prerequisite: C S 152L, Mgt 329, Mgt 459, or instructor permission.

639. Advanced Topics in Management Information Systems. (3) Δ
 Selected offerings in management information systems not represented in the regular curriculum. May be repeated for credit, no limit.
 Prerequisite: permission of instructor.

640. 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.
 Prerequisite: 540 or equivalent.

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: 540 or equivalent.

Management 700-level classes restricted to EMBA students.

700. Management Perspectives. (1)

Establishes the conceptual foundation of the Executive M.B.A. 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) completion of independent research project; 2) enrollment in approved M.B.A. elective; 3) attendance at "Washington Campus" and follow-on research paper; or 4) participation in international seminar including 10-day study trip abroad.

794. [795.] 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 Schools 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 Schools of Management.

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

SCHOOL OF ARCHITECTURE AND PLANNING

Roger Schluntz, Dean
School of Architecture and Planning
2414 Central Ave SE
MSC04 2530
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2903, FAX (505) 277-0076
www.unm.edu/~saap

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 societal 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

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 Community and Regional Planning (MCRP)** and **Master of Landscape Architecture (MLA)**. Individuals who hold (or will soon receive) an accredited undergraduate degree in any subject area are eligible to apply directly to these programs.

Undergraduate: The School offers two undergraduate degree programs, the **Bachelor of Arts in Environmental Design (BAED)** and the **Bachelor of Arts in Architecture (BAA)**. Undergraduate students committed to attaining the professional *Master of Architecture* degree are encouraged 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 enroll in the *Bachelor of Arts in Environmental 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 *BAED* also serves those interested in pursuing a variety of career opportunities or future specialized graduate studies.

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 urban settlements of Albuquerque and Santa Fe and the unique climates of the arid Southwest. The school offers two certificate programs that are also rooted in these traditions: **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.

Curriculum

The curricula of the School provide students with the ability 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 professional skills, students learn 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 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 and also provides educational programs directed toward part-time and non-traditional students.

Various opportunities are provided for students to 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 recognition to deserving students.

Degree Programs

Undergraduate

Bachelor of Arts in Architecture (pre-professional)
Bachelor of Arts in Environmental Design

Graduate

Master of Architecture (professional and post-professional)
Master of Community and Regional Planning (professional)
Master of Landscape Architecture (professional and post-professional)

Research/Studies

The Design and Planning Assistance Center (DPAC)

The Design and Planning Assistance Center, which focuses on community design 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 low income communities and groups in New Mexico to address architectural and planning problems. The establishment of DPAC represents a commitment by educators and practitioners to apply their skills to a social purpose.

The Resource Center for Raza Planning

RCRP, a center within the School of Architecture and Planning, was formed 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 may 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.

Computer Policy

The School of Architecture and Planning has adopted a policy that, effective upon occupancy of the School's new building, will require graduate students in all three professional programs of the School to own or have unlimited access to a laptop computer. Undergraduate students will also be required to own or have unlimited access to a laptop computer in the Bachelor of Arts in Architecture or Bachelor of Arts in Environmental Design degree programs. All laptop computers must meet minimum specifications as set forth in the policy.

ARCHITECTURE PROGRAM

Program Director (Interim)

Gabriella Gutierrez, Associate Professor

Professors

Christopher Mead, Ph.D., University of Pennsylvania
 Andy Pressman, M. Des., Harvard University
 Roger Schluntz, M. Arch., University of California (Berkeley)
 Anne P. Taylor, Ph.D., Arizona State University

Associate Professors

Eleni Bastéa, Ph.D., University of California (Berkeley)

Stephen Dent, M.Arch., Arizona State University
 Gabriella Gutierrez, M.Arch., Columbia University
 Kuppaswamy Iyengar, M.Arch., University of California (Los Angeles)
 Kramer Woodard, M.S., Columbia University

Assistant Professors

Geoffrey Adams, M.Arch., University of New Mexico
 Tim Castillo, M. Arch., Columbia University
 Mark Childs, M.Arch., University of Oregon

Lecturer III

Karen King, M.Arch., University of Virginia

Adjunct Professors

Antoine Predock, B.Arch., Columbia University
 V.B. Price, B.A., Anthropology, The University of New Mexico
 Bart Prince, B.Arch., Arizona State University
 Don Tishman, J.D., Ohio State University

Adjunct Associate Professors

Terry L. Leach, M.Arch., The University of New Mexico
 Jean Pike, M.Arch., Yale University
 Garrett Smith, B.F.A., The University of New Mexico

Professors Emeriti

George Anselevicius, Diploma of Arch., Leeds School of Architecture (England)
 Edith Cherry, M.Arch., Rice University
 Min Kantrowitz, M.Arch., The University of New Mexico
 Paul E. Lusk, M.Arch., University of Pennsylvania
 Richard S. Nordhaus, M.Arch., University of Pennsylvania
 Don P. Schlegel, M.Arch., Massachusetts Institute of Technology
 Robert C. Walters, B.F.A., The University of New Mexico

Lecturer Emeritus

Edward B. Norris, B.Arch., Howard University

The Architecture Program

The Architecture Program's objective is to provide professional education and training in architecture of the highest possible quality. The program is organized around required 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.

The mission of the Architecture Program is to advance the art and science of building design and place making. The Program will provide leadership to:

- Ensure a technically grounded pre-professional and professional education that is critically imaginative and socially responsible.
- Investigate the history, theory and design of the built environment.
- Engage the communities in the study of architecture and urbanism.

In doing so, the students and faculty of the Architecture Program will create, advance and disseminate effective designs at a range of scales including the individual building, the neighborhood, the city and the region.

The pre-professional and professional degree in architecture prepares students for a wide range of important roles as architects shaping the physical environment and encourages the creation of beautiful, responsive and adaptive architecture.

Policy on Outside Employment During the Semester

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.

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 development stage.

Degree Programs

Undergraduate

Bachelor of Arts in Architecture (BAA)

The BAA is a pre-professional degree that prepares students for admittance to a two-year graduate program in architecture. The overall intent of the BAA 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 programs of study that lead to the nationally accredited first professional degree, Master of Architecture.

The 2 Year Program of Study is composed of two parts: a four year undergraduate program that results in the Bachelor of Arts in Architecture degree and a two year, 52 credit hour program of study that leads to the fully accredited Master of Architecture degree. The undergraduate program is a balance of liberal arts courses and core courses in architecture, while the graduate program is oriented to professional preparation through advanced and specialized course work. Students applying to the two-year graduate program must have successfully completed a four-year pre-professional degree program in architecture.

The 3½ Year Program of Study is designed for students with bachelor degrees from any field. These students may apply to the 3½ year program of study leading to the fully accredited Master of Architecture degree. Of necessity, this program does not allow for as 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 first professional degrees, we offer a post professional degree:

The 1½ Year Program, leading to a Master of Architecture degree, (not accredited) is for students who have already completed an accredited first professional degree (usually the five-year Bachelor of Architecture) 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 the 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). Changing its name from Master of Architecture to Master of Science in Architecture is in progress.

Additional Information

Accreditation:

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite 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. However, students retain all rights to the intellectual property of such work. This work may include papers, drawings, models and other materials. The School assumes no responsibility for safeguarding such materials. At its discretion, this School may retain, return or discard such materials. The School will not normally discard the materials of currently enrolled students without providing the student an opportunity to reclaim them.

Admission Requirements

Undergraduate

Upon completion of a minimum of 26 hours of college-level credit acceptable to the School, students may apply for transfer and acceptance into the School of Architecture and Planning. Applications to the BAA 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.

Admission to the professional level program in architecture is competitive and limited.

In addition to core curriculum course work in the first year, students who apply will have taken two studio courses (one in drawing, one in design and art) and a lecture course, *Introduction to Architecture*. This allows potential applicants to find out if they are truly interested in the fields of architecture and environmental design, and it permits the School to make well informed evaluations of applicants for admission.

Requirements for application and admission are as follows:

1. **Letter of intent.** Explain why you are interested in this field of study. Discuss related experience, background or course work as well as any particular educational and professional goals.

2. **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 or CDs. Portfolio guidelines are available from the Student Advisor in the School of Architecture and Planning.
3. **Application Sheet.** This form is available from the Academic Advisor. Do not alter or reproduce this form.
4. **Transcripts.** University of New Mexico students may request unofficial transcripts at the Records and Registration Office in the Student Services Building. 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.
5. **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, Introduction to Architecture	3
Arch 104, Introduction to Architectural Drawing	3
Art St 121, Two-dimensional Design	3
—or— Art St 122, Three-dimensional Design	
Math 123, Trigonometry	3
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
Physcs 102L, Introduction to Physics/Lab	4 (total)
—or— Physcs 151L, General Physics/Lab	
Total	25/25
6. **Application Deadline.** All of the above information and forms must be submitted by May 15th (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. Please address all inquiries and submit all materials to: Undergraduate Admissions, c/o Academic Advisor, The University of New Mexico School of Architecture, MSC04 2530, 1 University of New Mexico, Albuquerque, NM 87131-0001.

5. **Course descriptions.** Those applicants who do not have Bachelor of Arts in Architecture or Bachelor of Science in Architecture degrees should submit course descriptions of all architecture classes completed from the appropriate catalog.

Graduate Record Examination (GRE) Scores are not required.

It is important to identify which Master of Architecture program of study you are applying to: the 2 year or 3½ year.

Please send the above materials to:
 School of Architecture and Planning
 2414 Central Avenue SE
 MSC04 2530, ATTN: Graduate Admissions Coordinator
 1 University of New Mexico
 Albuquerque, New Mexico 87131-0001

For express mailings use the telephone number: 505-277-3133

Graduate Program Application Deadlines

Fall semester: The deadline is February 15, however applications may be accepted 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 show up to the program.

Graduate Advisors

Stephen Dent—Architecture, 2 year and 1½ year program of study
 Geoffrey Adams—Architecture, 3½ year program of study

**Undergraduate Programs:
 Graduation Requirements**

Bachelor of Arts in Architecture

Students may be admitted to the undergraduate program in their sophomore year after completing at least 26 credit hours of selected courses. Besides basic liberal arts course work in the first year, students who apply will have taken two studio courses—one in drawing, one in design—and a lecture course, Introduction to Architecture.

Required Courses and Electives—Typical Sequence

First Year		Credits
Arch 101	Introduction to Architecture	3
Arch 104**	Introduction to Architectural Drawing	3
Art St 121*	Two-dimensional Design	3
—or— Art St 122	Three-dimensional Design	
Math 123	Trigonometry	3
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
Physcs 102/102L*	Introduction to Physics/Physics Lab	4
—or— Physcs 151/151L	General Physics/Lab	
Required Entry Courses		25/26
Other UNM Core Curriculum Courses (see below)		9
Total Credits		34/35

* Must earn "C" or better to graduate.
 ** Must earn "B" or better to apply.

Apply for Admission to BAA Program:

Application to the Bachelor of Arts in Architecture program may be made after completion of at least 26 credit hours, including the completion of required pre-admissions requirements.

Graduate

Application materials must be sent to two different locations at the University of New Mexico: the Office of Graduate Studies (OGS), and the School of Architecture and Planning.

The following materials must be sent directly to OGS:

1. The online application, which can be accessed from the OGS Web site at www.unm.edu/grad
2. Two official transcripts from each academic institution previously attended
3. The application fee, which 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 this field of study. Related experience, background, course work may be mentioned, as well as professional and educational goals. The letter should not exceed two pages.
2. **Portfolio of creative work.** The required portfolio format is an 8 ½ x 11 inch bound document. The admissions committee will not review slides, CDs, DVDs, VHS tape or website. 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.
3. **Three letters of recommendation.** At least two letters should be from faculty members.
4. **Resume.** The resume should include education, professional experience, publications, service and other accomplishments.

Second Year		Credits
Arch 201	Design I: Studio	Fa 4
Arch 204	Introduction to Architectural Representation	Fa 2
Arch 285	Construction I	Fa 3
Arch 261	World Architecture I	Fa 3
Arch 202	Design II: Studio	Sp 4
Arch 205	Intermediate Architectural Representation	Sp 2
Arch 262	World Architecture II	Sp 3
Required Architecture courses:		21
UNM Core Curriculum courses:		12
Total Credits		33

Third Year		Credits
Arch 301	Design Studio III	Fa 6
Arch 381	Structures I	Fa 3
Arch 385	Environmental Controls I	Fa 3
LA 335	Site/Environment	Fa 3
Arch 302	Design Studio IV	Sp 6
Arch 470	Human Factors	Sp 3
Required Architecture courses:		24
Directed elective:		3
Total Credits		27

Fourth Year		Credits
Arch 382	Structures II	Fa 3
Arch 402	Design Studio V	Fa 6
Arch 404	Design Studio VI	Sp 6
Required Architecture courses:		15
Directed electives:		6
Free electives:		14
Total Credits		35
GRAND TOTAL		128

The University of New Mexico Core Curriculum Requirements

These are in addition to specific entry and other requirements. Several areas are more restrictive than the University of New Mexico Core.

Must earn a "C" or better in the University of New Mexico Core Curriculum requirements.

Writing and Speaking:

One course from Engl 219, 220, C & J 130, Phil 156. 3 credits

Physical and Natural Science:

(More restrictive than the University of New Mexico Core Curriculum.)

One course from Anth 150, Astr 101, Biol 110, 121L, 122L, 123/124L, Chem 111L, 121L, 122L, 131L, 132L, E&PS 101, 201L, Env Sc 101, Geog 101. 3 credits

Social and Behavioral Sciences:

(More restrictive than the University of New Mexico Core Curriculum.)

One course from Econ 105, 106. One course from Psych 105 or Soc 101. 6 credits

Humanities:

Two courses from Am St 186; Clscs 107, 204, 205; Comp L 223, 224; Engl 150, 292, 293; Hist 101L, 102L, 161L, 162L; Phil 101, 201, 202; Relig 107, 263, 264. 6 credits

Foreign Languages:

One lower division non-English course. 3 credits

Total 21 credits

NOTES:

All Electives

Upper level course requirement: at least 12 of the 26 hours of electives (directed and free) must be 300 level or higher.

Directed Electives

Planning requirements: Students must complete at least one 3 credit hour course in the history and theory of planning and/or urban design from a list of courses approved by the faculty.

Service learning practicum: Students must complete one 3 credit (min) community service learning practicum through the Design and Planning Assistance Center or from courses approved by faculty.

History elective: Students must complete one 3 credit class in history/theory/criticism: Arch 412 (with history/theory content), Arch 423, Arch 461, Arch 464, Arch 477 or other courses approved by faculty.

Credit Hour Summary for Bachelor of Arts in Architecture

Entry courses (1st year)	24
Additional University of New Mexico Core Courses (1st and 2nd years)	21
Additional required Architecture courses (2nd, 3rd, 4th years)	60
Directed electives	9
Free electives (3rd and 4th years)	14
Total B.A. Architecture	128
(A minimum cumulative grade point average of 2.50 is required for graduation.)	

Bachelor of Arts in Environmental Design

See Community & Regional Planning Program

Additional Information for Undergraduate Program: BAA

Portfolio Reviews:

Students may be required to submit portfolios for review by a faculty committee at the end of the 201/202 sequence and/or immediately prior to graduation.

Minimum Grade Point Average

A minimum cumulative grade point average of 2.50 is required for graduation.

Advisement: Advising for undergraduate students is available from the Academic Advisor. Individual faculty members are also available for advising on matters relating to professional education, architectural internship, and the architectural registration examination process.

Course Requirements

Master of Architecture Professional Programs

The following graduate and undergraduate courses are exit requirements for the accredited, professional M.Arch. degree (2 year and 3½ year programs).

Exit Requirements

Required Courses: Undergraduate

Architectural Design: five semesters of 6 credit hour design studios, equivalent to Arch 201/204, 202/205, 301, 302, 402, 404.

Construction I:	equivalent to Arch 285
Environmental Controls I:	equivalent to Arch 385
Structures I and II:	equivalent to Arch 381 and Arch 382
World Architecture History:	equivalent to Arch 261 and Arch 262
Site/Environment	equivalent to LA 335
Human Factors:	equivalent to Arch 470
Planning/Urban Design:	1 course

104 ARCHITECTURE AND PLANNING

Required Courses: Undergraduate or Graduate

Arch 485/585	Construction II
Arch 481/581	Structure and Form
Arch 487/587	Environmental Controls II
Advanced history/theory: 1 course	

Required Courses: Graduate

Arch 501	History/Theory Studio/Seminar
Arch 502	Technology Studio/Seminar
Arch 503	Community Studio/Seminar
—or— Arch 508 Design/Planning Assist. Center	
Arch 531	Professional Practice
Arch 596	Project/Thesis Prep Seminar
Arch 597	Master's Project
—or— Arch 599 Master's Thesis	
Arch 598	Master's Studio
(Arch 598, Master's Studio, may be taken in lieu of Arch 596, 597 or 599.)	
Graduate-level History/Theory: 2 courses	
Graduate electives: 8 credit hours minimum	

Notes about the 3½ year program:

1. Exemptions: Arch 201, 202, 204, 205, 301, 302, one semester of planning.
2. Additional requirements: Arch 505/505L, 506/506L, 561.
3. Students may substitute Arch 573 (*Programming*) for Arch 470 (*Human Factors*).
4. Prerequisites: College level calculus and physics. Surveys of architectural histories are highly recommended.

Master of Architecture: Post Professional Program

The following graduate courses are exit requirements for the post professional M.Arch. degree (1½ year program).

Two semesters of graduate studios/seminars (501, 502, 503 and/or 508) 13–14 total

Arch 596 Project/Thesis Prep Seminar	3
Arch 597 Masters Project	6
—or— Arch 599 Master's Thesis	
Graduate electives	16

A minimum of 38 graduate credit hours is required for graduation.

Typical Programs of Studies

Master of Architecture 3½ Year Program (Professional)

Entry Requirements

One semester of calculus and one semester of physics (must be completed by the end of the first year in program). At least one semester of an architecture history survey course (equivalent to 261, 262) is highly recommended.

Required courses and Electives—Typical Sequence

First Year			
Arch 505L	Introductory Graduate Studio I	Fa	5
Arch 505	Graphics Seminar I	Fa	2
Arch 561	Graduate Seminar I	Fa	2
Arch 541	World Architecture I	Fa	3
Arch 285	Construction I	Fa	3
Arch 506L	Introductory Graduate Studio II	Sp	5
Arch 506	Graphics Seminar II	Sp	2
Arch 568	World Architecture II	Sp	3
Arch 381	Structures I	Sp	3
Arch 470	Human Factors	Sp	3
—or— Arch 573 Architectural Programming			
Total			31

Second Year

Arch 402	Comprehensive Studio	Fa	6
Arch 385	Environmental Controls I	Fa	3
LA 335	Site/Environment	Fa	3
Arch 382	Structures II	Fa	3

Arch 501	History/Theory Studio/Seminar (note 2)	Fa/Sp	6
Arch 581	Structure and Form	Sp	3
Arch 587	Environmental Controls II	Sp	3
	History/theory elective (note 3)	Sp	3
Total			30

Third Year

Arch 502	Technology Studio/Seminar (note 2)	Fa/Sp	6
Arch 522	Contemporary Architecture (note 3)	Fa/Sp	3
Arch 585	Construction II	Fa	3
	Graduate Elective (note 4)	Fa	3
GRADUATE REVIEW			
Arch 503	Graduate Community Studio/Seminar (note 2)	Fa/Sp	6
Arch 596	Project/Thesis Prep	Fa/Sp	3
	Graduate Elective (note 4)	Sp	5
Total			29

Fourth Year

Arch 597/599	Master's Project/Thesis	Fa/Sp	6
Arch 531	Professional Practice	Fa	3
	History/theory elective (note 3)	Fa	3
Total			12
GRAND TOTAL			102

NOTES:

1. All students must complete a minimum of 44 credit hours at the graduate level.
2. Studios/seminars (501, 502, 503) can be taken in any order. 508 can be taken in place of 503.
3. Students must complete three 500 level history/theory courses, including Arch 522 and two additional electives approved by the faculty.
4. All students must complete a minimum of 8 credit hours of graduate electives, usually in an area of emphasis.
5. Arch 572 may be taken with Arch 598.

Master of Architecture 2 Year Program (Professional, Master's Studio Option)

Required Courses and Electives—Typical Sequence

First Year			
Arch 501	History/Theory Studio/Seminar (note 2)	Fa/Sp	6
Arch 531	Professional Practice	Fa	3
Arch 585	Construction II (note 5)	Fa	3
	History/Theory elective (note 3)	Fa/Sp	3
Arch 502	Technology Studio/Seminar (note 2)	Fa/Sp	6
Arch 581	Structure and Form (note 5)	Sp	3
Arch 572	Research Methods	Fa/Sp	3
Arch 587	ECS II (note 5)	Sp	3
Total			30

GRADUATE REVIEW

Second Year

Arch 503	Community Studio/Seminar (note 2)	Fa/Sp	6
	History/Theory electives (note 3)	Fa/Sp	3
	Graduate electives	Fa/Sp	8
Arch 598	Master's Studio	Fa/Sp	6
Total			23
MINIMUM CREDIT HOURS			53

NOTES:

1. All students must complete a minimum of 54 credit hours. Of those, 44 credit hours must be at the graduate level.
2. Graduate studios/seminars (501, 502, 503) can be taken in any order. Arch 508 can be taken in place of Arch 503.
3. Students must complete two 500 level history/theory electives from courses approved by the faculty.

- All Master of Architecture students must complete a minimum of 8 credit hours of graduate electives.
- Arch 581, 585 and 587 may be completed in the pre-professional program (BAA) as undergraduate courses. (Arch 481, 485 and 487 respectively.)
- Arch 598, Master's Studio, must be completed in the final semester.
- Arch 572, Research Methods, must be completed in the first two semesters or simultaneous with Arch 598.
- The Master's examination results are reported to the Office of Graduate Studies.

Master of Architecture 2 Year Program (Professional, Master's Project Option)

Required Courses and Electives—Typical Sequence

First Year			
Arch 501	History/Theory Studio/Seminar (note 2)	Fa/Sp	6
Arch 531	Professional Practice	Fa	3
Arch 585	Construction II (note 5)	Fa	3
Arch 502	History/Theory elective (note 3)	Fa/Sp	3
	Technology Studio/Seminar (note 2)	Fa/Sp	6
Arch 581	Structure and Form (note 5)	Sp	3
Arch 572	Research Methods (note 6)	Fa/Sp	3
Arch 587	ECS II (note 5)	Sp	3
			Total 30

GRADUATE REVIEW

Second Year

Arch 503	Community Studio/Seminar (note 2)	Fa/Sp	6
	History/Theory electives (note 3)	Fa/Sp	3
	Graduate electives	Fa/Sp	8
Arch 596	Project/Thesis Preparation	Fa/Sp	2
Arch 597	Master's Project	Fa/Sp	6
			Total 25
MINIMUM CREDIT HOURS			55

NOTES:

- All students must complete a minimum of 55 credit hours. Of those, 44 credit hours must be at the graduate level.
- Graduate studios/seminars (501, 502, 503) can be taken in any order. Arch 508 can be taken in place of 503.
- Students must complete two 500 level history/theory electives from courses approved by the faculty.
- All Master of Architecture students must complete a minimum of 8 credit hours of graduate electives.
- Arch 581, 585 and 587 may be completed in the pre-professional program (BAA) as undergraduate courses. (Arch 481, 485 and 487 respectively.)
- Arch 572, Research Methods, must be completed in the first two semesters.
- As an exam, architecture and thesis presentations are made and then reported to the graduate office.

Master of Architecture 2 Year Program (Professional, Master's Thesis Option)

Required Courses and Electives—Typical Sequence

First Year			
Arch 501	History/Theory Studio/Seminar (note 2)	Fa/Sp	6
Arch 531	Professional Practice	Fa	3
Arch 585	Construction II (note 5)	Fa	3
	History/Theory elective (note 3)	Fa/Sp	3
Arch 502	Technology Studio/Seminar (note 2)	Fa/Sp	6
Arch 581	Structure and Form (note 5)	Sp	3
Arch 572	Research Methods (note 6)	Fa/Sp	3
Arch 587	ECS II (note 5)	Sp	3
			Total 30

GRADUATE REVIEW

Second Year

Arch 503	Community Studio/Seminar (note 2)	Fa/Sp	6
	History/Theory electives (note 3)	Fa/Sp	3
	Graduate electives	Fa/Sp	8
Arch 596	Project/Thesis Preparation	Fa/Sp	2
Arch 599	Master's Thesis	Fa/Sp	6
			Total 25
MINIMUM CREDIT HOURS			55

NOTES:

- All students must complete a minimum of 55 credit hours. Of those, 44 credit hours must be at the graduate level.
- Graduate studios/seminars (501, 502, 503) can be taken in any order. Arch 508 can be taken in place of 503.
- Students must complete two 500 level history/theory electives from courses approved by the faculty.
- All Master of Architecture students must complete a minimum of 8 credit hours of graduate electives.
- Arch 581, 585 and 587 may be completed in the pre-professional program (BAA) as undergraduate courses. (Arch 481, 485 and 487 respectively.)
- Arch 572, Research Methods, must be completed in the first two semesters.
- As an exam, architecture and thesis presentations are made and then reported to the graduate office.

Master of Architecture 1½ Year Program (Post Professional)

Required courses and Electives—Typical Sequence

First Year			
Arch 501	Studio/Seminar (note 2)	Fa	6
	—or— Arch 502		
	—or— Arch 503		
	Graduate electives	Fa	9

GRADUATE REVIEW

Arch 501	Studio/Seminar (note 2)	Fa	6
	—or— Arch 502		
	—or— Arch 503		
Arch 596	Project/Thesis Prep	Sp	3
	Graduate electives	Sp	7

Second Year

Arch 597	Master's Project/Thesis	Fa	6
MINIMUM CREDIT HOURS			37 required

NOTES:

- Minimum credit hours: 37. All must be graduate level.
- Students in this program must complete 16 credit hours of electives, in an area of emphasis.

Additional Information: Professional and Post-Professional Programs

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 academic advisor. Successful completion of a Program of Studies is the basis for attaining a degree.

Master's Examination

This requirement is divided into two parts. The first part is the Graduate Review. For students in the 2 Year Program or the 3½ Year Program, it is strongly recommended that they have

this part of the exam following completion of their second graduate design studio. A faculty committee will review each student's prior academic achievement, Program of Studies, Master's Project/Thesis proposal (if applicable) and the student's demonstrated ability to develop a comprehensive architectural project (integrating issues of site, program, building systems and so on). Assessment of performance regarding the items above and direction for future work will guide the student's remaining academic efforts.

The second part will occur at the time of Master's Project or Master's Studio presentation or Master's Thesis defense.

Guidelines for the Graduate Review, Master's Project/Thesis and Master's Studio are available from the Academic Advisor.

Architecture (Arch)

101. Introduction to Architecture. (3)

Architecture—the social, historical, perceptual and technical determinants; current and likely future directions; the people and processes involved; the profession.

104. Introduction to Architectural Drawing. (3)

Laboratory, lectures and exercises to learn problem solving methods using graphic, two-dimensional architectural drawing techniques. Emphasis is on the use of drawing to record and communicate architectural topics.

201. Design I. Studio. (4)

Studio projects consist of basic architectural problems to which the student must respond with a designed solution. Problems develop analytical, aesthetic design and presentation skills. Problems will emphasize basic aesthetic issues and problem solving.

Prerequisite: Enrollment in School of Architecture.
Corequisite: 204

202. Design II. Studio. (4)

Studio projects consist of basic architectural problems to which the student must respond with a designed solution. Problems develop analytical and aesthetic design and presentation skills. Design projects will emphasize technical integration.

Prerequisites: 201, 204. Corequisite: 205.

204. Introduction to Architectural Representation. (2)

Introduction to issues of architectural representation with a focus on design communication with a focus on computing, drawing and shop fundamentals.

Corequisite: 201.

205. Intermediate Architectural Representation. (2)

Intermediate architectural representation with a focus on technical representation including drawing/drafting conventions, computer aided design, model making.

Corequisite: 202.

261/541. World Architecture I: History of the Built Environment From Prehistory to 1400 CE. (3)

(Also offered as Art Hi 261.) Survey of the architectural and urban traditions of ancient and indigenous cultures from prehistory to the late middle ages. {Fall}

262/568. World Architecture II: History of the Built Environment From 1400 CE to the Present. (3)

(Also offered as Art Hi 262.) Survey of the architectural and urban traditions of the modern world from the renaissance to the present.

Prerequisite: 261 or permission of instructor. {Spring}

285. Construction I. (3)

Lab and lectures—introduction of technological aspects of building design and construction.

Prerequisite: 204 or 505L or permission of instructor.

301. Design Studio III. (6)

Introduction to principles of theory, form and technology as they relate to the design project. Critical analysis utilizing a multidisciplinary multi-media framework is emphasized.

Prerequisites: 202, 205. Corequisite: 356.

302. Design Studio IV. (6)

The studio builds on issues raised in the 301 and applies them to a more complex series of architectural design problems. A heightened awareness of the interaction amongst building, site and the human experience is emphasized.

Prerequisites: 202, 205 and 356.

*363. Pre-Columbian Architecture. (3)

(Also offered as Art Hi 343.) North, South and Mesoamerican pre-Columbian architecture, with emphasis on cultural background of ancient civilizations.

381. Structures I. (3)

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.

Prerequisites: 202, 205 or equivalent. One semester of Calculus.

382. Structures II. (3)

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: 381 or equivalent.

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.

Prerequisites: 202, 205, 285.

402. Design Studio V. (6)

This studio focuses on the development of skills in architectural design, conceptualization and theory. Students will explore design topics as they relate to social, cultural and technological conditions. Architectural programs will entail medium to large buildings with an emphasis on site articulation.

Prerequisites: 285, 301, 302, 356 or permission of instructor.

404. Design Studio VI. (6)

The studio focuses on advanced topics in architectural design, which increase in complexity from topics in 402 and may run the course of the semester.

Prerequisite: 402 or permission of instructor.

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: one upper-level studio or permission of instructor.

411/511. Problems. (1-3) \dagger

Students wishing to undertake a special study project must have instructor approval.

412/512. Seminar. (1-3) Δ

Individually listed topics vary each semester. Repeatable for credit, with no credit hour limit.

413/513. Reflective Travel. (1-2 to a maximum of 3) Δ

(Also offered as CRP 544, 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.**

422/522. Contemporary Architecture. (3)

(Also offered as Art Hi 422.) This seminar provides a forum in which to discuss the theoretical issues and critical diversity of contemporary architecture of the last 30 years.

Prerequisite: permission of instructor.

423/523. Frank Lloyd Wright and American Architecture. (3)

(Also offered as Art Hi 423.) This seminar examines the origins, principles, practitioners and consequences of an American tradition of architecture that Frank Lloyd Wright

called organic.

Prerequisite: permission of instructor.

424./524. Memory and Architecture. (3)

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.

Prerequisite: 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}

432./532. Real Estate Development. (3)

The purpose of this class is to expose students to the process of real estate, through lectures, case studies and hands on exercises.

435./535. Architecture and 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.

***442. Furniture Design. (3)**

This course centers on the design of furniture as an object which is both functional and aesthetic. Students should have design and drawing ability.

462. History of Southwestern Architecture. (3)

Presents an overview of New Mexican and Southwestern architecture from prehistory to contemporary works. The focus will be on styles, techniques and philosophy of regionalism. Prerequisites: 261, 262 or permission of instructor.

463./563. Modern Architecture. (3)

(Also offered as Art Hi 463.) Modern architecture since the late 19th century, primarily in Europe and the Americas. Prerequisites: Art Hi 261, 262 or permission of instructor. {Spring}

466./566. Civic Spaces and Public Art. (3)

(Also offered as CRP, LA 566.) Investigates the production of "public space" and "public art." Topics will include theory of public space(s), critical issues in public art, legal perspectives, design and administration. Class will consist of readings for discussion sessions; dialog with guest artists, architects and administrators; and presentations by students.

470. Human Factors in Design. (3)

Explores the interactions between people and the designed environment.

Prerequisite: Psych 105 or Soc 101.

481./581. Structure and Form. (3)

Concept of structural efficiency; structural configurations appropriate to the nature of material and loading conditions; comparative and analytical study of different concepts of structure.

Prerequisite: 382 or equivalent.

482./582. Lighting. (3)

Explores principles of architectural lighting. Includes: day-lighting, electric lighting and lighting design.

Prerequisite: 385.

483./583. Acoustics. (2)

Concepts, theory and methodology for analysis and design of acoustical environments.

484./584. Written Construction Documents. (3)

Course develops an understanding of the production of specifications and other written construction documents.

Prerequisite: 285 or permission of instructor.

485./585. Construction II. (3)

Course develops an understanding of the production of construction documents as a part of the whole design process.

Prerequisites: 285, 302.

487./587. Environmental Controls II. (3)

Heating, cooling and ventilation equipment and design; electrical and plumbing distribution systems; electric lighting; fire protection, security systems and vertical transportation.

Prerequisite: 385, fourth year standing.

501. History/Theory Studio. (6) [6-7 to a maximum of 14]

Seminar/studio projects deal with complex design issues focusing on design theory, history and form. Open only to students in the graduate program.

502. Technology Studio. (6) [6-7 to a maximum of 14]

Seminar/studio projects focus on complex design issues dealing with building systems. Open only to students in the graduate program.

503. Graduate Community Studio/Seminar. (6) [6-7 to a maximum of 14]

Seminar/studio projects deal with complex design issues focusing on community issues, urban design, clients. Open only to students on graduate program.

505. Graphics Seminar I. (2)

Introductory visual communications techniques applicable to the design of the built environment.

Corequisite: 505L. Open only to students in 3½ year of Master of Architecture Program.

505L. Introductory Graduate Studio I. (5)

Introduction to architectural design. Studio projects consist of basic architectural problems to which student must respond with designed solution. Open only to students in the 3½ year Master's Program.

Prerequisites: 505, 561. Offered on CR/NC basis.

506. Graphics Seminar II. (2)

Intermediate visual communication techniques applicable to the design of the built environment.

Prerequisites: 505, 505L. Corequisite: 506L. Open only to students in 3½ year of Master of Architecture Program.

506L. Introductory Graduate Studio II. (5)

Introduction to architectural design studio projects consist of basic architectural problems to which students must respond with designed solution.

Prerequisite: 505. Corequisite: 506.

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: one upper-level studio or permission of instructor.

511./411. Problems. (1-3 to a maximum of 12) Δ

Independent study initiated by student. Must obtain instructors approval.

512./412. Seminar. (2-3) Δ

A number of seminar topics are offered each semester and vary from year to year. Repeatable for credit, with no credit hour limit.

513./413. Reflective Travel. (1-2 to a maximum of 3) Δ

(Also offered as CRP 544, 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.

522./422. Contemporary Architecture. (3)

(Also offered as Art Hi 522.) This experimental seminar provides a forum in which to discuss the theoretical issues and critical diversity of contemporary architecture of the last 30 years. Prerequisite: permission of instructor. {Offered upon demand}

523./423. Frank Lloyd Wright and American Architecture. (3)

(Also offered as Art Hi 523.) This seminar examines the origins, principles, practitioners and consequences of an American tradition of architecture that Frank Lloyd Wright called organic. Prerequisite: permission of instructor. {Offered upon demand}

524./424. Memory and Architecture. (3)

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. Prerequisite: permission of instructor; no prerequisite for graduate students in SAAP.

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}

531. Professional Practice I. (3)

Exploration of issues involved in the establishment and operation of an architectural practice.

532./432. Real Estate Development. (3)

The purpose of this class is to expose students to the process of real estate, through lectures, case studies and hands on exercises.

535./435. Architecture and 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.

541./261. World Architecture I: History of the Built Environment From Prehistory to 1400 CE. (3)

(Also offered as Art Hi 567.) Survey of the architectural and urban traditions of ancient and indigenous cultures from prehistory to the late middle ages. {Fall}

560. Seminar in Spanish Colonial Art. (3) Δ

Prerequisite: Art Hi 450.

561. Graduate Seminar. (2)

An intensive introduction to the range of categories and contexts specific to the production and representation of architecture. Open only to students in the 3½ year program. Corequisite: 505L.

562. History of Southwestern Architecture. (3)

Presents an overview of New Mexican and Southwestern architecture from prehistory to contemporary works. The focus will be on styles, techniques and philosophy of regionalism. Prerequisites: 261, 262 or permission of instructor.

563./463. Modern Architecture. (3)

(Also offered as Art Hi 563.) Modern architecture since the late 19th century, primarily in Europe and the Americas. Prerequisites: 261, 262 or permission of instructor. {Offered upon demand}

566./466. Civic Spaces and Public Art. (3)

(Also offered as CRP, LA 566.) Investigates the production of "public space" and "public art." Topics will include theory of public space(s), critical issues in public art, legal perspectives, design and administration. Class will consist of readings for discussion sessions; dialog with guest artists, architects and administrators; and presentations by students.

567. Infrastructure Design and Planning. (3)

(Also offered as CRP 534, LA 567.) Introduces students to social, urban, environmental and aesthetic issues of infrastructure design as well as infrastructure policy analysis and

development. Various infrastructures will be examined through lectures, discussion with guest practitioners, and seminar discussions. These areas will be used to investigate the effects of problem definition and physical design on social organization, settlement form and character, and environmental impact.

568./262. World Architecture II: History of the Built Environment From 1400 CE to the Present. (3)

(Also offered as Art Hi 568.) Survey of the architectural and urban traditions of the modern world from the renaissance to the present.

Prerequisite: 261 or permission of instructor. {Spring}

572. Research Methods. (3)

Conceptualizing research questions and translating those into research strategy.

573. Architectural Programming. (3)

Theory and techniques for analyzing complex social and organizational situations and translating that analysis into design criteria for physical facilities.

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. Structure and Form. (3)

Concept of structural efficiency; structural configurations appropriate to the nature of material and loading conditions; comparative and analytical study of different concepts of structure.

Prerequisite: 382 or equivalent.

582./482. Lighting. (3)

Explores principles of architectural lighting. Includes: daylighting, electric lighting, lighting design.

Prerequisite: 385.

583./483. Acoustics. (2)

Concepts, theory and methodology for analysis and design of acoustical environments.

584./484. Written Construction Documents. (3)

Course develops an understanding of the production of specifications and other written construction documents.

Prerequisite: 285 or permission of instructor.

585./485. Construction II. (3)

Course develops an understanding of the production of construction documents as a part of the whole design process.

Prerequisites: 285, 302.

587./487. Environmental Controls II. (3)

Heating, cooling and ventilation equipment and design; electrical and plumbing distribution systems; electric lighting; fire protection, security systems and vertical transportation.

Prerequisite: 385, fourth year standing.

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.

596. Project/Thesis Preparation. (2-3)

First semester course where project dimensions are explored, program or project development set down and search for available and manageable data and information sources completed. Feasibility of proceeding with the project is made with student and faculty advisor(s). **Offered on a CR/NC basis only.**

597. Master's Project. (6) [5-6]

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: 596. **Offered on a CR/NC basis only.**

598. Master's Studio. (6) [7]

Development of a comprehensive graduate studio experience that addresses the full spectrum of the design process involving research, problem identification, programming, conceptualization, design development, form making, integrating design issues such as history, theory and user needs, site and context, technological input, environment and community requirements.

Prerequisites: 501, 502, 503/508. Offered on a CR/NC basis only.

599. Master's Thesis. (6) [1-6]

Development of a research project reflective of advanced inquiry into an architectural topic. Plan I only.

Prerequisites: 596 or equivalent and advance approval. Offered on a CR/NC basis only.

COMMUNITY AND REGIONAL PLANNING PROGRAM

Program Director

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William J. Siembieda, Ph.D., University of California (Los Angeles)

Part-time Instructors 2004-2005

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Elmo Baca, B.A., Yale University
Kenneth Balizer, M.A., The University of New Mexico
Christopher Blewett, M.A., The University of New Mexico
Steve Borbas, M.Arch, Pratt Institute
Christopher Browne, MPA, Harvard University
Anita Miller, J.D., University of New York
Sarita Nair, MCRP, The University of New Mexico

Degree Programs

Undergraduate

Bachelor of Arts in Environmental Design

The Bachelors of Arts in Environmental Design (BAED) at the University of New Mexico is an undergraduate course of study related to the graduate degrees in Community and Regional Planning (CRP) and Landscape Architecture (LA).

Environmental design is a systematic, creative way to influence and respond to dynamic changes occurring in neighborhoods, cities and entire regions throughout the world. Planners and landscape architects assist communities to formulate 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 Design at the University of New Mexico is an 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 and Designers 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. Regionally, our graduates work for state agencies as well as private planning firms concentrating in environmental analysis, geographic information systems, community health planning, community-based organizations and community development foundations.

The BAED degree is designed so that students concentrate in either Community and Regional Planning or Landscape Architecture. Students in the Environmental Design program take a total of 129 credits. The course of study consists of 31 credits from the University of New Mexico core courses as a prerequisite to the program, 47 credits of BAED core courses and 51 credits from the concentration in either CRP or LA.

Undergraduate Advisor

William Fleming

The University of New Mexico Core Requirements:

- Engl 101 Composition I: Exposition
- Biol 123 Principles of Biology
- Am St 182 Introduction to Environment, Science and Technology
- or— Anth 130 Cultures of the World
- or— Soc 101 Introduction to Sociology
- Math 121 College Algebra
- Am St 186 Introduction to Southwest Studies
- and— Phil 101 Introduction to Philosophical Problems
an elective Fine Arts course
an elective Foreign Language course
- CRP 181 Introduction to Environmental Problems

BAED Core Requirements

- CRP 165 Community and Regional Planning, Introduction
- LA 335 Site/Environment
- Arch 470 Human Factors in Design
- CRP 265 Community Planning: Concepts and Methods
- and— CRP 376 Human Settlements
- or— CRP 338 The City in History
- Am St 323 Environmental Justice
- Anth 344 Comparative Ethnic Relations
- or— Anth 337 Anthropology of New Mexico
- Biol 121L Principles of Biology
- or— Biol 379 Conservation Biology
- C & J 225 Small Group Communication
- E&PS 101 How the Earth Works—An Introduction to Geology
- E&PS 105L Physical Geology Laboratory
- Econ 105 Introductory Macroeconomics
- Engl 102 Composition II: Analysis and Argument

110 ARCHITECTURE AND PLANNING

Engl 220	Expository Writing
Geog 281L	Introduction to Geographic Information Technologies
Stat 145	Introduction to Statistics
Pol Sc 280	Introduction to Political Analysis
–or– Soc 280	Introduction to Research Methods

Community & Regional Planning Concentration requirements:

BAED students must complete 33 3-credit core courses from the list below. Students enrolled in the Planning concentration will also choose an emphasis in either Environmental Planning or Community Planning an additional 18 credits for a total of 51 credits.

CRP 427	Watershed Management
–or– CRP 467	Regional Planning Process and Theory
CRP 480	Community Growth and Land Use Planning
–or– CRP 483	Introduction to Geographic Information Systems (GIS)
CRP 428	Women and Economic Development
–or– CRP 473	Planning Process and Issues of Native American Reservations
–or– CRP 486	Planning Issues in Chicano Communities
CRP 482	Introduction to Graphics
–and–	six electives from any area (for a total of 18 credits)

Environmental Planning emphasis:

Students choosing the Environmental Planning emphasis will select two 3-credit courses from two different subject areas in each of the three disciplines: Bioregional Systems, Society and Development, and Community and Identity. (For example, selecting Biol and Econ in Bioregional Systems.)

Bioregional Systems discipline:

Econ 106	Introductory Microeconomics
–or– Econ 342	Environmental Economics
E&PS 310L	New Mexico Field Geology
–or– E&PS 481L	Geomorphology and Surficial Geology
Biol 463L	Flora of New Mexico
–or– Biol 475	Plant Community Ecology
Am St 324	Environmental Conflicts in the U.S. West

Society and Development discipline:

Econ 341	Urban and Regional Economics
Pol Sc 270	Public Policy and Administration
Hist 282	Modern Latin American History
–or– Hist 468	Society and Development in Latin America, 1492–Present

Community and Identity discipline:

C&J 332	Business and Professional Speaking
–or– C&J 314	Intercultural Communication
Anth 312	Oral Narrative Traditions

Community Planning emphasis:

Students choosing the Community Planning emphasis will select two 3-credit courses from two different subject areas in each of the three disciplines: Bioregional Systems, Society and Development and Community and Identity. (For example, selecting Biol and Econ in Bioregional Systems.)

Bioregional Systems discipline:

Biol 463L	Flora of New Mexico
–or– Biol 475	Plant Community Ecology
Am St 324	Environmental Conflicts in the U.S. West

Society and Development discipline:

Econ 106	Introductory Microeconomics
–or– Econ 341	Urban and Regional Economics
Soc 300	Social Welfare: Policies and Programs
–or– Soc 400	The Welfare State
Pol Sc 303	Law in the Political Community
–or– Pol Sc 220	Comparative Politics
–or– Pol Sc 270	Public Policy and Administration

Hist 282	Modern Latin American History
–or– Hist 468	Society and Development in Latin America, 1492–Present

Community and Identity discipline:

Af Am 381	Black Books II
–or– Ch St 342	Chicanos and Manifest Destiny
–or– Nat Am 252	The Native American Experience
Anth 312	Oral Narrative Traditions
C & J 332	Business and Professional Speaking
–or– C & J 314	Intercultural Communication
Soc 216	The Dynamics of Prejudice
–or– Soc 326	Sociology of New Mexico
–or– Soc 428	Sociology of Mexican Americans

Landscape Architecture Concentration requirements:

BAED students interested in the Landscape Architecture concentration must complete the courses list below for a total of 51 credits.

LA 401	Landscape Architecture Design Studio 1
LA 402	Landscape Architecture Design Studio 2
CRP 481	Computer Applications for Planning and Administration
CRP 482	Introduction to Graphics
LA 461	History & Theory of Landscape Architecture
CRP 425	Urban Design Theory
LA 458	Plant Materials
LA 480	Landscape Architecture Technology 1: Grading and Drainage Structures I
Arch 381	–and– three elective courses from any area for a total of 9 credit hours
–and–	Students select three courses from the following:
LA 460	Landscape Architecture in the 20th Century
–and/or– Arch 422	Contemporary Architecture
–and/or– Arch 463	Modern Architecture
–and/or– CRP 338	The City in History
–and/or– CRP 376	Human Settlements

Community and Regional Planning Minor

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

The Community and Regional Planning Program is in the process of updating its program; please check with the CRP office for details.

The Masters in Community and Regional Planning (CRP) is a two-year degree program for training and 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. Dual degree opportunities are available with the Latin American Studies Program and the School of Public Administration. Students are encouraged to engage in fieldwork and professional internship experiences.

The Planning Accrediting Board (PAB) nationally accredits the CRP Program. The program received renewal of its accreditation in 2002. The program provides a 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 regional 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 CRP Program may select an emphasis in either Community Development, Natural Resources, or Physical Planning 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 qualities (assets or skills) of a professional planner include a capacity for: 1) reasoned thought; 2) visionary (futuristic or alternative) thinking; 3) communication of ideas and concepts of others; 4) resolution of conflict situations; and 5) building and understanding community in the natural, social and built environment.

Graduate Advisor

David Henkel, Community and Regional Planning

CRP students are assigned a personal academic advisor from among the core faculty at the time of admission.

Admissions

Applications are accepted primarily for Fall admission. Spring admission will be considered for special circumstances only. No applications for Summer admission will be considered.

The "priority deadline" for Fall admission to the CRP Program is February 15; however, applications will be accepted until June 15 if space is available. Applications may be obtained from the School of Architecture and Planning Student Advisor (2414 Central SE, Room 101) and are also available through the Web site of the Office of Graduate Studies. Questions about admissions and deadlines should be referred to the Program Administrative Assistant at (505) 277-5050 or crp@unm.edu.

The admissions packet contains all the necessary instructions and forms to be completed by the applicant. All admissions materials must be sent directly to the Office of Graduate Studies. Incomplete files will not be sent to the program to evaluate.

In addition to forms required by the Office of Graduate Studies, CRP applications must include the following components:

1. A letter of intent—An opportunity to communicate an applicant's professional goals, personal accomplishments and academic motivation. The Admissions Committee looks for a commitment to planning practice and assesses the applicant's goals and philosophy against those of the MCRP Program. The applicant should strive to identify any special attributes that may add to the multicultural and affirmative action goals of the program.
2. Three letters of recommendation—from individuals who are knowledgeable of the applicant's academic and/or professional accomplishments.
3. Academic transcripts—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 related course work in planning, statistics and economics.
4. Resume—which indicates the applicant's academic and professional career path, including job experience, publications, community service and outstanding accomplishments.

Course of Study

The MCRP degree program is a two year course of study for which minimum total of 50 credit hours are required; 27 must be at graduate level in planning, 10 may be at the undergraduate level.

While students with undergraduate degrees in any field are encouraged to apply, often students are asked to take preparatory courses if they are deficient in economics or statistics. Preparatory courses may not count toward the graduate degree.

Required Graduate Courses

Core course Requirements

CRP 500	Planning Theory and Process	(4)
CRP 510	Planning Communications Techniques	(4)
CRP 511	Analytical Methods for Planning	(4)
CRP 521	Advanced Planning Studio	(4)
CRP 545	Land Use Controls	(3)
—or—	CRP 580 Community Growth and Land Use Planning	(3)

MCRP Program Emphases

Students are required to select an area of emphasis in Urban/Rural Community Development or Natural Resources and Environmental Planning. Students are also required to take a "foundations" designated by the faculty, in the area of emphasis in which she or he has chosen to specialize and a second methods course (3 units) from a cluster of methods course options in their emphasis area.

Exit Requirements

CRP 588	Professional Project/Thesis Preparation Seminar	(2)
Plan I—	CRP 599 Master's Thesis	(6)
Plan II—	CRP 589 Professional Project	(6)

Master's Examination

This requirement is divided into two parts. The first part, 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 faculty member will review the student's prior academic records, proposed program of studies, evidence of course concentration in an emphasis, a "self-assessment" filled out by the student, the thesis or professional project proposal and other relevant materials. 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 MCRP degree and the approval of the advancement to candidacy form.

The second part takes place when the thesis or professional project is completed and formally presented by the student in a public presentation. The thesis or 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 the chosen field of study and area of emphasis as well as his or her strengths in accomplishing graduate studies.

The student, with the advice of his or her advisor, is responsible for the adequacy of the curriculum of study. Successful completion of an approved program of studies in the candidacy form and completion of a thesis or professional project is the basis for attaining a degree. It is expected that a majority of elective courses be related to the content of the Thesis or Professional Project.

Licensing for Planners. There are no licensing requirements for planners in the State of New Mexico. Planners can

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be certified through the American Institute for Certified Planners (AICP).

Graduate Minor in Community and Regional Planning

Course requirements (12 hours):

Two of the following foundations courses:

- CRP 531 Foundations of Community Development (3)
- or— 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 MCRP and Other Programs

Formal Dual-degree programs have been established with Latin American Studies and the School of Public Administration. 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, Water Resources and Economics. Students should initiate an individual dual degree by talking with their faculty advisor.

Certificate Programs

The School of Architecture and Planning offers certificate programs in Town Design and Historic Preservation and Regionalism. These certificates require 18 credit hours, some of which can also be applied to the Master degree program, and are open to applicants not currently enrolled as UNM graduate students.

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.

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}

338. The City in History. (3)

Overview of the development of urban forms throughout history, with emphasis on modern times, which examines the causes of urban growth and change and the ways in which cities have affected the course of development of Western society.

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}

408/508. Design and Planning Assistance Center. (3-6)

Δ

Architectural and planning services to organizations and groups throughout the state who cannot afford traditional professional services. May repeat to a total of 12 hours. Advance approval required.

Prerequisite: permission of instructor.

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. {Fall}

423/523. Advanced Site & Environment. (3-4)

Investigation of "alternative" or "appropriate" technologies and the development of guidelines using one selected technology. Students must apply their own guidelines to a real site and/or building design. {Spring}

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. [425/525/571.] 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}

426/526. Water Resources Studio. (3)

A field-based, problem-solving class focusing on the assessment of watershed condition including GIS/remote sensing, analysis of policy and social issues, impacts of land use on water quality, biodiversity and hydrologic functions. {Summer}

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. Women 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)

Investigates the meaning of community development by exploring questions like: What is community? What are some of the necessities for a community? What is the role of the "planner" in developing community? {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)

This course examines impacts of economy on space; measurement of economic activity; local economies (flows of capital and flows of goods and services); strategies to strengthen local economies; and economic development planning documents and processes. {Spring-odd years}

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.

Prerequisites: Econ 300, 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. Prerequisite: permission of instructor. {Spring, alternate years}

470. Seminar. (1-3) Δ

Various topics related to planning in the southwest. May be repeated for credit with no credit hour limit.

473/573. Planning Process and Issues of Native American Reservations. (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 BAED. {Spring, 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. [Introduction to Graphics.] (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}

485/585. Practice of Negotiation and Public Dispute Resolution. (3)

(Also offered as Pub Ad 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}

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. {Spring alternate years}

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}

508/408. Design and Planning Assistance Center. (3-6)

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. May repeat to a total of 12 hours. Advance approval required.

Prerequisite: one upper-level studio or permission of instructor.

510. Techniques of Planning Communication. (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}

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. Prerequisites: Student should have taken 511 or an equivalent set of background courses or permission of instructor prior to enrollment.

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. {Fall}

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. 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 or permission of instructor. (Spring)

521. Advanced Planning Studio. (Regional Planning Studio) (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.
Prerequisite: 510 or permission of instructor. (Fall)

523/423. Advanced Site & Environment. (3-4)

Investigation of "alternative" or "appropriate" technologies and the development of guidelines using one selected technology. Students must apply their own guidelines to a real site and/or building design.

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. [525./425./571.] 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)

526/426. Water Resources Studio. (3)

A field-based, problem-solving class focusing on the assessment of watershed condition including GIS/remote sensing, analysis of policy and social issues, impacts of land use on water quality, biodiversity and hydrologic functions. (Summer)

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. Women 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)

Investigates the meaning of community development by exploring questions like: What is community? What are some of the necessities for a community? What is the role of the "planner" in developing community? (Spring)

532. [564.] 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)

534. Infrastructure Design and Planning. (3)

(Also offered as Arch, LA 567.) Introduces students to social, urban, environmental and aesthetic issues of infrastructure

design as well as infrastructure policy analysis and development. Various infrastructures will be examined through lectures, discussion with guest practitioners, and seminar discussions. These areas will be used to investigate the effects of problem definition and physical design on social organization, settlement form and character, and environmental impact.

535/435. Community Economics for Planners. (3)

This course examines impacts of economy on space; measurement of economic activity; local economies (flows of capital and flows of goods and services); strategies to strengthen local economies; and economic development planning documents and processes. (Spring-odd years)

536. Social Policy and Planning. (3)

(Also offered as Pub Ad 536.) Explores the process of policy formation by examining current policy and planning issues.
Prerequisite: senior standing. (Spring, alternate years)

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.
Prerequisite: graduate or senior standing or permission of instructor. (Fall, alternate years)

544. Reflective Travel. (1-2 to a maximum of 3) Δ

(Also offered as Arch 413/513, 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.
Prerequisite: graduate status. (Spring)

551/429. Problems. (1-3) Δ

Individual study of problems in planning undertaken with faculty advisement and supervision. May be repeated for credit, no limits. Students must receive 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)

566. Civic Spaces and Public Art. (3)

(Also offered as Arch 466/566, LA 566.) Investigates the production of "public space" and "public art." Topics will include theory of public space(s), critical issues in public art, legal perspectives, design and administration. Class will consist of readings for discussion sessions; dialog with guest artists, architects and administrators; and presentations by students.

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 or permission of instructor. (Spring, 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: 510 or Arch 365 or permission of instructor.

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) Δ

Various topics related to planning in the southwest. May be repeated for credit with no credit hour limit.

572. Research Methods. (3)

Conceptualizing research questions and translating those into research strategy.

573./473. Planning Process and Issues of Native American Reservations. (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.

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 BAED. {Spring, alternate years}

575. Natural Resource Economics. (3)

(Also offered as Pub Ad 575.) 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. Prerequisites: Econ 105 and 106 or permission of instructor.

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 Pub Ad 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-MCRP degree.

578. Latin American Development Planning. (3)

(Also offered as Lt-Am 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. {Fall, alternate years}

579. Introduction to Preservation and Regionalism. (3)

(Also offered as Arch, LA 579.) 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. [Introduction to Graphics.] (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 Pub Ad 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. {Spring, alternate years}

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.

Prerequisites: advanced graduate standing and advance permission of instructor. **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.

Prerequisites: advanced graduate standing and permission of instructor. Plan II only. **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.

598. Thesis Research. (1-4)

Development of research methodology and topical outline for the thesis. Students are encouraged to use Planning 588 *Professional Project/Thesis Preparation Seminar*, as a preparatory course. **Offered on a PR/CR/NC basis only.**

599. Master's Thesis. (1-6) Δ

Development of a research project reflective of advanced inquiry into a planning topic. Thesis should make concrete contributions to guide planning practice. May be repeated for credit, no limit.

Prerequisite: 598 or equivalent and approval by thesis chairperson. **Offered on a PR/CR/NC basis only.**

LANDSCAPE ARCHITECTURE

Program Director

Alfred Simon, Ph.D., FCSLA

Associate Professors

Alfred Simon, Ph.D., Arizona State University, M.L.A.,

University of Manitoba,

Christopher Wilson, J.B. Jackson Professor, M.A., University of New Mexico

Adjunct Associate Professors

Steve Borbas, MCRP, Pratt Institute

Baker Morrow, M.A., University of New Mexico

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

Part-time Faculty

Dierdre Harris, M.Arch., University of Manitoba

Claudia Meyer Horn, M.L.A., University of Pennsylvania,

B.Arch., University of Texas at Austin

Greg Miller, B.L.A., Texas A&M University

Judith Phillips, B.A., State University of New York

Alex Rattray, M.L.A., University of Pennsylvania

Naomi Sachs, M.L.A., Berkeley

Arnold Valdez, M.Arch., University of New Mexico

Dennis Wilkinson, B.S., Texas Tech University

The **Master of Landscape Architecture** prepares students for the thoughtful design and planning of outdoor space for human use and enjoyment. 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 background for the study of landscape architecture. In addition to basic studies, each student is expected to complete either a Master's Thesis (Plan I) or a Master's Project (Plan II), based on a topic selected according to their interests and a vision of their own future in the discipline. Landscape architectural emphases in the Program include:

- The cultural landscape and in particular the landscapes of the Southwest.
- Environmental and public art
- Design in Southwest arid landscapes.

The thesis or master's project develops original, detailed design work and key research in the field to a professional level and is guided, reviewed and approved by the student's graduate committee. The **applied project** is research-based study that explores larger theoretical issues and their conceptual and practical application in an environmental design context. Students' project proposals are reviewed by their committee and evaluated based on the degree of complexity and the fit with the student's declared area of specialization. The **thesis** is a research study that is developed on a topic and investigation of an hypothesis or question. Students will design and carry out a study that articulates a clear method and process for addressing critical questions related to landscape architecture and environmental design.

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. The University of New Mexico's master's program in landscape architecture is fully accredited by the Landscape Architectural Accreditation Board.

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.

Students may enter the MLA 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 eighty-seven 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 eighty-seven 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 Environmental 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 to thirty-two credit hours. Please 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 Graduate Studies 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 not contain 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.

Application Deadlines

Fall semester:
Priority deadline is March 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 (prerequisite: LA 501)	6 credits
LA 503	Graduate Studio 3 (prerequisite: LA 502)	6 credits
LA 508	DPAC Interdisciplinary Community Studio (prerequisite: LA 503)	6 credits
LA 505	Graduate Studio 5 (prerequisite: LA 508)	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 (or equivalent)	3 credits
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 <i>one of the following:</i>	3 credits
LA 597	Project	6 credits
<i>—or—</i>		
LA 599	Master's Thesis	6 credits

Electives
9 credit hours of elective courses

Suggested Electives

History / Theory		
LA 512	Cultural Landscape Evaluation & Management	
LA 512	Southwest Architecture & Cultural Landscapes	
LA 512	Landscape Architecture of Latin America	
LA 562	Gardens in the Sand	
LA 566	Civic Space and Public Art	
LA 567	Landscape and Infrastructure	
LA 579	Introduction to Preservation and Regionalism	
LA 590	Historic Research Methods	
CRP 576	Human Settlements	
Arch 512	Memory & Architecture	
Arch 522	Contemporary Architecture	
Arch 563	Modern Architecture	
Arch 571	Urban Design Theory	
others as approved		
Environmental Systems		
LA 512	Sustainable Landscape Design	
LA 512	GIS for Landscape Architecture	
CRP 515	Natural Resources Field Methods	
CRP 527	Watershed Management	
CRP 533	Foundations of Physical Plng	
CRP 532	Natural Resource Planning	
CRP 570	Modeling the Environment	
CRP 570	Meaning and Place	
CRP	Water Resources Studio	
others as approved		

Typical Sequence for three-year Program of Study

Year 1

Fall		
LA 501	Graduate Studio 1	6 credits
LA 582	Graphic Communications	3 credits
LA563	Theory in Landscape Architecture & Environmental Design	3 credits
LA 556	Site and Environment	3 credits
Spring		
LA 502	Graduate Studio 2 (prerequisite: LA 501)	6 credits
LA 561	History and Theory of Landscape Architecture	3 credits
LA 558	Plants 1	3 credits
LA 580	Landscape Architecture Technology	3 credits

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Summer

LA 521	AutoCAD® for Landscape Architects (or equivalent)	3 credits
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Year 2

Fall

LA 503	Graduate Studio 3 (prerequisite: LA 502)	6 credits
LA 560	Landscape Architecture in the 20th Century	3 credits
LA 581	Landscape Construction Materials & Techniques	3 credits
Elective		3 credits

Spring

LA 508	DPAC Interdisciplinary Community Studio (prerequisite: LA 503)	6 credits
LA 596	Landscape Architecture Thesis/Project Preparation Seminar	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
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

Readings

In addition to the above requirements, a comprehensive reading list is prepared for all students entering the program. Students will be questioned about their readings at their graduate review and again during their master's thesis presentation or project defense.

Graduate Review

The Graduate Review, occurs for students in the three-year program after they have completed three studio courses and a minimum of 21 hours of additional course work and for students in the 2-year program after they have completed one studio and a minimum of 12 hours of additional course work. A faculty committee, usually consisting of the student's advisor and at least one other faculty member, will review the student's academic progress, reading within the discipline, program of studies, proposed emphasis, and proposed thesis or professional project topic. The faculty committee will assess the student's work to date and proposed plans for studies to complete the degree and will prepare recommendations regarding the student's advancement to candidacy.

Master's Examination

The Masters Examination will occur at the time of the Masters 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.

Students working toward a Master of Landscape Architecture degree must develop an emphasis within their curriculum. The selected emphasis will require a minimum of 9 graduate credit hours plus substantial related content within the thesis or master's project. The student's program, including the emphasis, is developed in consultation with the major advisor.

It may be altered if needed with the consent of the advisor and the student's graduate committee. 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. Students will be questioned about their readings at their mid-point review and again during their master's thesis presentation or project defense.

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. Prerequisite: Arch 202 or 505L.

401./501. Landscape Architecture Design Studio 1. (6)

An introductory design studio for students entering the three-year graduate program and for students in the BAED program. Emphasis is on basic design principles, three dimensional space and the development of graphic communication skills.

402./502. Landscape Architecture Design Studio 2. (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.

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.

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 1. (6)

An introductory design studio for students entering the three-year graduate program and for students in the BAED program. Emphasis is on basic design principles, three dimensional space and the development of graphic communication skills.

502./402. Landscape Architecture Design Studio 2. (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.

503. Landscape Architecture Design Studio 3. (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.

505. Landscape Architecture Design Studio 5. (6)

Studio 5 is the 'capstone' design studio in the Master of Landscape Architecture studio 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.
Prerequisites: 503, 508.

508. LA Design Studio 4/DPAC Interdisciplinary Community Studio. (6)

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.

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.

512. Seminar: Landscape Architecture. (2-3) Δ

A number of seminars on various aspects of landscape architecture may be repeated for credit with no credit hour limit.

513. Reflective Travel. (1-2 to a maximum of 3) Δ

(Also offered as Arch 413/513, 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. 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.
Prerequisite: Arch 202 or 505L.

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 or equivalent.

560. [560./460.] 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. 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.

566. Civic Spaces and Public Art. (3)

(Also offered as Arch 466/566, CRP 566.) Investigates the production of "public space" and "public art." Topics will include theory of public space(s), critical issues in public art, legal perspectives, design and administration. Class will consist of readings for discussion sessions; dialog with guest artists, architects and administrators; and presentations by students.

567. Infrastructure Design and Planning. (3)

(Also offered as Arch, CRP 534.) Introduces students to social, urban, environmental and aesthetic issues of infrastructure design as well as infrastructure policy analysis and development. Various infrastructures will be examined through lectures, discussion with guest practitioners, and seminar discussions. These areas will be used to investigate the effects of problem definition and physical design on social organization, settlement form and character, and environmental impact.

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 construction 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.

584. Irrigation Design, Materials, Management for Arid Climates. (3)

Irrigation design, materials and management for contemporary automatic and manual systems. Emphasis on effective water use for proper landscape growth and general health and on conservation of water as an essential natural resource.

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.

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 MLA. 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 applica-

tion in an environmental design context. **Offered on a CR/NC basis only.**

599. Master's Thesis. (1-6)

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.**



COLLEGE OF ARTS AND SCIENCES

Vera Norwood, Interim Dean
College of Arts and Sciences, Ortega Hall 201
MSC03 2120
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-3046

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

Freshman and new transfer students who intend to major in the College of Arts and Sciences must visit the College Advisement Center before registering for classes. The Center is located in Ortega 251. Appointments are available Monday through Thursday from 8:00 a.m.–4:30 p.m. Walk-ins are available on Friday. Late hours may be available, please call 277-4621 for more information.

Transfer from Other Units Within the University

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 apply to the Office of Admissions.
6. Students seeking any exception to the above must submit a written petition to the Associate Dean for Student Academic Affairs.

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).
4. Students seeking any exception to the above must submit a written petition to the Associate Dean for Student Academic Affairs.

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 file a degree application (available from the College office) upon completion of 90 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 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 departmental 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 PROGRESS reports 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 but will not reflect waivers and substitutions granted until paperwork filed with the College office is processed by the Office of the Registrar. Certification of completion of degree requirements is solely the responsibility of the College.

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.

The University of New Mexico Core Curriculum, revised as of Fall 2003, is as follows:

Writing and Speaking (9 hours): English 101 and 102 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), 121L (lab required) or 131L (lab required), 122L (lab required) 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 102L 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 (M Lang) 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, 202; 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 multidisciplinary nature, students planning to use courses from African-American 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 (except Natural Sciences 261L, 262L, and 263L) or Physics. Selected Anthropology or Geography courses may apply (see current listings in A&S Advisement Center.) 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-American Studies, American Studies, Anthropology, Chicano Studies, Geography, Native American Studies or Women Studies courses may apply (see current listings in A&S Advisement Center). 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 African-American Studies, American Studies, Chicano Studies, Native American Studies or Women Studies courses may apply (see current listings in A&S Advisement Center).

- 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 African-American Studies, American Studies, Anthropology, Chicano Studies, Native American Studies or Women Studies courses may apply (see current listings in A&S Advisement Center). Three hours of studio OR performance art may apply.

Any transfer work to be applied toward a University of New Mexico Core or A&S Group requirement must be approved by an A&S Senior Academic Advisor. Courses in University Honors or Undergraduate Seminar programs may, with Dean's approval, be counted toward selected group requirements on a case-by-case basis. 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.

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.

Grades of C- and D are not acceptable in the major or minor 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.

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. Contact the College Advisement Center for further information.

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. 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. These students must apply for admissions to the college of Arts & Sciences, declare the appropriate major on the application, and register as a senior.

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

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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 the 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. Nat Sc 261L, 262L and 263L, taken in the Summer of 1998 or after, count for A&S elective credit.

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, and have a cumulative grade point average of at least 3.25. 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. 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 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.

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 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 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	Minor in A&S
African-American Studies (B.A.)	African-American Studies
American Studies (B.A.)	American Studies
Anthropology (B.A. or B.S.)	Anthropology
Asian Studies (B.A.)	Asian Studies
Astrophysics (B.S.)	Astrophysics
Biochemistry (B.A. or B.S.)	
Biology (B.A. or B.S.)	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 Studies
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 (interdisciplinary):	
	Japanese
	Latin
Portuguese	Portuguese
Russian	Russian
Spanish	Spanish
Linguistics (B.A.)	Linguistics
Mathematics (B.S.)	Mathematics
	Medieval Studies
	Peace Studies
	Period Studies
Philosophy (B.A.)	Philosophy
Physics (B.S.)	Physics
Physics & Astrophysics (B.A.)	
Political Science (B.A.)	Political Science
	Professional Writing
Psychology (B.A. or B.S.)	Psychology
Religious Studies (B.A.)	Religious Studies
Russian Studies (B.A.)	Russian Studies
Sign Lang Interp (B.S.)	
	Science, Technology and Society
Sociology (B.A.)	Sociology
	Social Welfare
Speech and Hearing Sciences (B.A.)	Speech and Hearing Sciences
Statistics (B.S.)	Statistics
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	Minor
Art (B.A.)	Art (Studio or History)
	Chicana/o Studies
	Community and Regional Planning
	Computer Science
	Dance
	Electrical and Computer Engineering (for mathematics and physics majors only)
Family Studies (B.A.)	Family Studies
	Fine Arts
	Human Services (for Psychology, Criminology and Sociology majors only)
	Library Science
	Management
	Mechanical Engineering (for mathematics majors only)
	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 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 www.unm.edu/~premed and 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 www.unm.edu/~artsci/advise/pre dental.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.

AFRICAN-AMERICAN STUDIES

Shiame Okunor, Director, Academic
 4023 Mesa Vista Hall
 MSC06 3730
 1 University of New Mexico
 Albuquerque, NM 87131-001
 (505) 277-5644

Faculty

Mohamed Ali, Ph.D., The University of New Mexico
 Pamelya Herndon, J.D., University of Texas
 Shiame Okunor, Ph.D., The University of New Mexico
 Admasu Shunkuri, Ph.D., University of Kansas

Professor Emeritus

Cortez Williams, Ph.D., The University of New Mexico

Affiliated Faculty

Robert Harding, J.D., University of Kentucky
 Jonnie Jones, J.D., Georgetown University
 Lenton Malry, Ph.D., The University of New Mexico
 Patricia Parnham, Ph.D., University of Texas
 Howard Ross, Ph.D., Southern Illinois University
 Vera Verhoeven, J.D., The University of New Mexico

Introduction

African-American 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 courses are cross-listed with Political Science, Language, Literacy and Sociocultural Studies, American Studies, English, Communication and Journalism and other departments. All the courses may be taken toward a degree, substitutes for required courses with prior approval of the student's major department, or as electives.

Bachelor of Arts in African-American Studies

The interdisciplinary major in African-American Studies approaches the study of 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 African-American Studies (15 of the 39 must be 300 level and above) distributed as follows:

I. (3 hrs.) Foundational

Af Am 103 Foundations of African-American Studies (required)

II. (3 hrs.) Language

Af Am 101 Swahili I
 Af Am 102 Swahili II
 Af Am 106 Elementary Arabic I
 Af Am 107 Elementary Arabic II
 Af Am 206 Intermediate Arabic I
 Af Am 207 Intermediate Arabic II

(12 hrs.) History

Af Am 284 African-American History I (required)
 Af Am 285 African-American History II (required)
 Af Am 388 Blacks in Latin American I (required)
 Af Am 396 Emancipation and Equality
 Hist 474 Slavery and Race Relations

(9 hrs.) Political Science

Af Am 299 Black Leaders in the U.S.
 Af Am 309 Blacks in Politics
 Af Am 329 Introduction to African Politics (required)
 Af Am 333 Black Political Theory (required)

(6 hrs.) Feminist Studies

Af Am 250 Black Woman (required)
 Wm St 234 Her Own Voice: Black Women Writers
 Wm St 331 Third World Women

(6 hrs.) Literature and Culture

Af Am 251 Black Books I
 Af Am 380 African Literature
 Af Am 385 The African World
 Af Am 381 Black Books II
 Af Am 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 African-American Studies take a distributed minor through requirements III and IV. Students interested in minor-ing in a specific related field should contact the program director.

B.A. in African-American 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. Af Am 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 African-American Studies courses which include Af Am 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.	3
—or— 309	Blacks in Politics	3

300 & above electives (Af Am)	9
391 Problems	3
Total	24

African-American Experience. May be repeated as topic varies. No limit.

Minor Degree—Specialized

The Specialized option requires 24 hours and must have emphasis in economics, anthropology, history or other disciplines offering adequate relevant courses. Students are required to take 12 hours of Af Am courses and the remaining 12 hours to be taken from the department of emphasis. A minimum of 6 of the 12 hours from each of the two departments must be 300 level or above. Af Am 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 (Af Am)	6
300 & above electives (concentration)	6
Concentrations: history, economics, anthropology, psychology, political science, sociology, etc. (300 and above)	6
Total	24

Related Courses

- 250. **Black Woman.** (3) Fields
- 280. **Black Experience in the U.S.** (3) Williams
- 285. **African-American History II.** (3) Williams
- 297. **Interdisciplinary Topics.** (3) Parnham
- 309. **Black Politics.** (3) Shunkuri
- 387. **Blacks in Latin America I.** (3) Williams
- 391. **Problems.** (1-3) Okunor
- 395. **Education and Colonial West Africa.** (3) Okunor
- *397. **Interdisciplinary Topics.** (1-3) Δ
- 399. **Culture and Education.** (3) Okunor

African-American Experience I and II

These activities are augmented by sponsorship of the following University-community project: Team of Excellence.

Plan C (Arts and Sciences majors only)

The African-American 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. Af Am 284 African-American History I
b. Af Am 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. Af Am 329 African Politics (Political Science)
 - b. Af Am 333 Black Political Theory (Political Science)
 - c. Af Am 397 African-American Literature (English)
 - or—
 - Af Am 392 Black Liberation and Religion (English)
 - or—
 - English 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 African-American Studies department.

The Summer Institute In African-American Studies

Director, Shiame Okunor

The institute is jointly sponsored by the African-American Studies and the History Department. Institute courses are thematic and cross-listed with many departments enabling each course theme to be addressed through the lenses of multiple disciplines. The Institute’s courses are taught by distinguished visiting professors and augmented by local faculty members.

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. {Summer}

***397. Interdisciplinary Topics. (1-3) Δ**

Special topic courses in specialized areas of African-American Studies. African-American Literature; Sociopolitics: Africa, Culture and Education, Politics of Southern Africa,

Mentorship Program

Coordinators, Dr. Shiame Okunor and Letha Allen

African-American Studies answered to the need to demystify college and to prepare minority elementary and high school students for college life by creating The Team of Excellence Mentorship Program. The Program sends mentors and tutors to elementary and high schools in economically distressed neighborhoods to tutor and mentor minority students.

The Goals of the Program:

To Improve:

1. writing and reading skills,
2. math and science competencies,
3. oratory abilities, and to
4. sponsor students in academic competitions.

The Charlie Morrissey Research Hall

Director, Dr. Shiame Okunor

The Charlie Morrissey Research Hall is a repository of documents including photographs, rare books and artifacts documenting the presence of Africans in New Mexico in particular and Southwest in general. Presently, the Hall has more than 1,500 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:

- Admasu Shunkuri, Ph.D
- Steve Bishop, Ph.D
- Shiame Okunor, Ph.D, Director

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 African American Studies courses and the experiential. Therefore, students participate in a 3

week educational excursion and research through Ghana-visiting Universities, small villages, slave castles, Dubois Research Center, etc. while interacting with the people. Students earn 3-6 undergraduate or graduate credits.

African-American Studies (Af Am)

101. Swahili I. (3)

Foundation course for all beginning students interested in reading or speaking the language. {Offered upon demand}

102. Swahili II. (3)

Foundation course for all beginning students interested in reading or speaking the language. {Offered upon demand}

103. Foundation of African-American Studies. (3)

Okunor

An exploration of the philosophical basis for the creation and the existence of African-American Studies program. {Fall, Spring}

106. Elementary Arabic I. (3) Ali

(Also offered as M Lang 106.) A course in elementary modern standard Arabic.

107. Elementary Arabic II. (3) Ali

(Also offered as M Lang 107.) A course for those with very minimal exposure to modern Arabic Language.

115. Communication Across Cultures. (3)

(Also offered as C & J 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) Ali

(Also offered as M Lang 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.

Prerequisites: 106 and 107 or one year elementary or high school Arabic.

207. Intermediate Arabic II. (3) Ali

(Also offered as M Lang 207.) 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.

Prerequisites: 106 and 107, 206 or one year elementary or high school Arabic.

250. Black Woman. (3) Fields

(Also offered as Wm St 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. Black Books I. (3) Okunor

(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.

280. Black Experience in the United States. (3) Okunor, Williams

(Also offered as Am St 250.) An analysis of the political, economic, religious and familial organization of Black communities in the United States.

284. African-American History I. (3) Williams

(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. {Fall}

285. African-American History II. (3) Williams

(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. Prerequisite: 284. {Spring}

294. Institutional Racism. (3) Herndon

A study of the pervasive nature and the broad effects of race-influenced institutional decisions; the differences in the legal definition of institutional and individual racism.

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) Malry, Shunkuri

A comparative study of major African-American leaders and their impact on race relations in the United States. {Spring}

303. Introduction to Black Liberation and Religion. (3)

Okunor

(Also offered as Relig 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) Williams

(Also offered as Am St 351.) A survey of the lives of Blacks in the American West (1528-1918).

309. Black Politics. (3) Shunkuri

(Also offered as Pol Sc 309.) A study of the history and diverse educational and political maturation processes of elected American officials and functions of the political process. {Fall}

318. [305.] Civil Rights Politics and Legislation. (3)

Shunkuri, Verhoeven

(Also offered as Pol Sc 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. Recommended prerequisite: 103.

329. Introduction to African Politics. (3) Shunkuri

(Also offered as Pol Sc 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) Shunkuri

Survey course of the literature and philosophy of the Black Diaspora.

380. African Literature. (3) Ali

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. Black Books II. (3) Okunor

(Also offered as Engl 381.) This is the second phase of a three-part journey through the Black experience in search of humanity and peace. The vehicle is post-slavery books written by and about Black 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.

382. Malcolm X. (3) Okunor

The course allows the many voices of Malcolm X to speak through selected materials on Malcolm X. The materials become vehicles for discussing Malcolm's and the many social, political and cultural issues the literature raises.

385. The African World. (3) Shunkuri

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) Field

(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) Williams

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. {Fall}

391. Problems. (1-3) Okunor, Shunkuri, Williams

{Summer, Fall, Spring}

392. Black Liberation and Religion. (3) Okunor

(Also offered as Relig 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) Okunor

A study of European education and its psychological, sociological and cultural impact on traditional African society. {Fall, Spring}

396. Emancipation and Equality. (3) Okunor

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. {Summer}

***397. Interdisciplinary Topics. (1-3, may be repeated for credit, 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) Okunor

(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 Art Hi 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)** Okunor

(Also offered as Relig 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 Relig 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 290. Foundations of Education. (3)** Okunor

An introduction to the philosophical, social, historical and comparative foundations of education.

LLSS 493. Topics. (1-3) Δ Okunor

May be repeated for credit, no limit.
Education and Free Society.
Education and the African-American.

LLSS 516. Educational Classics. (3) Okunor

This course focuses on influential educational perspectives in Western civilization (i.e., Greek, Judeo-Christian, medieval and enlightenment Europeans) and in other cultures (i.e.,

Chinese, American Indian or Buddhist). Modern and post-modern thought also is explored.
Prerequisite: 415.

LLSS 518. Comparative Education. (1-3) Δ Okunor

This course is designed as an instrument for the study of the history, culture, religion, politics, etc. of people of various nations through the study of their educational systems. May be repeated for credit, no limit. {Offered upon demand}

LLSS 615. Contemporary Philosophy of Education. (3)

Okunor
Focuses on 20th-century philosophies of education throughout U.S.A., Latin America, China and Europe with an emphasis on critical pedagogy, pragmatism, progressivism, process philosophies and essentialism. {Spring}

AMERICAN STUDIES

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Alex Lubin, Ph.D., University of Minnesota
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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: Culture Studies (including folklore and material culture); Southwest Studies; Environment, Science and Technology; Popular Culture; Gender 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 (Am St 285 or equivalent) 3
2. Interdepartmental Studies of American Culture: after consultation with American Studies undergraduate advisor choose 30 hours of courses from at least two of the six areas listed below, with no more than 12 hours from any one area. Fifteen hours of this course work must be from courses numbered 300 and above. Of the 30 hours required in this section and the 12 hours required in section 3.a below (a total of 42), 18 must be in American Studies.
History
Literature (English, Foreign Languages and Literatures)
Political, economic and geographical studies
Social and cultural systems (Soc, Anth, Psych)

130 ARTS AND SCIENCES

Arts, Humanities and Communications (Phil, Ling, Fine Arts, C & J, Comp Lit)	
Natural History (Biology, Earth and Planetary Sciences, Chemistry)	30
3. Senior Program: after consultation with faculty advisor, choose 15 hours in courses numbered 300 and above:	
a. Twelve interdepartmental hours in courses centering around a particular topic or problem in American culture. Of the 12 hours required in this section and the 30 hours required in 2 above (a total of 42), 18 must be in American Studies.	12
b. American Studies Seminar and Thesis (485)	3
<hr/> Total Hours	<hr/> 48

A minor (18–26 hours in another department) is strongly recommended but not required.

Minor Study Requirements

An American Studies minor may be elected by undergraduate students majoring in the departments of Anthropology, Art History and Criticism, Economics, English, History, Philosophy, Political Science or Sociology. People having other majors will need the 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 15 hours in American Studies: 285, 3 hours at any level and 9 hours at the 300 level. Students will take the remaining 9 hours in an integrated program chosen from other departments (Anthropology, Art History and criticism, Economics, English, Geography, History, Political Science, Philosophy, Psychology or Sociology) or American Studies courses. All of these 9 hours must be from courses at the 200 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 programs.

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. Requires American Studies 285, *American Life and Thought* (3), 186, *Introduction to Southwest Studies* (3). Courses designed to provide an introduction to interdisciplinary methods and a context for Southwest Studies.
2. Twenty-seven hours of Interdisciplinary Studies of Southwest Culture: In consultation with the American Studies undergraduate advisor, the student will structure a coherent program of nine 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 studies (The Ecology of Arid Climates, etc.). In all 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. Senior Program: After consultation with the American Studies undergraduate advisor, choose (from courses numbered 300 and above):
 - a. Twelve 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).
 - b. American Studies *Senior Seminar In U.S. Culture* (485): A course in which the interdisciplinary implications of each student's major topic are explored.

Minor Concentration in Southwest Culture Studies

This minor is designed to introduce students to the interdisciplinary study of the culture of the Southwest. 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 15 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* (499) and the American Studies *Senior Seminar in U.S. Culture* (485) in their senior year.

Graduate Programs

Graduate Advisor

Varies, contact department office.

Application Deadlines

Annual: February 1.

NOTE: Early application is recommended. No new applications will be accepted after February 1.

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 special concentration are offered: culture 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. Am St 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 32 hours of graduate work. Plan I (thesis) calls for 24 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 (Am St)

General Courses

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.

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)

*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. Prerequisites: 3.2 or above overall GPA; completion of 285 and 30 hours required Interdisciplinary course work. May be taken in conjunction with 485, *Senior Seminar*. (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)

520. Topics in Environment, Science and Technology. (3 to a maximum of 6)

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.

597. Individual Study-Master's Degree. (1-3 to a maximum of 6) Δ

599. Master's Thesis. (1-6) Offered on a CR/NC basis only.

600. Research Methods. (3)

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 12) Δ

For Ph.D. candidates only.

699. Dissertation. (3-12) Δ

Offered on a CR/NC basis only.

Culture Studies**181. Introduction to Culture Studies. (3)**

An introduction to one or more of the subjects informing the interdisciplinary field of culture studies. Topics may include material culture, folklore, consumerism, public culture, critical theory and cultural identity.

303. Law in the Political Community. (3)

(Also offered as Pol Sc 303.) Introduction to the role of law and legal institutions in politics and society.
Prerequisite: for Pol Sc 315.

308/508. 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.

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 Culture 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 Mus St 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.

312/512. War and American Culture. (3)

Focusing on World War II and the Vietnam War, this course will analyze the "cultural construction" of war in 20th-century America. Topics include ideas of citizenship, gender and race, popular culture, roles of media and government.

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. [The Making of American Culture.] (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 inter-

disciplinary 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)

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 Culture 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.

Prerequisite: graduate standing.

511/311. Material Culture in America. (3)

(Also offered as Mus St 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.

512/312. War and American Culture. (3)

Focusing on World War II and the Vietnam War, this course will analyze the "cultural construction" of war in 20th-century America. Topics include ideas of citizenship, gender and race, popular culture, roles of media and government.

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.

Prerequisite: graduate standing.

515/315. Race, Class & Gender in the Culture Industry. [The Making of American Culture.] (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 feminist, postmodern, linguistic and psychoanalytic theory.

Prerequisite: graduate standing.

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

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./524. 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.

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.

524./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.

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. [332./532.] 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.

333. [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.

535. Theories and Methods of Gender Study. (3)

A graduate, introductory course covering major trends in interdisciplinary gender studies. Content may vary by semester, but includes feminist theory, historical constructions of gender and sexuality and emerging studies of masculinity. Prerequisite: graduate standing.

536. [536./336.] Masculinities. (3)

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) Δ

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. May be repeated for credit with permission from Am St undergraduate advisor.

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./542. 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.

542./342. Television in American Culture. (3)

An examination of television history, genres (sitcom, soap opera, talk-show, news, etc.) and representations of American peoples and culture—aimed at introducing basic critical perspectives on the medium and exploring its socio-cultural influences. Prerequisite: graduate standing.

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. The Black Experience in the United States. (3)

(Also offered as Af Am 280.) An analysis of the political, economic, religious and familial organization of Black 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 Nat Am 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 Af Am 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. [Racial Formation.] (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. [Class Formation.] (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.

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. [Racial Formation.] (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. [Class Formation.] (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.

559./359. 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.

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 SW 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. [361./561.] 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 Pueblos, 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.

364/564. Chicano/a Visual and Narrative Style. (3)

Examines the cultural aesthetics of the Chicano/a community through the study of Chicano/a literature, film, art and vernacular culture. Explores the history of the U.S.–Mexico borderlands in autobiography, folklore, film, music, performance art and literature. Employs cultural studies' theory to analyze genres and other forms of cultural representation.

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.

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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. Prerequisite: graduate standing.

ANTHROPOLOGY

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 Garth L. Bawden, Ph.D., Harvard University
 Jane E. Buikstra, Ph.D., University of Chicago
 Patricia L. Crown, Ph.D., University of Arizona
 Steven Feld, Ph.D., Indiana University
 Brian L. Foster, Ph.D., University of Michigan (Ann Arbor) (Part-time)
 Kim Hill, Ph.D., University of Utah
 Hillard S. Kaplan, Ph.D., University of Utah
 Louise A. Lamphere, Ph.D., Harvard University
 Jane B. Lancaster, Ph.D., University of California (Berkeley)
 Carole Nagengast, Ph.D., University of California (Irvine)
 Robert S. Santley, Ph.D., Pennsylvania State University
 Lawrence G. Straus, Ph.D., University of Chicago
 David E. Stuart, Ph.D., The University of New Mexico (Part-time)
 Marta Weigle, 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., The University of New Mexico (Part-time)
 David W. Dinwoodie, Ph.D., University of Chicago
 Les W. Field, Ph.D., Duke University
 Larry P. Gorbet, Ph.D., University of California (San Diego)
 Bruce B. Huckell, Ph.D., University of Arizona, Research
 Ana Magdalena Hurtado, Ph.D., University of Utah
 Robert D. Leonard, Ph.D., University of Washington
 Joseph F. Powell, Ph.D., Texas A&M University
 Ann F. Ramenofsky, Ph.D., University of Washington
 Sylvia Rodriguez, Ph.D., Stanford University
 Beverly R. Singer, Ph.D., The University of New Mexico
 Joe E. Watkins, Ph.D., Southern Methodist University

Assistant Professors

Patrick F. Hogan, Ph.D., Washington State (Part-time)
 Debra Komar, Ph.D., University of Alberta, Research
 Suzanne R. Oakdale, Ph.D., University of Chicago
 Osbjorn M. Pearson, Ph.D., SUNY (Stony Brook)

Professors Emeriti

Anita L. Alvarado, Ph.D., University of Arizona
 Richard A. Barrett, Ph.D., University of Michigan
 Lewis R. Binford, Ph.D., University of Michigan
 Philip K. Bock, Ph.D., Harvard University
 John Martin Campbell, Ph.D., Yale University
 J. Stanley Rhine, Ph.D., University of Colorado
 Karl H. Schwerin, Ph.D., University of California (Los Angeles)
 James M. Sebring, Ph.D., University of California (Berkeley)

Introduction

Anthropology is the study of humanity and its works, from the most remote point in human history to the cultural, linguistic and biological diversity of the present. Each of the five concentrations of anthropology contributes to an integrated picture of past and present human variation. By comparing information gathered about different human groups, anthropologists can understand much about why human society is as we find it today and can offer insights into contemporary problems.

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

Biological Anthropology:

- Anth 150 Evolution and Human Emergence
- Anth 350 Human Biology

Ethnology:

- Anth 130 Cultures of the World
- Anth 330 Principles of Cultural Anthropology

Human Evolutionary Ecology (HEE):

- Anth 160 Human Life Course
- Anth 360 Human Behavioral Ecology

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 371, 372, 373, 375, 473L)
- Group B: Europe, Asia, Africa (Anth 325, 326, 327, 328, 329)
- Group C: North and South America (Anth 321, 322, 323, 324, 329)

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.

Biological Anthropology (36 Credits)

For a concentration in biological anthropology take:

- Anth 101 (3 credits)
- Anth 150 (3 credits)
- Anth 151L (1 credit)
- Anth 350 (3 credits)
- Anth 351L (4 credits)

Plus two upper division courses (300–400 level) in biological anthropology (may include Anth 363 or other HEE courses with approval). (6–8 credits).

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.

Ethnology (36 Credits)

For a concentration in ethnology take:

- Anth 101 (3 credits)
- Anth 130 (3 credits)
- Anth 330 (3 credits)

Plus two area courses (from Anth 331, 332, 337, 343, 345, 384, 387) and two topics courses (from Anth 312, 333, 344, 346, 389).

Anth 340 may be included above, 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.

Human Evolutionary Ecology (HEE) (36 Credits)

For a concentration in HEE take:

- Anth 101 (3 credits)
- Anth 160 (3 credits)
- Anth 161L (1 credit)
- Anth 360 (3 credits)
- Anth 462 (3 credits)

Plus two elective courses in Human Evolutionary Ecology (6 credits).

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.

Linguistic Anthropology

Students with a particular interest in linguistic anthropology should combine a concentration in one of the other concentrations (e.g., Ethnology or HEE) with a Minor in Linguistics. They should include in their programs both Ling 292 (*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, 292, 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: 110 (or Ling 292) and 310; 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

Please 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 last 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. Please 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 depart-

ment'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 are described below.

Degrees Offered

M.A. or M.S. in Anthropology

Concentrations: archaeology, biological anthropology, ethnology/linguistic anthropology, human evolutionary ecology.

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 this catalog. 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 relation 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, biological anthropology, ethnology/linguistic anthropology, human evolutionary ecology) appropriate to the student's research interests. Further details about the master's examination can be obtained from the department office.

Ph.D. in Anthropology

Concentrations: archaeology, biological anthropology, ethnology/linguistic anthropology, human evolutionary ecology.

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 (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.

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.

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.

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 hrs. lab.

160. Human Life Course. (3) Kaplan, Lancaster
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.
Prerequisite: 160.

201. Dinosaurs, Troglodytes and Apes: The History of Human Evolution. (4) Froehlich
Background to the scientific study of organic evolution, application of evolutionary theory to our species and evidence for our biological and behavioral evolution from ape-like ancestors to the cave dwellers of the Late Stone Age. Two lectures, three hours lab and five field trips. {Alternate years}

220. World Archaeology. (3)
Introduces archaeological theory, method and technique by presenting the developmental history of human cultures.

230. Topics in Current Anthropology. (3) Δ
Experimental courses on topics of current interest. May be repeated for credit as subject matter varies, no limits.

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. {Offered periodically}

251. Forensic Anthropology. (3) Komar, Staff
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. {Alternate years}

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," please 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; "B" for Biological; "E" for Ethno-Linguistics; and "HEE" for Human Evolutionary Ecology.)

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, B, E, HEE)

310./511. Language and Culture. (3)
(Also offered as C & J 319, Ling 359.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition.
Prerequisite: an introductory linguistics course. (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) Gorbet
(Also offered as Ling 304.) Phonetic principles and phonological theory, descriptive analysis of phonological systems, transcriptional practice and problems from selected languages.
Prerequisite: Ling 303. (E) {Fall}

***318. Grammatical Analysis. (3)**
(Also offered as Ling 322 and 522.) Principles of morphological and syntactic analysis and the theory of grammar, descriptive analysis of grammatical structures, problems from selected languages.
Prerequisite: Ling 292 or Sign 305. (E) {Spring}

320./520. Strategy of Archaeology. (3) Boone, Leonard, Ramenofsky
The purpose and theory of the study of archaeology; relates archaeology to anthropological principles and the practice of science.
Prerequisites: 101 and either 121L or 220. (A) {Yearly}

321/521. Southwest Archaeology. (3) Wills, Crown
An intensive survey of Southwest prehistory including discussion of major interpretative problems. Covers the period from 11,000 years ago to historic times. (A)

322/522. Mesoamerican Prehistory. (3) Santley
An advanced survey of the prehistory of Mexico, Guatemala and Belize from the origins of village farming to the Spanish conquest. (A)

323/523. Archaeology of Eastern North America. (3) Ramenofsky
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. American Archaeology: South America. (3) Bawden
Archaeology of South America from the Paleo-Indian to the European period. Emphasizes the origins and evolution of Andean civilization and associated interpretive problems. (A) {Alternate years}

325/525. Stone Age Europe. (3) Straus
The prehistory of Europe with emphasis on hunter-gatherer adaptations of the Pleistocene and early Holocene, using primary data sources.
Prerequisites: 101, 220 or consent of instructor. (A) {Alternate years}

326/526. Late European Prehistory. (3) Boone
An intensive survey of the later prehistory of Europe, from the development of agricultural communities through the Roman Empire. (A) {Fall 2005 and alternate years}

327/527. African Prehistory. (3) Straus
The prehistory of Africa from the appearance of the first hominids to the development of complex societies.
Prerequisites: 101, 220 or consent of instructor. (A) {Alternate years}

328/528. Near Eastern Archaeology. (3) Bawden, Boone
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) Boone, Santley
Comparative approach to origin and development of stratified societies and pristine states as known from the archaeological record. (A)

330/534. 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 Relig 333.) Comparative analysis of ritual processes, symbolic systems and world views in the context of social structure. (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) Nagengast
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) Δ
Current topics in sociocultural anthropology to be explored in experimental courses. May be repeated for credit as subject matter varies, no limits. (E)

341. Culture Study of Indigenous Video. (3) Singer
(Also offered as Nat Am 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}

346. Expressive Culture. (3)
The comparative study of selected verbal, visual, musical, dramatic and cultural arts as cultural and aesthetic expressions. (3) {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}

***350. Human Biology. (3)** Pearson, Hurtado
Human heredity, variation and adaptation within and between different ecological and cultural settings; genetics; quantitative variation; elements of human population biology and human ecology.
Prerequisites: 150 and/or introductory biology. (B) {Spring}

***351L. Anthropology of the Skeleton. (4)** Powell
A laboratory course in the identification of human skeletal materials with attention to problems in the evolution of primates. Three lectures, 2 hrs. lab. (B) {Fall}

356L./556L. Field Paleontology and Primate Origins. (3-5) Δ Froehlich
Intensive instruction in paleontological field and laboratory techniques; survey of early mammalian dental evolution focusing on primate recognition and functional anatomy. One lecture, five weekend field trips, 6 hrs. lab. May be repeated twice.
Prerequisite: 150 or equivalent. (B) {Alternate years}

357. Human Origins. (3) Pearson
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. (B) {Alternate years}

140 ARTS AND SCIENCES

358/558. [352L.] **Topics in Primate Biogeography and Evolutionary Ecology.** [Primate Biogeography and Behavioral Evolution.] (3 to a maximum of 9) [4] Δ
Froehlich

Survey of primate behavioral ecology and systematics; rotating focus on topics such as sexual selection, speciation or the evolution of culture. Films and discussions from perspective of how primate "specialized plasticity" informs us about human origins. (B)

Prerequisite: 150 or equivalent. {Alternate falls}

360. Human Behavioral Ecology. (3) Hill

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 introductory Biology course. (B, HEE)

361/661. 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.

Prerequisite: upper division standing or consent of instructor. (HEE) {Alternate years}

362/662. Great Apes: Mind and Behavior. (3) Lancaster

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.

Prerequisite: upper division course in primate studies. (HEE)

363/563. Primate Social Behavior. (3) Lancaster

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.

Prerequisite: Upper division standing or consent of instructor. 352L highly recommended. (HEE) {Alternate years}

364. Topics: Human Evolutionary Ecology. (3) 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. May be repeated for credit as subject matter varies, no limits. (HEE)

365/568. Anthropology of Health. (3) Hurtado

Analysis of systems of health, curing and disease in aboriginal, western and pluralistic societies. (B, HEE) {Offered periodically}

366/566. Tropical Conservation and South American Indians. (3)

Examines resource use patterns by Amazonian Indians and recent collaboration or conflict with conservation organizations. (B, HEE) {Offered periodically}

368/565. Modern Hunter-Gatherers. (3) Hill

Examination of behavioral variation in modern foraging populations from a comparative and ecological perspective. Includes traditional societies of Africa, Asia, Australia, North and South America. (B, HEE) {Alternate years}

369/564. Observing Primate Behavior. (4) Lancaster

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 363. Can be taken concurrently with 363. (HEE) {Alternate years}

372/572. Analytic Methods in Anthropology. (4) Leonard
Introduction to basic qualitative and quantitative analytic methods in anthropology. (A) {Fall}

***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. Summer Archaeology Field Session. (2-6 to a maximum of 12) Δ Wills, Huckell, Ramenofsky, Buikstra

Intensive instruction in archaeological field and laboratory techniques and the opportunity for independent student research.

Prerequisite: permission of instructor. (A) {Summer}

***380. Women Culture & Society.** (3)

(Also offered as Wm St 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. {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}

387/587. Peoples and Cultures of the Circum-Caribbean. (3)

(Also offered as Af Am 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)

390/590. Archaeology of the Southern Great Plains. (3)

This course provides an introduction to the environment, physiography, and human cultures of the Southern Great Plains of Northern America from its earliest peopling to the time of European exploration of the region. {Alternate years}

393. Ancient New Mexico I. (3) Stuart

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) {Fall 2005 evenings and alternate years}

394. Ancient New Mexico II. (3) Stuart

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) {Spring 2006 evenings and alternate years}

399. Introduction to Field & Laboratory Research. (1-6) †

Directed study under the supervision of a faculty member. Prerequisite: permission of instructor. (A, B, E, HEE) {Offered upon demand}

401/501. Native American Art I. (3) Szabo

(Also offered as Art Hi 402.) Prehistoric 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 Mus St, Art Hi 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) Szabo
(Also offered as Art Hi 406.) Prehistoric and historic art forms of the Plains, Southwest 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) Gorbet
(Also offered as Ling 413.) Practice in transcribing from oral dictation, phonemic analysis, introduction to problems of morphology.
Prerequisites: 317 and 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. Particular languages and such issues as classification; language structure; 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. (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)** Ramenofsky
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}

444/544. Anthropology of World Beat. (3) Feld
(Also offered as Music 444/544.) 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)

448/548. The Anthropology of Music and Sound. (3) Feld
(Also offered as Music 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) Feld
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**
(B)

451/651. Bioarcheology. (3) Buikstra
The analysis of the skeletal remains from past human populations, oriented at the mortality, morbidity and genetic affinities of those extinct populations.
Prerequisite: 351L. (B) {Alternate years}

453/553. Advanced Forensic Anthropology. (3) Komar
Medicolegal applications of biological anthropology. Students will become familiar with operations of the New Mexico

Medical Investigators Office, participating in ongoing case-work and review and re-analysis of past cases.
Prerequisites: 251, 351L, and permission of instructor. (B)

454/554. Human Paleopathology. (3) Bulkstra
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. (B) {Alternate years}

455/555. Human Genetics. (3)
Fundamentals of human transmission, cellular, molecular, developmental and population genetics.
Prerequisite: 150 or introductory biology. (B) {Alternate years}

456/656. Field School in Biological 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 the equivalent. (B) {Intersession and Summer}

457/557. Paleoanthropology. (3) Pearson
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. (B) {Alternate years}

458. Reconstructing Life from the Skeleton. (3) Pearson
A variety of advanced topics in human osteology including what the skeleton can reveal about a person's life, habits, habitual activity, profession, diseases and appearance.
Prerequisite: 351L or Biol 237 (or the equivalent). (B) {Offered periodically}

458L/558L. Paleobiology of Higher Primates and Human Origins. (4) Froehlich
Evolutionary history of the monkeys and apes from the middle/late Eocene to the Pliocene, the comparative biology of living primates from this cladistic perspective, and the adaptive study of these shared derived traits.
Prerequisite: 356L or 357. (B)

462. Human Evolutionary Ecology. (3) Kaplan
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 or equivalent. (HEE)

473L/573L. Archaeological Measurement and Laboratory Analysis. (4) Ramenofsky
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 or permission of instructor. (A) {Alternate years}

480/580. Ceramic Analysis. (3) Crown
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) Smith, Huckell
(Also offered as E&PS 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.

Prerequisites: E&PS 101, 105L, Anth 121L, 220 and at least junior standing in E&PS or Anth. (A) {Alternate years}

485. Seminar in Museum Methods. (3 to a maximum of 6) Δ

(Also offered as Mus St, Art Hi 485.) Theoretical and practical work in specific museum problems.

Prerequisite: 402 or Art Hi 407 or equivalent. (E)

486. Practicum: Museum Methods. (3 to a maximum of 6) Δ

(Also offered as Mus St, Art Hi 486.) Practicum in museum methods and management.

Prerequisite: 402 or Art Hi 407. (E)

497. Individual Study. (1-3 to a maximum of 6) Δ

Directed study of topics not covered in regular courses. (A, B, E, HEE)

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, B, E, HEE) {Fall}

***499. Field Research. (2-6)** †

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.

Prerequisite: permission of instructor. (A, B, E, HEE) {Offered upon demand}

Graduate Courses

501./401. Native American Art I. (3) Szabo

(Also offered as Art Hi 502.) Prehistoric 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) Szabo

(Also offered as Art Hi 506.) Prehistoric 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, B, E, HEE)

509. Seminar in Native American Art. (3) Δ Szabo

(Also offered as Art Hi 559.)

Prerequisites: 401, 403. {Offered upon demand} (E)

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 C & J 519 and Ling 559.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition.

Prerequisite: an introductory linguistics course. (E) {Spring}

512./413. Linguistic Field Methods. (3) Gorbet

(Also offered as Ling 513.) Practice in transcribing from oral dictation, phonemic analysis, introduction to problems of morphology.

Prerequisites: 317 and 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. Particular languages and such issues as classification; language structure; 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) Gorbet

(Also offered as Ling 504.) Phonetic principles and phonological theory, descriptive analysis of phonological systems, transcriptional practice and problems from selected languages.

Prerequisite: Ling 303. (E) {Fall}

520./320. Strategy of Archaeology. (3) Leonard,

Ramenofsky

The purpose and theory of the study of archaeology; relates archaeology to anthropological principles and the practice of science.

Prerequisites: 101 and either 121L or 220. (A) {Yearly}

521./321. Southwest Archaeology. (3) Wills, Crown,

Chapman

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./322. Mesoamerican Prehistory. (3) Santley

An advanced survey of the prehistory of Mexico, Guatemala and Belize from the origins of village farming to the Spanish conquest. (A)

523./323. Archaeology of Eastern North America. (3)

Ramenofsky

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. American Archaeology: South America. (3)

Bawden

Archaeology of South America from the Paleo-Indian to the European period. Emphasizes the origins and evolution of Andean civilization and associated interpretive problems. (A) {Alternate years}

525./325. Stone Age Europe. (3) Straus

The prehistory of Europe with emphasis on hunter-gatherer adaptations of the Pleistocene and early Holocene using primary data sources.

Prerequisites: 101, 220 or consent of instructor. (A) {Alternate years}

526/326. Late European Prehistory. (3) Boone
An intensive survey of the later prehistory of Europe, from the development of agricultural communities through the Roman Empire. (A) {Fall 2005 and 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. Prerequisites: 101, 220 or consent of instructor. (A) {Fall 2005 and alternate years}

528/328. Near Eastern Archaeology. (3) Bawden, Boone
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) Boone, Santley
Comparative approach to origin and development of stratified societies and pristine states as known from the archaeological record. (A)

530. Topics in Ethnology. (3) Δ
Current topics in ethnology to be explored in experimental seminars. Repetition unlimited. (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 Relig 533.) Comparative analysis of ritual processes, symbolic systems and world views in the context of social structure. (E) {Offered annually}

534/330. 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)

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 examination and application of various modern theories of symbolic analysis. Readings include Levi-Strauss, Geertz, Douglas, Turner and Leach.

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) Δ
Current topics in sociocultural anthropology to be explored in experimental courses. Repetition unlimited. (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) Feld
(Also offered as Music 544./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)

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) Feld
(Also offered as Music 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) Feld
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 (B)

552. Quantitative Methods in Biological Anthropology. (3) Powell
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. Prerequisite: permission of instructor. (B) {Alternate years}

553/453. Advanced Forensic Anthropology. (3) Komar
Medicolegal applications of biological anthropology. Students will become familiar with operations of the New Mexico Medical Investigators Office, participating in ongoing case-work and review and re-analysis of past cases. Prerequisites: 251, 351L, and permission of instructor. (B)

554/454. Human Paleopathology. (3) Buikstra
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. (B) {Alternate years}

555/455. Human Genetics. (3)
Fundamentals of human transmission, cellular, molecular, developmental and population genetics. Prerequisite: 150 or introductory biology. (B) {Alternate years}

556. Inferring Behavior from the Skeleton. (3) Pearson
A detailed analysis of what can be learned about activity and behavior from the skeleton. The course covers concepts in biomechanics, functional morphology, bone biology and focuses on their applications in biological anthropology. (B) {Offered periodically}

556L./356L. Field Paleontology and Primate Origins. (3-5) Δ Froehlich

Intensive instruction in paleontological field and laboratory techniques; survey of early mammalian dental evolution focusing on primate recognition and functional anatomy. One lecture, five weekend field trips, 6 hrs. lab. May be repeated twice.

Prerequisite: 150 or equivalent. (B)

557./457. Paleoanthropology. (3) Pearson

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. (B) {Alternate years}

558./358. [552L.] Topics in Primate Biogeography and

Evolutionary Ecology. [Primate Biogeography and Behavioral Evolution.] (3 to a maximum of 9) [4] Δ Froehlich

Survey of primate behavioral ecology and systematics; rotating focus on topics such as sexual selection, speciation or the evolution of culture. Films and discussions from perspective of how primate "specialized plasticity" informs us about human origins.

Prerequisite: 150 or equivalent. {Alternate falls} (B)

558L./458L. Paleobiology of Higher Primates and

Human Origins. (4) Froehlich

Evolutionary history of the monkeys and apes from the middle/late Eocene to the Pliocene, the comparative biology of living primates from this cladistic perspective and the adaptive study of these shared derived traits.

Prerequisite: 356L or 357. (B)

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.

Prerequisites: 351L or equivalent, upper division standing or consent of instructor. (B)

560. Advanced Topics in Human Evolutionary Ecology. (3 to a maximum of 15) Δ

Topics of interest including Critical reading, Anthropological economics, Life history strategies, Primate reproductive strategies, Game theory, Anthropology of mental health. (HEE)

561. Seminar: Human Reproductive Ecology and Biology. (3) Hurtado, Lancaster

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. (B, HEE) {Fall 2004 and alternate years.}

562. Human Life History. (3) Kaplan

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 equivalent biology course and college algebra. (B, HEE)

563./363. Primate Social Behavior. (3) Lancaster

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.

Prerequisite: upper division standing or consent of instructor. 352L highly recommended. (HEE) {Alternate years}

564./369. Observing Primate Behavior. (4) Lancaster

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 impor-

ance of determining appropriate data collection methods. (HEE) {Alternate years}

565./368. Modern Hunter-Gatherers. (3) Hill

Examination of behavioral variation in modern foraging populations from a comparative and ecological perspective. Includes traditional societies of Africa, Asia, Australia, North and South America. (B, HEE) {Alternate years}

566./366. Tropical Conservation and South American Indians. (3)

Examines resource use patterns by Amazonian Indians and recent collaboration or conflict with conservation organizations. (B, HEE) {Offered periodically}

567. Human Behavioral Ecology. (3) Hill, Kaplan

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: graduate standing. (B, HEE)

568./365. Anthropology of Health. (3) Hurtado

Analysis of systems of health, curing and disease in aboriginal, western and pluralistic societies. (B, HEE) {Offered periodically}

570. Advanced Topics in Archaeology. (3 to a maximum of 15) Δ (A)**572./372. Analytic Methods in Anthropology. (4)** Leonard

Introduction to basic qualitative and quantitative analytic methods in anthropology. (A) {Fall}

573. Advanced Technical Studies in Archaeology. (3) (A)**573L./473L. Archaeological Measurement and**

Laboratory Analysis. (4) Ramenofsky

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 or permission of instructor. (A) {Alternate years}

574. History and Theory of Archaeology. (3) Bowden, Ramenofsky, Leonard

Advanced review of development of prehistoric archaeology and Old and New Worlds until the 1960s, emphasizing culture history, social evolution, diffusion, culture areas, etc. (A) {Fall}

575./375. Summer Archaeology Field Session. (2-6 to a maximum of 12) Δ Wills, Huckell, Ramenofsky, Buikstra

Intensive instruction in archaeological field and laboratory techniques and the opportunity for independent student research.

Prerequisite: permission of instructor. (A) {Summer}

576. Seminar: Southwestern Archaeology. (3) Leonard, Wills, Crown

In-depth analysis of current research issues and topics in Southwest archaeology. (A)

577. Seminar: European Prehistory. (3) †† Straus

Explores critical issues and debates in different periods of European prehistory, based on primary sources. (A)

578. Archaeology of Death. (3) Buikstra

A detailed seminar focusing upon past and present theories of ritual and mortuary behavior and the implications of these divergent theoretical perspectives to the interpretation of ethnographic and archaeological situations.

Prerequisite: permission of instructor. (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) Szabo

(Also offered as Mus St, Art Hi 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) Smith, Huckell

(Also offered as E&PS 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.

Prerequisites: E&PS 101, 105L, Anth 121L, 220 and at least junior standing in E&PS or Anth. {Spring} (A)

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. Seminar in Museum Methods. (3) Δ

(Also offered as Mus St, Art Hi 585.) Theoretical and practical work in specific museum problems.

Prerequisite: 402 or Art Hi 407 or equivalent. (E) {Spring}

586. Practicum: Museum Methods. (3 to a maximum of 6) Δ

(Also offered as Mus St, Art Hi 586.) Practicum in museum methods and management. (E)

Prerequisite: 585 or Art Hi 585. {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) {Offered periodically}

590./390. Archaeology of the Southern Great Plains. (3)

This course provides an introduction to the environment, physiography, and human cultures of the Southern Great Plains of Northern America from its earliest peopling to the time of European exploration of the region. {Alternate years}

597. Problems. (1-3 to a maximum of 6)

Limited to graduate majors in the master's program. (A, B, E, HEE)

598. Advanced Research. (3) Δ

Limited to graduate majors in the master's program. May be repeated for credit, no limit. (A, B, E, HEE)

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only. (A, B, E, HEE)

651./451. Bioarchaeology. (3) Buikstra

The analysis of the skeletal remains from past human populations, oriented at the mortality, morbidity and genetic affinities of those extinct populations.

Prerequisite: 351L. (B) {Spring, alternate years}

654. Seminar: Evolution of Morphological Divergence. (3) Δ Froehlich

Species concepts and primate speciation mechanisms in both a paleontological and neontological adaptive context. May be repeated twice.

Prerequisite: 351L. (B) {Alternate years}

656./456. Field School in Biological 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 the equivalent. (B) {Intersession and Summer}

661./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.

Prerequisite: upper division standing or consent of instructor. (HEE) {Alternate years}

662./362. Great Apes: Mind and Behavior. (3) Lancaster

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.

Prerequisite: upper division course in primate studies. (HEE)

663. Human Evolutionary Ecology Research Methods and Design. (3) Kaplan

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. (B, HEE) {Alternate years}

664. Human Evolutionary Ecology Data Analysis. (3) Kaplan

Utilizes existing datasets (student- or instructor-generated). Provides 'hand-on' training in data analysis with goal of publishable article. Focuses on data issues, selection of appropriate models and problems of interpretation.

Prerequisite: basic knowledge of multivariate statistics. (B, HEE)

667. The Evolution of Sociality. (3) Boone

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. (HEE) {Offered periodically}

675. Archaeological Research Proposals. (3) Crown, Straus

Exploration and evaluation of practical archaeological research designs. Exhaustive preparation of realistic grant proposals for specific student-generated projects, with intensive group criticism. Required of post-comps/pre-doctoral proposal students. (A)

697. Problems. (1-3 to a maximum of 6)

Limited to graduate majors in the doctoral program. (A, B, E, HEE)

698. Advanced Research. (3) †

Limited to graduate majors in the doctoral program. (A, B, E, HEE)

699. Dissertation. (3-12)

Offered on a CR/NC basis only. (A, B, E, HEE)

ARTS AND SCIENCES

Mark Ondrias, Associate Dean
Ortega Hall, Room 201
MSC03 2120
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-3046

Arts & Sciences (A&S)

198. Introduction to Undergraduate Study. (3)

Variable content in an academic discipline. Develops academic skills through study of the content areas including scholarship, research, comprehension, analysis, synthesis, evaluation, application, critical thinking and communication of ideas.

Corequisites: some sections may require coregistration in another specified course. {Fall, Spring}

199. Freshman Seminar. (3)

Topical seminars emphasizing critical thinking, writing and oral communication and research skills. Students should consult with their academic advisors about the applicability of Freshman Seminar to A&S group requirements.

Prerequisites: Freshman standing, B- or better in Engl 101 or equivalent, cumulative GPA of 2.5 or better.

ARTS AND SCIENCES
COOPERATIVE EDUCATION
PROGRAM (AS COP)

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, please 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

Jeffrey K. Griffith, Ph.D., Chairperson
Basic Medical Sciences Building, Room 249
MSC11 6120
1 University of New Mexico
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(505) 272-3333

Professors

Robert H. Glew, Ph.D., University of California (Davis)
Jeffrey K. Griffith, Ph.D., Purdue University
Tudor I. Oprea, M.D., Ph.D., University of Medicine and
Pharmacy, Timisoara, Romania
David L. Vander Jagt, Ph.D., Purdue University

Associate Professor

William L. Anderson, Ph.D., University of Minnesota

Assistant Professors

Steve F. Abcouwer, Ph.D., University of Houston
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

Research Associate Professors

Andrzej Pastuszyn, Ph.D., University of Vienna
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

Marco Bisoffi, Ph.D., University of Basel
Charlotte Mabarek, Ph.D., The University of New Mexico

Professors Emeriti

Robert B. Lofffield, Ph.D., Harvard University
Edward Reyes, Ph.D., University of Colorado
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 Calculus 162–163 (or 180-181)

Intro Physics 151–151L, 152–152L (or 160–160L, 161–161L, 262L)

Intro Biol 121L–122L

General & Prin Chem Lab 131L (or 121L); 132L (or 122L plus 253L); Organic Chem 301–302, or 307–308; 303L–304L; Intro Physical Chem 315 (or 311–312)

Intro Biochem 445L–446L–448L

Six credit hours from Biochemistry courses above Biochemistry 450 and approved courses in related disciplines to a minimum of a total of 62 credit hours. No minor study is required.

Bachelor of Science

The requirements are identical to those for the B.A. except that Chem 311–312 is required and the minimum total of approved courses in related disciplines is 65 credit hours. Math 162–163–264 is required for Chem 311–312. 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 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 (Biochm)

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. Biochm 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; corequisite: Chem 311 or 315. 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)

(Also offered as Biomed 448L.) Biochemical techniques including chromatographic and electrophoretic purification of enzymes, determination of enzyme parameters (V_m , K_m), fractionation of subcellular organelles, isolation of chromatin, biosynthesis of protein, analysis of DNA.

Prerequisite: concurrent registration in 446L. {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 446L. 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 disease states.

Prerequisite: 423 or 446L. Graduate students see 564. {Spring}

497. Senior Honors Research. (1-3)

Senior thesis based on independent research.

Prerequisites: a grade of A or B in 448L and permission of the Biochemistry Honors Program director. {Summer, Fall}

498. Senior Honors Research. (1-3)

Senior thesis based on independent research.

Prerequisites: a grade of A or B in 448L and permission of the Biochemistry Honors Program director. {Spring}

499. Undergraduate Research. (1-3)

Offered on a CR/NC basis only. Prerequisite: permission of instructor. {Summer, Fall, Spring}

521. Neurochemistry. (3) [4]

(Also offered as Biomed 532.) An introduction to neurochemistry and neuropharmacology, with heavy emphasis on student participation, by reading and evaluating current publications.

Prerequisite: permission of instructor. {Spring}

545L. Intensive Introductory Biochemistry I. (4)

(Also offered as Biomed 511L.) An introduction into the physical and chemical properties of proteins and enzymes; enzymic catalysis; structure, synthesis and processing of nucleic acids and proteins; structure and control of genetic material.

Prerequisite: Chem 302 or 308. Corequisite: Chem 311 or 315. {Fall}

546L. Intensive Introductory Biochemistry II. (4)

(Also offered as Biomed 512.) An introduction to intermediary metabolism and hormonal control of catabolic and anabolic pathways.

Prerequisite: 545L. {Spring}

563/463. Biochemistry of Disease I. (1-3 to a maximum of 25) Δ

(Also offered as Biomed 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 546L. {Fall}

564/464. Biochemistry of Disease II. (1-3 to a maximum of 25) Δ

(Also offered as Biomed 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

Eric S. Loker, Chairperson
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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

Professors

J. Scott Altenbach, Ph.D., Colorado State University
Larry L. Barton, Ph.D., University of Nebraska
Scott Collins, Ph.D., University of Oklahoma
Clifford N. Dahm, Ph.D., Oregon State University
Donald W. Duszynski, Ph.D., Colorado State University
James R. Gosz, Ph.D., University of Idaho
Astrid Kodric-Brown, Ph.D., University of Southern California
Diane L. Marshall, Ph.D., University of Texas
Manuel C. Molles, Ph.D., University of Arizona
Bruce T. Milne, Ph.D., Rutgers University
Donald O. Natvig, Ph.D., University of California (Berkeley)
Howard L. Snell, Ph.D., Colorado State University
Stephen A. Stricker, Ph.D., University of Washington
Eric C. Toolson, Ph.D., Arizona State University
Kathryn G. Vogel, Ph.D., University of California (Los Angeles)
Margaret Werner-Washburne, Ph.D., University of Wisconsin (Madison)
Terry L. Yates, Ph.D., Texas Tech University

Associate Professors

Joseph A. Cook, Ph.D., The University of New Mexico
 Richard M. Cripps, D.Phil., University of York
 Timothy K. Lowrey, Ph.D., University of California (Berkeley)
 Robert D. Miller, Ph.D., Thomas Jefferson University
 Mary Anne Nelson, Ph.D., University of Colorado
 Robert Sinsabaugh, Ph.D., Virginia Polytechnic Institute and State University
 Thomas Turner, Ph.D., Florida International University
 Andreas Wagner, Ph.D., Yale University

Assistant Professors

Ulfar Bergthorsson, Ph.D., University of Rochester
 Luis Cadavid, Ph.D., Yale University
 David Hanson, Ph.D., University of Wisconsin (Madison)
 William T. Pockman, Ph.D., University of Utah
 Steven Poe, Ph.D., University of Texas (Austin)
 Cristina Vesbach, Ph.D., Montana State University (Bozeman)
 Blair Wolf, Ph.D., Arizona State University

Lecturers

Cara Lea Council-Garcia, M.S., Iowa State University
 Lee Couch, M.S., The University of New Mexico
 Robert C. Frankis, Jr., Ph.D., Medical University of South Carolina
 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
 Jim Swan, M.S., Florida State University

Professors Emeriti

Oswald G. Baca Ph.D., University of Kansas
 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
 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
 Loren D. Potter, Ph.D., University of Minnesota
 John Trujillo, Ph.D., University of Texas Medical Branch (Galveston)

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

Major 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. (Biochem 423 may be included.)
- B. In order to satisfy an upper-division breadth requirement for the Biology major, a total of two of the 400-level courses that are specifically listed below must be successfully completed. In addition, the chosen courses must be taken from two different categories (i.e., completing two courses that are both grouped within a single category will NOT satisfy this requirement).
 - 1) Cell/Molecular (412, 425, 428, 429, 439L, 444, 446, 449, 450, 490, 497)
 - 2) Physiology (416L, 435L, 443, 447, 456, 460, 471, 478L, 491L)
 - 3) Organismal (404L, 448, 463L, 474L, 482L, 485L, 486L, 487L, 488L, 489L)
 - 4) Ecology/Evolution (403, 407L, 418, 436L, 437, 440, 451, 455, 461L, 465, 467, 475, 494, 495)
- C. Required Supportive Courses for the B. S.: Math 180-181 or 162-163; Physcs 151-152 (or 160-161); Chem 121L-122L (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. (Biochem 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.: [Math 180 or Math 162 and Stat 145 or CS 150L] (or Math 180-181); Physcs 102 and one of the following: E&PS 101 (or Physcs 151-152); Chem 121L-122L (or 131L-132L) and Chem 301-303L (or 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 Emphasis

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, 203L, 204L], 310L, 360L, 379; at least one of following: 351 and 352L, 371L, 386L; A minimum of 3 credit hours must be from the Conservation Biology Seminar 402; this 1 credit course must be taken at least once a year in the second through fourth years of the degree program. The remainder of the total required credit hours are to be taken from a list (available from the Biology Department) of restricted elective courses.
- B. In order to satisfy an upper-division breadth requirement for the Biology major, a total of two of the 400-level courses that are specifically listed below must be successfully completed. In addition, the chosen courses must be taken from two different categories (i.e., completing two courses that are both grouped within a single category will NOT satisfy this requirement).
- 1) Cell/Molecular (412, 425, 428, 429, 439L, 444, 446, 449, 450, 490, 497)
 - 2) Physiology (416L, 435L, 443, 447, 456, 460, 471, 478L, 491L)
 - 3) Organismal (404L, 448, 463L, 474L, 482L, 485L, 486L, 487L, 488L, 489L)
 - 4) Ecology/Evolution (403, 407L, 418, 436L, 437, 440, 451, 455, 461L, 465, 467, 475, 494, 495)
- C. Required Supportive Courses for the B.S.: Math 180-181 or 162-163; Physcs 151-152 (or 160-161); Chem 121L-122L (or 131L-132L) and 301-303L (or 212).
- D. The B.A. Program with a concentration in Conservation Biology requires a minimum of 36 credit hours earned in biology courses. These courses must include: [201, 202, 203L, 204L], 310L, 360L, 379; and at least one of the following: 351 and 352L, 371L, 386L, and at least one of the following: 435L, 460, 478L. A minimum of 3 credit hours must be from the Conservation Biology Seminar 402; this 1 credit course must be taken at least once a year in the second through fourth years of the degree program. The remainder of the total required credit hours are to be taken from a list (available from the Biology Department) of restricted elective courses.
- E. Required Supportive Courses for the B.A.: [Math 180 or Math 162 and Stat 145 or C S 150L] (or Math 180-181); Physcs 102 and one of the following: E&PS 101 (or Physcs 151-152); Chem 121L-122L (or 131L-132L) and Chem 301-303L (or 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 the following list of complementary interdisciplinary electives: Anth 261; Econ 203, 342; E&PS 203, 333; Phil 363; Pol Sc 475.

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, 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

M.S. and Ph.D. in Biology

Concentrations: 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. I and M.S. II degrees. The M.S. 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. 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 candidate for a graduate minor in biology should consult the chairperson of the department before declaring the minor. 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 dis-

sertation 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, may 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) Frankis
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.) (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. (Fall, Spring)

123. Biology for Health Related Sciences and Non-Majors. (3) Fridrick, Howe
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) Altenbach, Frankis, Hofkin, Howe, Loker, Natvig, Stricker, Vesbach, Vogel
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.
Corequisite: Chem 121L or 131L. (Credit not allowed for both Biol 201 and 219.) (Fall, Spring)

202. Genetics. (4) Bergthorsson, Cadavid, 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.
Prerequisites: 201, Chem 121L or 131L. Corequisite: Chem 122L or 132L. (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.
Prerequisites: 201, 202, Chem 121L and 122L or Chem 131L and 132L. Corequisite: Math 162 or 180. (Fall, Spring)

204L. Plant and Animal Form and Function. (4) Hanson, Marshall, Pockman, Stricker, Toolson, Wolf
Introduction to plant systems including: structure, growth, transport, nutrition, reproduction, development, and control systems. Introduction to animal systems including: nutrition, circulation, reproduction, development; and immune, control and nervous systems. Three lectures and 3 hours lab.
Prerequisites: 201, 202, Chem 121L, 122L and 1223L or Chem 131L, 132L. Pre- or Corequisite: 203L. Corequisite: Math 180 or Math 162. (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.
Prerequisites: 123/124L or 201 and 4 hrs. of general chemistry. 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.
Prerequisites: 123/124L and 4 hours of chemistry. (Credit not allowed for both 239L and 351-352L.) (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 hrs. lab. (Fall, Spring)

248L. Human Anatomy and Physiology Laboratory II. (1)
Continuation of Biol 247L. Topics integrated with 238. Pre- or corequisite: 238. Three hrs. 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.
Prerequisites: 8 hours of anatomy and physiology with labs and permission of instructor. Three hrs. lab. (Spring)

300. Evolution. (3) Thornhill
Basic principles, and contemporary issues of evolution.
Prerequisites: 201, 202, 203L, 204L. Three lectures. (Spring)

310L. Principles of Ecology. (4) Milne
A comprehensive survey of the ecology of individuals, populations, communities and ecosystems.
Prerequisites: 201, 202, 203L, 204L. Three lectures, 3 hrs. lab or field exercise. (Fall, alternate Springs)

324L. Natural History of the Southwest. (4) Shepherd
(Also offered as U Hon 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.

Prerequisites: 201, 202, 203L, 204L or permission of instructor. {Fall}

****351. General Microbiology. (3)** Barton, Sinsabaugh, Vesbach

Anatomy, physiology and ecology of microorganisms. Principles of bacterial techniques, host-parasite relationships and infection and immunity.

Prerequisites: 201, 202, 203L, 204L. 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) Marshall

Overview of plant anatomy, physiology, classification, evolution and ecology. Covers both higher and lower plants.

Prerequisites: 201, 202, 203L, 204L or permission of instructor. Two lectures, 4 hrs. 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.

Prerequisites: 201, 202, 203L, 204L or permission of instructor. {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.

Prerequisites: 201, 202, 203L, 204L. Three lectures, 4 hrs. 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.

Prerequisites: 201, 202, 203L, 204L or permission of instructor. {Spring}

386L. General Vertebrate Zoology. (4) Altenbach, Poe, Snell, Turner

Ecology, behavior, sociology, adaptations, and evolution of the vertebrates.

Prerequisites: 201, 202, 203L, 204L. Three lectures, 3 hrs. lab. {Fall, Spring}

400. Senior Honors Thesis. (1-3, unlimited repetition) 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}

402./502. Special Topics in Biology. (1-3, unlimited repetition) 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.

Prerequisites: senior status, high scholastic standing and permission of instructor. {Summer, Fall, Spring}

405./505. [*403.] Ecosystem Dynamics. [Ecosystem Ecology.] (3) Collins

Understand structure and function of diverse ecological systems of North America; use of on-line Long-term Ecological Research databases.

Prerequisites: 201, 202, 203L, 204L. {Spring}

407L./507L. Bosque Biology. (3) Molles

Long-term study of Rio Grande riparian woodland; hands-on field ecology emphasizing different biotic features and inter-

actions each semester. Three hrs. field/lab/discussion/lecture plus extensive independent study weekly.

Prerequisites: 201, 202, 203L, 204L or permission of instructor. {Fall}

408L./508L. Bosque Internship. (3 to a maximum of 9)

Δ Crawford

UNM students trained as interns to mentor citizens (mainly K–12 students) and teachers in monthly data collection at similar Bosque Ecosystem Monitoring Program sites along the Rio Grande. Weekly on- and off-campus meetings.

Prerequisite: 407L or permission of instructor. {Summer, Fall, Spring}

410./510. Genome and Computational Biology. (3)

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.

Prerequisites: Biology core or permission of instructor. Three lectures.

***412. Developmental Biology. (3)** Cripps, Stricker

Comparative biology of animal development emphasizing regulatory mechanisms.

Prerequisites: 201, 202, 203L, 204L. {Spring}

***416L. Histology. (4)** Stricker

Microscopic structure of vertebrate tissues, emphasizing correlation of structure and function.

Prerequisites: 201, 202, 203L, 204L. Three hrs. lecture, 3 hrs. lab. {Fall}

418./518. [*418.] Ecological Genomics. [Ecological Genetics.] (3)

Emerging role of genomics in ecological sciences; genomic approaches to ecological research; application of ecological theory to genomics.

Prerequisites: 201, 202, 203L, 204L and calculus or permission of instructor. {Fall}

***425. Molecular Genetics. (3)** Nelson

Molecular biology of the gene.

Prerequisites: 201, 202, 203L, 204L or permission of instructor. {Spring}

***428. Human Heredity. (3)**

Genetic principles applied to humans.

Prerequisites: 201, 202, 203L, 204L. {Fall}

***429. Molecular Cell Biology I. (3)** Cadavid, Vogel

Cellular processes with emphasis on membranes; includes reading original landmark papers in cell biology.

Prerequisites: 201, 202, 203L, 204L and Chem 212 or 301–303L. {Fall}

430./530. Conservation and Indigenous Peoples. (3)

Trotter

(Also offered as Nat Am *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.

***435L. Animal Physiology. (4)** Altenbach, Toolson, Wolf

The function of organ systems in animals, including neuromuscular, cardiovascular, gastrointestinal and renal physiology.

Prerequisites: 371L or 386L and permission of instructor. Three lectures, 3 hrs. lab. {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.

Prerequisites: 201, 202, 203L, 204L. Three hrs. lecture, 2 hrs. lab. {Spring}

437/537. 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.
Prerequisites: 201, 202, 203L, 204L. {Spring}

440/540. [*440L.] The Soil Ecosystem. (3) [4]

Sinsabaugh
Interrelationship between the abiotic and biotic factors in soils; influence of soils on above-ground biota.
Prerequisites: 201, 202, 203L, 204L, Chem 121L–122L or 131L–132L. {Fall}

***443. Comparative Physiology. (4)** Toolson, Wolf

Comparative treatment of physiological processes in animals, with emphasis on osmoregulation, metabolism, circulation and thermobiology.
Prerequisite: permission of instructor. Three lectures, 3 hrs. lab. {Offered upon demand}

444/544. Genomes and Genomic Analyses. (3)

Werner-Washburne
Overview of genomic analyses from DNA sequence to gene expression and proteomics.
Prerequisites: 201, 202, 203L, 204L and permission of instructor. {Fall}

446/546. 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.
Prerequisite: permission of instructor. Two hrs. lecture, 5 hrs. lab. {Fall}

***447. Prosection. (3)** Swan

Human gross anatomy, dissection of human cadaver. Anatomy topics integrated with Biology 237 and 238.
Prerequisites: 237, 247L and 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).

***450. General Virology. (3)** Hofkin, Miller

(Also offered as Biomed 472.) 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.
Prerequisites: 351, 352L and either 429, Biochem 423 or Biomed 511L. {Spring}

***451. Microbial Ecology. (3)** Sinsabaugh, Vesbach

Role of microorganisms in terrestrial and aquatic ecosystems. Emphasis on biogeochemistry and nutrient cycling.
Prerequisites: 201, 202, 203L, 204L or permission of instructor. Three lectures. {Fall}

***455. Ethology: Animal Behavior. (3)** Kodric-Brown

A survey of behavior patterns in animals, with emphasis on adaptive significance.
Prerequisites: 201, 202, 203L, 204L. {Spring}

456/556. Immunology. (3) Cadavid, Hofkin, Miller

Immunoglobulin structure, antigen-antibody reactions, immunity and hypersensitivity; experimental approach will be emphasized.
Prerequisites: 201, 202, 203L, 204L; recommended: 239L or 351, 352L, Biochem 423 and Chem 302–304L. Three lectures. {Fall, Spring}

***457L. Ethology Laboratory: Animal Behavior. (1)**

Kodric-Brown
Special laboratory and field projects in animal behavior. Pre- or corequisite: 455. Three hrs. lab. {Spring}

***460. Microbial Physiology. (3)** Barton

Physiological and biochemical activities of bacteria and fungi with emphasis on cell energetics.
Prerequisites: 351, 352L. Three lectures. {Spring}

461L. Introduction to Tropical Biology. (3) Duszynski, Lowrey

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 hrs. lab, one-week field trip to the Caribbean and field trip fee is required. Open to majors and/or non-majors.
Prerequisites: 201, 202, 203L, 204L (majors) or permission of instructor (non-majors). {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.
Prerequisites: 201, 202, 203L, 204L or permission of instructor. Three lectures, 3 hrs. lab. {Fall, Spring}

465/565. Sociobiology and Evolutionary Ecology. (3)

Charnov
Evolutionary and social biology; speciation, adaptation, population ecology.
Prerequisites: 201, 202, 203L, 204L, some calculus. {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.
Prerequisites: 456 or permission of instructor. {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.
Prerequisite: 310L.

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.
Prerequisites: 310L, 360L or permission of instructor. {Spring, alternate years}

***474L. Plant Anatomy. (4)** Hanson, Pockman

Structure of vascular plants; cellular, tissue and organ systems, their function and evolutionary relationships.
Prerequisites: 201, 202, 203L, 204L or permission of instructor. 360L recommended. Two lectures, 4 hrs. lab. {Spring alternate years}

475/575. Plant Community Ecology. [Desert Field Biology.] (3) [5] Collins

Plant community structure and dynamics in North American deserts and grasslands. Field trip to Sevilleta LTER required.
Prerequisites: 201, 202, 203L, 204L, permission of instructor. {Spring}

***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: 360L or permission of instructor; Chem 301–303L recommended. Three lectures, 3 hrs. lab. {Spring}

482L/582L. Parasitology. (4) Duszynski, 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.
Prerequisites: 201, 202, 203L, 204L; recommended 371L. Three lectures, 3 hrs. lab. {Spring}

485L/585L. Entomology. (4) Molles

Classification, phylogeny, natural history and literature of insects.

Prerequisites: 201, 202, 203L, 204L. Three lectures, 3 hrs. lab. {Spring}

***486L. Ornithology. (4)** Wolf

Classification phylogeny, natural history and literature of birds. Field trips required.

Prerequisite: 386L or permission of instructor. Three lectures, 3 hrs. 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.

Prerequisites: 201, 202, 203L, 204L. Three lectures, 3 hrs. 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.

Prerequisite: 386L or permission of instructor. Two lectures, 6 hrs. 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.

Prerequisite: 386L or permission of instructor. Three lectures, 3 hrs. 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.

Prerequisites: 201, 202, 203L, 204L; recommended 351, 482L or 450. {Spring, alternate years}

***494. Biogeography. (3)** Brown

Geographical distributions of organisms: patterns and their ecological and historical causes.

Prerequisites: 201, 202, 203L, 204L. {Spring, alternate years}

***495. Limnology. (3)** Dahm

Biological, physical and chemical interactions in fresh water ecosystems.

Prerequisites: 201, 202, 203L, 204L, one year of physics or chemistry or permission of instructor. Three lectures. {Spring}

***496L. Limnology Laboratory. (1)** Dahm

Techniques for studying the biology, chemistry and physics of aquatic ecosystems.

Pre- or corequisite: 495 or permission of instructor. {Spring}

497/597. Principles of Gene Expression. (3) Cripps, Frankis

A detailed and critical study of how different genes are regulated during the life of an organism, principally at the level of transcription.

Prerequisites: 201, 202, 203L, 204L.

499. Undergraduate Problems. (1-3, unlimited repetition) Δ

Junior or senior status and permission of instructor required. Maximum of 2 hrs. credited towards a biology major. Credit not allowed toward a biology minor. {Summer, Fall, Spring}

500. New Graduate Student Seminar. (1)
Offered as a CR/NC basis only.**502/402. Special Topics in Biology. (1-3, unlimited repetition) Δ**

Maximum of 4 hours credited towards the biology major. Prerequisite: permission of instructor. {Summer, Fall, Spring}

503. Biological Complexity Seminar. (3) Δ Brown, Milne

Presentation and discussion of recent work in biological complexity and related subjects. Repetition unlimited.

Prerequisite: permission of instructor.

505/405. [*403.] Ecosystem Dynamics. [Ecosystem Ecology.] (3) Collins

Understand structure and function of diverse ecological systems of North America; use of on-line Long-term Ecological Research databases.

Prerequisites: 201, 202, 203L, 204L. {Spring}

507L/407L. Bosque Biology. (3) Molles

Long-term study of Rio Grande riparian woodland; hands-on field ecology emphasizing different biotic features and interactions each semester. Three hrs. field/lab/discussion/lecture plus extensive independent study weekly.

Prerequisites: 201, 202, 203L, 204L, graduate status, or permission of instructor. {Summer, Fall, Spring}

508L/408L. Bosque Internship. (3 to a maximum of 9)

Δ Crawford

UNM students trained as interns to mentor citizens (mainly K-12 students) and teachers in monthly data collection at similar Bosque Ecosystem Monitoring Program sites along the Rio Grande. Weekly on- and off-campus meetings.

Prerequisite: 507L and graduate status or permission of instructor. {Summer, Fall, Spring}

510/410. Genome and Computational Biology. (3) 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.

Prerequisites: Biology core or permission of instructor. Three lectures.

511. Community Ecology. (3) Brown

Structure and dynamics of assemblages of multiple species of organisms.

Prerequisite: graduate status or permission of instructor. {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.

Prerequisites: 203L, 204L, graduate status. Three lectures, 4 hrs. lab/discussion. {Fall}

514. Ecosystem Studies. (3) Collins, Dahm, Gosz

Study of biological communities emphasizing the interactions between living and non-living parts and the flow of materials and energy between these parts.

Prerequisites: 203L, 204L, 310L, graduate status. Three lectures. {Fall}

515F. 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.

Prerequisite: graduate status or permission of instructor. Three hrs. 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.

Prerequisite: graduate status. 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.

Prerequisite: graduate status. Three lectures, 1.5 hours lab/discussion. {Spring}

518/418. Ecological Genomics. (3)

Emerging role of genomics in ecological sciences; genomic approaches to ecological research; application of ecological theory to genomics.

Prerequisites: 201, 202, 203L, 204L and calculus or permission of instructor. {Fall}

521. Advanced Behavioral Ecology. (3) Kodric-Brown

Analysis of behavior and social systems in an ecological and evolutionary context.

Prerequisite: graduate status or permission of instructor. {Fall, alternate years}

530/430. Conservation and Indigenous Peoples. (3)

Trotter

(Also offered as Nat Am *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 E&PS 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.

Prerequisites: Math 162 or 180, Chem 122L and Biol 495 or permission of instructor. {Spring}

536L/436L. Phylogenetics. (4) Poe

Principles of phylogenetic inference using morphological and molecular data. Applications of phylogeny to ecology, systematics and molecular evolution.

Prerequisites: graduate status and permission of instructor. Three hrs. lecture, 2 hrs. 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.

540/440. [*440L.] The Soil Ecosystem. (3) [4]

Sinsabaugh

Interrelationship between the abiotic and biotic factors in soils; influence of soils on above-ground biota.

Prerequisites: 201, 202, 203L, 204L, Chem 121L–122L 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.

Prerequisites: 201, 202, 203L, 204L and permission of instructor. {Fall}

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.

Prerequisite: permission of instructor. Two hrs. lecture, 5 hrs. 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).

Prerequisites: 429 and graduate status or permission of instructor. One lecture, 1 lab. {Spring}

551. Research Problems. (1-12) ††**556/456. Immunology. (3)** Cadavid, Hofkin, Miller

Immunoglobulin structure, antigen-antibody reactions, immunity and hypersensitivity; experimental approach will be emphasized.

Prerequisites: 201, 202, 203L, 204L; recommended: 239L or 351, 352L, Biochem 423 and Chem 302–304L. Three lectures. {Fall, Spring}

558. Geomicrobiology. (3) Crossey, Dahm

(Also offered as E&PS 558.) The role of microbes in mineral precipitation, dissolution and diagenesis; interactions between microbes and geochemistry/mineralogy.

Prerequisites: Chem 121L and 122L; and either 310L, 351, E&PS 105L or permission of instructor.

561F. Tropical Biology. (3) Duszynski, Lowrey

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 hrs. lab, one-week field trip to the Caribbean and field trip fee is required. Open to majors and/or non-majors. {Alternate years}

563L. Plant Biosystematics and Evolution. [Advanced

Plant Taxonomy.] (4) Lowrey

Mechanisms of plant evolutionary processes important in plant classification. Methods and techniques applied to analysis of morphological, anatomical, genetic and molecular variation in plants.

Prerequisites: graduate status and permission of instructor. Two lectures, 6 hrs. lab. {Spring alternate years}

565/465. Sociobiology and Evolutionary Ecology. (3)

Charnov, Thornhill

Evolutionary and social biology; speciation, adaptation, population ecology.

Prerequisites: 201, 202, 203L, 204L, some calculus. {Fall}

566/466. 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.

Prerequisites: 556 or permission of instructor.

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.

Prerequisites: 203L, 204L and 310L. {Spring}

571/471. Plant Physiological Ecology. (3) Pockman

Prerequisites: 310L, 360L or permission of instructor. {Spring, alternate years}

575/475. Plant Community Ecology. [Desert Field

Biology.] (3) [5] Collins

Plant community structure and dynamics in North American deserts and grasslands. Field trip to Sevilleta LTER required.

Prerequisites: 201, 202, 203L, 204L and permission of instructor. {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.

Prerequisite: 310L. {Spring, alternate years}

581. Advanced Molecular Biology. (4)

(Also offered as Biomed 507.) The course covers the structures and functions of nucleic acids and proteins, mechanisms and macromolecular synthesis and principles of enzymology. Prerequisites: organic chemistry, one semester of cell biology or biochemistry.

582. Advanced Cell Biology. (4)

(Also offered as Biomed 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)

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.

Prerequisites: 201, 202, 203L, 204L; recommended 371L. Three lectures, 3 hrs. lab. (Spring)

585L/485L. Entomology. (4)

Classification, phylogeny, natural history and literature of insects.

Prerequisites: 201, 202, 203L, 204L. Three lectures, 3 hrs. lab. (Spring)

597/497. Principles of Gene Expression. (3)

A detailed and critical study of how different genes are regulated during the life of an organism, principally at the level of transcription.

Prerequisites: 201, 202, 203L, 204L.

599. Master's Thesis. (1-6, unlimited repetition) Δ

Offered on a CR/NC basis only.

644. Mechanism of Gene Expression. (3)

(Also offered as Biomed 644.) Molecular mechanisms of gene expression. Topics include: mechanisms of protein-nucleic acid recognition, transcription, regulation, messenger RNA, and translation.

Prerequisites: 507, 508. (Spring, even years)

651. Advanced Field Biology. (4-8)

Approval of Committee on Studies required.

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

CHEMISTRY

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Hua Guo, Ph.D., Sussex University, United Kingdom
Richard W. Holder, Ph.D., Yale University
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Deborah G. Evans, Ph.D., University of Pittsburgh
David Keller, Ph.D., University of California (Berkeley)

Assistant Professors

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John Engen, Ph.D., University of Nebraska
David Tierney, Ph.D., University of Michigan
Wei Wang, Ph.D., North Carolina State University
Richard Watt, Ph.D., University of Wisconsin

Professors Emeriti

Fritz S. Allen, Ph.D., University of Illinois
Roy D. Caton, Ph.D., Oregon State University
Ulrich Hollstein, Ph.D., University of Amsterdam
William M. Litchman, Ph.D., University of Utah
Miriam Malm, Ph.D., The University of New Mexico
Donald R. McLaughlin, Ph.D., University of Utah
E. Paul Papadopoulos, Ph.D., University of Kansas
Riley Schaeffer, Ph.D., University of Chicago
Edward A. Walters, Ph.D., University of Minnesota

UNM/Sandia National Laboratory Professors

C. Jeffrey Brinker, Ph.D., Rutgers University

Also see Faculty Listings in Biochemistry.

Introduction

The program of the Department of Chemistry conforms to the standards prescribed by the American Chemical Society. The Department of Chemistry assigns prospective chemistry majors to faculty advisors and all undergraduate students planning to major in chemistry are encouraged to take advantage of this advisement program.

NOTE: The policy of the Department of Chemistry regarding enrollment under the pass/fail (CR/NC) grade option is that CR (credit) will be given only for grades of C or better.

The University has mandated that all graduating seniors take part in an outcomes assessment program designed by their major departments. In Chemistry, this involves 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.

Major Study Requirements

For the degree of Bachelor of Arts: Chem 121L, 122L, 253L, 301 (or 307), 302 (or 308), 303L, 304L, 315 (or 311–312), and sufficient hours of electives to bring the total to 30 hours (see approved electives below); or Chem 131L (or 121L), 132L, 301 (or 307), 302 (or 308), 303L, 304L, 315 (or 311–312) and sufficient hours of electives to bring the total to 30 hours (see approved electives below). Electives must be selected from the following courses: Chem 415L, 421, 431, 433, 454L, 466, 495–496 (no more than 2 credit hours in 495–496). The B.A. program must also include Physics 151, 151L, 152, 152L and Math 162 and 163. Credit is not allowed for both 315 and 311–312. Credit not allowed for both 301–302 and 307–308. Those students who previously majored in a field requiring Math 180 or 181 and switched to a B.A. program in chemistry may substitute that sequence for Math 162, 163 with permission of the Department of Chemistry chairperson. If substitution is approved, the student must also take an additional 3 hours of Mathematics in a course approved by the Department Chairperson.

For the degree of Bachelor of Science: Chem 131L (or 121L), 132L, 301 (or 307), 302 (or 308), 303L, 304L, 311, 312, 331L, 332L, 415L, 431, 454L and at least 6 additional hours selected from courses numbered 325–498; or Chem 121L, 122L, 253L, 301 (or 307), 302 (or 308), 303L, 304L, 311, 312, 331L, 332L, 415L, 431, 454L and at least 6 addi-

tional hours selected from courses numbered 325–498. The program must also include Physcs 160, 160L, 161, 161L, 262, 262L, mathematics equivalent to Math 264 and one course from Math 311–316. Up to 6 credits of Chem 495–498 or 4 credits of 495–498 and 2 credits of 325/326 may be counted toward the B.S. degree.

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.

English 219 is recommended for students planning to pursue an advanced degree in chemistry.

Students wishing to have their B.S. degree certified by the American Chemical Society should include Chem 421 in the 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:

Physics: 160(3), 160L(1), 161(3), 161L(1), 262(3), 262L(1)

Mathematics: 162(4), 163(4), 264(4) plus two courses from 311(3), 314(3) and 316(3)

English: 219(3) Technical and Professional Writing

Total Hours 32

Minor Study Requirements

Twenty hours in chemistry, including Chem 121L, 122L, 253L and either 301, 302, 303L, 304L or 311, 312; or Chem 131L (or 121L), 132L, 301, 302, 303L, 304L (or 311 and 312) plus 3 additional hours selected from courses numbered 325–496. Chem 307, 308 may be substituted for Chem 301, 302. Chem 111L and 212 do not count toward the minor.

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: 131L–132L (or 121L–122L, 253L) (or 121L–132L), 307–308 (or 301–302), 303L, 304L, 311, 312, 331L, 332L, 415L, 421, 431, 454L 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 Advisor

Professor Richard A. Kemp

Graduate Recruitment

Professor Debra Dunaway-Mariano

Application Deadlines

Fall semester: May 1 (financial aid)

Spring semester: November 1

NOTE: Applications for graduate students admission are considered on a rolling basis for the Fall term beginning on December 1 and for the Spring term beginning July 1. Recommendations for admission by the Department are made until all financial aid is exhausted. Typically, aid resources are committed by April 1 and October 1. The department does not gen-

erally 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.

Ph.D. in Chemistry

Concentrations: analytical, inorganic, organic, physical.

The areas of chemistry available for advanced degree work are analytical, inorganic, organic and physical. 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).

The department requires that each student take a set of placement examinations upon entrance into the graduate program. The tests are in the four traditional areas of chemistry: analytical, inorganic, organic and physical. The exams are taken approximately one week prior to the student's first semester in the program. Each student's performance is assessed and the results are used to place a student into courses at an appropriate level to rectify deficiencies in the student's preparation for graduate work, if any such deficiencies are found. In general, Masters students are expected to be proficient in three areas, while Ph.D. students are required to be proficient in all four areas. Proficiency in each area may be demonstrated by passing the applicable placement examinations or receiving a grade of B or better in a course or courses assigned to the student by the Graduate Studies Committee. The remainder of the student's academic program is formulated in consultation with his/her Committee on Studies. See Chemistry Graduate Handbook for details on course work requirements.

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 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. Chem 650 *Research Readings* may be applied toward the M.S. degree: up to 4 hours for Plan I and up to 6 hours for Plan II when the Plan II degree is earned enroute to the Ph.D. degree.

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 pre-medicine and medical technology. Three lectures, 3 hrs. demo lab/recitation. (Credit not allowed for both 111L and 121L.) (Summer, Fall, Spring)

121L. General Chemistry. (4)

Introduction to the chemical and physical behavior of matter. Prerequisite: completion of Math 121 or 150 with a grade of C or better which qualifies the student for Math 162 or 180. Three lectures, 3 hrs. lab. (Summer, Fall, Spring)

122L. General Chemistry. (4)

Continuation of 121L. Prerequisite: 121L or 131L with grade of C or better. Three lectures, 3 hrs. lab. (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: one year of high school chemistry within the last three years or permission of instructor. Pre- or corequisite: Math 162. Three lectures, 3 hrs. lab. (Credit not allowed for both 121L and 131L.) (Fall)

132L. Principles of Chemistry. (5)

Thermodynamics, equilibria and kinetics in chemical systems. Lab is a continuation of Chem 131L.

Prerequisite: 131L or grade of A in Chem 121L the previous semester or permission of instructor. Pre- or corequisite: Math 163 or 181. Three lectures, 6 hrs. lab. (Credit not allowed for both 122L/253L and 132L.) (Spring)

151L. General Chemistry, Special, Lecture or Laboratory. (1-3)

Provides either lecture or laboratory credit for transfer students needing only the lecture or laboratory for Chem 121L or 131L. Available only to transfer students with this special problem. Can be taken once. Lab is for 1 credit hour, lecture is for 3 credit hours.

Prerequisite: permission of department chairperson only. (Offered upon demand)

152L. General Chemistry, Special, Lecture or Laboratory. (1-3)

Provides either lecture or laboratory credit for transfer students needing only the lecture or laboratory for Chem 122L or 132L. Available only to transfer students with this special problem. Can be taken once. Lab is for 1 credit hour, lecture is for 3 credit hours.

Prerequisite: permission of department chairperson only. (Offered upon demand)

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.

Prerequisite: 111L or 121L. (Credit not allowed for both 212 and 301.) (Summer, Fall, Spring)

253L. Quantitative Analysis. (4)

Theory and techniques of chemical analysis.

Prerequisite: 122L. Three lectures, 4 hrs. lab. (Students should make every effort to complete 253L within two semesters of completion of 122L.) (Summer, Fall, Spring)

**301. Organic Chemistry. (3)

Chemistry of the compounds of carbon.

Prerequisite: 122L or 132L. (Summer, Fall, Spring)

**302. Organic Chemistry. (3)

Continuation of 301.

Prerequisite: 301. (Summer, Fall, Spring)

303L. Organic Chemistry Laboratory. (1)

To be taken concurrently with or following 301 or 307. Three hrs. lab. (Summer, Fall, Spring)

304L. Organic Chemistry Laboratory. (1)

To be taken concurrently with or following 302 or 308.

Prerequisite: 303L. Three hrs. lecture, 1 hr. lab. (Summer, Fall, Spring)

**308. Organic Chemistry. (3)

Continuation of 307.

Prerequisite: 307. It is mandatory that 304L be taken concurrently. (Spring)

**311. Physical Chemistry. (4)

The quantitative principles of chemistry, including gases, thermodynamics, equilibrium, quantum systems, spectroscopy and kinetics, developed by numerous problems.

Prerequisites: 132L, Math 162, 163, Physcs 151L or 161L. Corequisites: Physcs 152L or 262 and Math 264. (Fall)

**312. Physical Chemistry. (4)

Continuation of 311.

Prerequisite: 311. (Spring)

**315. Introductory Physical Chemistry. (4)

Fundamentals of physical chemistry with primary emphasis upon biological and biochemical applications.

Prerequisites: 122L and 132L, Math 162 or 180 and 181 or permission of instructor. (Cannot be used for credit toward a B.S.) (Credit not allowed for both 311 and 315.) (Fall)

**325. Special Topics for Undergraduates. (1-3) Δ

Possible topics are: chemical literature, environmental chemistry, photochemistry, stereochemistry, macromolecules, C-13-NMR, natural products. Can be taken twice for a maximum of 6 credit hours.

Prerequisite: permission of instructor. (Fall upon demand)

**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.

Prerequisite: permission of instructor. (Spring upon demand)

**331L. Chemistry Laboratory III. (2)

Integrated advanced analytical-physical chemistry laboratory, illustrating the techniques used to quantify the energetics, dynamics, composition and structure of matter.

Pre- or corequisite: 311. Six hrs. lab. (Fall)

**332L. Chemistry Laboratory III. (1-2)

Two credits for chemistry majors, 1 credit for chemical engineers. Continuation of 331L.

Prerequisite: 331L. Corequisite: 312. Six hrs. lab. (Spring)

**391. Readings in Selected Topics. (1-3 to a maximum of 6) Δ

Advanced topics not covered in general offerings.

Prerequisites: prior arrangement with instructor and permission of the department chairperson. (Fall upon demand)

**392. Readings in Selected Topics. (1-3) Δ

Advanced topics not covered in general offerings. Can be taken twice for a maximum of 6 credit hours.

Prerequisites: prior arrangement with instructor and permission of the department chairperson. (Spring upon demand)

*415L. Synthesis and Structure Determination Laboratory. (2)

An integrated advanced laboratory illustrating the tools and techniques of modern synthesis and providing experience with chemical and instrumental methods of structure determination in inorganic and organic chemistry.

Prerequisites: 302, 304L and 312 or permission of instructor. Corequisite: 431 or permission of instructor. Six hrs. lab. (Fall)

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.

Prerequisite: 311 or 315. {Offered upon demand}

***431. Advanced Inorganic Chemistry. (3)**

Survey of electronics and molecular structures of inorganic compounds, coordination chemistry, bonding theory, physical methods, periodicity and reactions.

Prerequisite: 312 or permission of instructor. {Fall}

***433. Chemical Applications of Group Theory. (1-3) [2]**

The role of symmetry in chemical problems. Areas to be treated include representation theory, vibrational and electronic spectroscopy, molecular orbital theory and orbital control of chemical reactions.

Prerequisite: 312 or equivalent. {Fall}

***454L. Instrumental Analysis. (4)**

Instrumentation and applications of instrumental methods to chemical analysis, including spectrophotometric, electroanalytical, X-ray diffraction, neutron activation and chromatographic methods.

Prerequisite: 253L or permission of instructor. Two lectures, 6 hrs. lab. {Spring upon demand}

***466. Scientific Computation. (3)**

The use of computers in science. Structured computer programming will be introduced and applied to scientific problem solving, data analysis, simulation, modeling and display.

471. Advanced Topics in Chemistry. (2-3) Δ

Current topics requiring a background in physical chemistry such as spectroscopy, reaction mechanisms, advanced synthesis, polymer chemistry and materials chemistry.

Prerequisites: 302 and either 315 or 311–312 or permission of instructor. {Fall upon demand}

495. Undergraduate Problems. (1-3)

Prerequisite: permission of instructor. {Summer, Fall}

496. Undergraduate Problems. (1-3 to a maximum of 4) Δ

Prerequisite: permission of instructor. {Spring}

497. Senior Honors Research. (1-3 to a maximum of 4) Δ

Senior paper based on independent research.

Prerequisite: permission of instructor. {Summer, Fall}

498. Senior Honors Research. (1-3 to a maximum of 4) Δ

Senior paper based on independent research.

Prerequisite: permission of instructor. {Spring}

***499. Chemistry Seminar—Research. (1)**

Offered on a CR/NC basis only.

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. {Spring}

504. Chemical Dynamics. (3)

A rapid review of chemical thermodynamics and kinetics. Usually for graduate students in areas outside of physical chemistry. {Fall}

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.

Prerequisite: permission of instructor. {Fall}

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. {Fall upon demand}

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.

Prerequisite: 511 or permission of instructor. {Spring}

515. Topics in Organic Chemistry. (1-3 to a maximum of 6) Δ

{Fall upon demand}

516. Topics in Organic Chemistry. (1-3 to a maximum of 6) Δ

{Spring upon demand}

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.

Prerequisite: 311 or 315. {Offered upon demand}

524. X-Ray Crystallography. (3)

Overview of x-ray crystallographic methods in structure determination and interpretation.

Prerequisite: 433 or permission of instructor. {Spring upon demand}

533. Inorganic Bonding Theory. (3)

Survey of modern approaches for the description of chemical bonding in organic compounds. Typically includes qualitative and quantitative use of valence bond and molecular orbital theoretical principles for the systematic analysis of electronic structure problems. Also may include use of various molecular modeling protocols in inorganic systems.

Prerequisites: 431 and 433 or permission of instructor. {Fall upon demand}

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.

Prerequisites: 431 and 433 or permission of instructor. {Spring upon demand}

535. Advanced Coordination Chemistry. (3)

The principles of modern inorganic coordination chemistry explored in depth with use of current advances described in the literature. In particular, new findings in the synthesis, spectroscopy, bonding and application of this important class of compounds are examined for main group, transition metals and f-block metals.

Prerequisites: 431 and 433 or permission of instructor. {Fall upon demand}

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.

Prerequisite: 431 or permission of instructor. {Spring upon demand}

537. Topics in Inorganic Chemistry. (1-3 to a maximum of 6) Δ

Prerequisite: permission of instructor. {Fall upon demand}

538. Topics in Inorganic Chemistry. (1-3 to a maximum of 6) Δ

Prerequisite: permission of instructor. {Spring upon demand}

540. Advanced Analytical Chemistry. (3)

A study of the fundamental processes underlying the techniques of chemical analysis including thermodynamics, acid/base chemistry and electrochemistry. {Spring}

541. Separations. (3)

Theory and practice of the chemical separation techniques used for chemical analysis including chromatography and electrophoresis. {Fall upon demand}

545. Topics in Analytical Chemistry. (1-3 to a maximum of 6) Δ

{Fall upon demand}

546. Topics in Analytical Chemistry. (1-3 to a maximum of 6) Δ

{Spring upon demand}

560. Biophysical Chemistry. (3)

Prerequisite: 312 or 315 or permission of instructor. {Spring upon demand}

562. Quantum Chemistry II. (3)

Second course in quantum chemistry covers advanced topics in quantum dynamics spectroscopy and time-dependent phenomena. Electron transfer processes, path integral methods and scattering theory will be examined in detail. {Spring upon demand}

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. Prerequisite: 312 or permission of instructor. {Fall upon demand}

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. Prerequisite: 312 or permission of instructor. {Spring upon demand}

567. Topics in Physical Chemistry. (1-3 to a maximum of 6) Δ

Prerequisite: permission of instructor. {Fall upon demand}

587. Advanced Topics in Biological Chemistry. (1-3) Δ

Prerequisite: permission of instructor. {Offered upon demand}

599. Master's Thesis. (1-6)

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) 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. {Fall, Spring}

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)

Offered on a CR/NC basis only. {Summer, Fall, Spring}

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

COMMUNICATION & JOURNALISM

John G. Oetzel, Chairperson

Department of Communication & Journalism
Communication & Journalism Room 235
MSC03 2240

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Professors:

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Miguel Gandert, M. A., The University of New Mexico
Bradford 'J' Hall, Ph.D., University of Washington
Janice E. Schuetz, Ph.D., University of Colorado

Associate Professors:

Janet M. Cramer, Ph.D., University of Minnesota
Bob Gassaway, Ph.D., University of Missouri
Dirk C. Gibson, Ph.D., Indiana University
John G. Oetzel, Ph.D., University of Iowa
Richard J. Schaefer, Ph.D., University of Utah
W. Gill Woodall, Ph.D., University of Florida

Assistant Professors:

Glenda Balas, Ph.D., University of Iowa
Krishna P. Kandath, Ph.D., Ohio University
Pamela Lutgen-Sandvik, Ph.D., Arizona State University
Virginia McDermott, Ph.D., University of Illinois
Iliia Rodriguez, Ph.D., University of Minnesota
Olaf Werder, Ph.D., University of Florida

Lecturers:

Judith Hendry, Ph.D., University of Denver
Dennis Herrick, M.A., University of Iowa
Karolyn Cannata-Winge, M.A., University of Missouri-
Columbia

Professors Emeritus:

Fred V. Bales
Jean M. Civiky-Powell
Charles K. Coates
John C. Condon, Regents' Professor
Kenneth D. Frandsen
Anthony Hillerman

Major Study Requirements

The department offers two undergraduate degrees: Bachelor of Arts in Communication and Bachelor of Arts in Journalism and Mass Communication.

For admission to either degree program, a cumulative grade point average of 2.50 is required. Requirements for the degree 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 average of 2.00 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 chairperson 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 and 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 five concentrations in the department—intercultural communication, interpersonal communication, mass communication, organizational communication and rhetoric. **The first course in the sequence—noted in bold type—is required.** Students can select the remaining 6 units from the other courses in the track. Courses within the track may be taken in any order.

Intercultural Communication

314	Intercultural Communication
115	Communication Across Cultures
318	Language, Thought and Behavior
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	Interpersonal Communication Analysis

Mass Communication

268	Media Theory and Influence
110	Introduction to Mass Communication
335	Sociology of Mass Communication
365	Social Foundations of Media
454	Diffusion of Innovations
469	Multiculturalism, Gender and Media

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

Rhetoric

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 courses and 9 hours in electives. All Journalism and Mass Communication majors must complete the following core requirements: 171, 268, 269, 465 and 468. Majors must take 80 or more semester hours in courses outside the department, with no fewer than 65 semester hours in the basic liberal arts and science.

Journalism and Mass Communication majors must also complete 12 hours in one of four concentrations in the department—print, broadcast, advertising and public relations. The courses should be taken in order.

Advertising

380	Introduction to Advertising
381	Advertising Media Planning
384	Advertising Copywriting
482	Advertising Campaigns

Broadcast Journalism

267	Writing for Broadcast Journalism
360	Broadcast News I
364	Broadcast News II
	— <i>and</i> —
362	Broadcast Station Operations
	— <i>or</i> —
466	Telecommunication Theory and Technology
	— <i>or</i> —
475	Advanced Reporting

Print Journalism

271	Writing for Print Journalism
372	Copy-Editing and Makeup
375	Intermediate Reporting
475	Advanced Reporting

Public Relations

281	Writing for Public Relations
385	Introduction to Public Relations
485	Public Relations Case Studies
489	Public Relations Campaigns

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 hours, including 171L, 268 or 269, 271 and 465; all with a C or better.

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:	February 1 (M.A. and Ph.D.)
Spring semester:	October 1 (M.A.)

Fall date (February) is observed for financial aid. Early application is strongly recommended; application is made to the Office of Graduate Studies. 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

Concentrations: interpersonal communication, intercultural communication, organizational communication, rhetorical communication, mass communication and health communication.

The Master of Arts in Communication is offered under three options—Plan I (thesis), Plan II (project) and Plan III (comprehensive exam)—according to regulations set forth in earlier pages of this catalog.

Graduate students are required to complete 500, 501, 507, 538 or 608 and one seminar course in their chosen area of concentration, which includes 514, 521, 531, 544, 550 and 561.

NOTE: Students are required to complete 500 and 501 during the earliest semesters they are available following admission. All plans require a minimum of 36 credit hours, with at least 27 hours in communication. 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, one of whom must be from outside the department, 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 a 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 Application to Candidacy form 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 III 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.

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. C & J 500 is required and should be taken as soon as possible. Students must consult with the C & J Graduate Director for advisement before taking 500. There is a 3 credit maximum on Graduate Problems (C & J 593).

Ph.D. in Communication

Graduate 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 rhetorical and communication theory; interpersonal; organizational and public communication; mass communication; language and behavior; health communication; and intercultural 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.

Course work requirements include the following: nine departmental course credit hours in research methods (these hours may be obtained by taking any three of the following four courses: 507, 538, 607 and 608. However, if the student has not taken 507 or an acceptable equivalent, 507 must be one

of the three courses chosen.); two 600-level courses in communication theory (including both the history and philosophy of communication study and theory construction); one 600-level course in intercultural communication theory. In addition to these core courses, Ph.D. candidates will select elective courses from any of the Communication & Journalism courses marked for graduate credit in this catalog.

Ph.D. candidates also will be required to satisfy a research skills requirement by demonstrating competency in two languages (one of which is English) or, alternatively, in a computer language or in a computer-related data-analysis skill as determined by the candidate's committee on graduate studies.

Communication and Journalism (C & J)

101L. Introduction to Communication. (3)

Principles and concepts of various types of human communication including interpersonal, small group, organizational, public and mass communication. Two hrs. lecture, 1 hr. lab.

110. Introduction to Mass Communication. (3)

(Also offered as M A 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 Af Am 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.

171L. Writing for the Mass Media I. (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.

Prerequisites: 15 hrs., 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.

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 Theory and Influence. (3)

Introduction to theories of mass media and their influences.

269. Introduction to 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 with a grade of C (not C-) or better or permission of instructor.

271. Writing for Print Journalism. [Writing for the Mass Media II.] (3)

Continuation of C & J 171L with increased emphasis on gathering news from original sources and writing for the various print journalism outlets.

Prerequisite: 171L with a grade of C or better.

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.

281. Writing for Public Relations. (3)

Continuation of 171L with increased emphasis on writing tasks required for public relations, such as news releases, position papers, backgrounders, newsletters and more.

Prerequisite: 171L, consent of the instructor.

293. Topics. (1-3)**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 with a C or better or permission of instructor.

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 with a grade of C or better or permission of instructor.

***303. English Phonetics. (3)**

(Also offered as SHS, Ling 303.) An introduction to the physiological mechanisms underlying speech production, the linguistic classification and transcription of speech sounds, the acoustic properties of speech sounds, the relationship between phonetics and phonology and applications to speech pathology.

314. Intercultural Communication. (3)

Examines cultural influences in communication across ethnic and national boundaries.

318. Language, Thought and Behavior. (3)

Examination of the influence of language on perception, evaluations, mass media, creativity and interpersonal relations.

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: an introductory linguistics course.

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 Wm St 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. [431.] Rhetorical Theory. (3)

Historical survey of major contributors and contributions to the development of contemporary rhetorical theory.

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 television. Instruction in shooting and editing videotape; writing to picture; and writing, producing and anchoring short news programs.

Prerequisites: completion of 267 with a grade of C or better or concurrent enrollment; and 269 with a grade of C or better.

361. Photojournalism II. (3-6)

Continues with greater emphasis on camera reporting, color photography, weekly news assignments, scaling photos for reproduction and advanced black and white darkroom techniques. For majors only.

Prerequisite: 261 with a grade of C or better.

362. Broadcast Station Operations. (3)

Examination of media production units and outlets from an organizational perspective. Study of the roles of management and administrative personnel, market analysis and advertising sales.

364. Broadcast News II. (3)

Continuation of C & J 360. Students create longer, more elaborate programs with their own documentary segments, essays and in-studio interviews.
Prerequisite: 360 with a grade of C or better.

365. Social Foundations of Media. [History of the 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.

368. 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.

371. Persuasive Writing. (3)

Writing the editorial essay, the column and other interpretive matters.
Prerequisite: 171 with a grade of C or better.

372. Copy-Editing and Makeup. (3)

Practice in editing and presenting news copy by headlines, typography, page makeup and video display terminal.
Prerequisite: 271 with a grade of C or better or concurrent enrollment in 271.

373. Magazine Writing. (3)

The process of writing and marketing fiction and non-fiction for magazines.

374. 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 complex affairs, the news feature story, developing and covering beats and specialized interests.
Prerequisite: 271 with a grade of C or better.

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)

Theory, strategy and techniques of advertising and advertising campaigns.
Prerequisite: 171 with a grade of C or better.

381. Advertising Media Planning. (3)

Development of media strategy for integrated marketing communications and the appropriate media for specific advertising messages to target audiences. The fundamentals of media evaluation, selection, cost, scheduling, and media audience research.

384. Advertising Copywriting. (3)

The theory, strategy and practice of developing advertising copy for use in a variety of print and electronic media formats.
Prerequisite: 380 with a grade of C or better or permission of instructor.

385. Introduction to Public Relations. (3)

Techniques and strategies employed by public relations practitioners. Emphasis upon history, theory and skills necessary to enter the professional arena.
Prerequisite: 281 with a grade of C or better.

393. Topics in Communication and Journalism. (1-3 to a maximum of 12) 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.

Prerequisites: 101, 300, 301, 332 or 333, and 15 credits in C & J or permission of instructor.

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 or permission of instructor.

421. [321.] Interpersonal Communication Analysis. (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 or permission of instructor.

***430. American Religious Communication. (3)**

(Also offered as Relig 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.

441. Advanced Organizational Communication. (3)

Intensive study of current organizational communication issues with an emphasis on decision making and problem solving. Students learn and apply advanced critical thinking and analytical skills to organizational case studies.

443. Current Developments 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.

463. Current Developments 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. 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: 364 with a grade of C or better or permission of instructor.

***465. Mass Media Ethics. (3)**

The power and problems of communications media and the fields of advertising and public relations with emphasis on evolving ethical standards.

***466. Telecommunication Theory and Technology. (3)**

Surveys the history, macro theories and economic concepts pertinent to telephone, broadcasting, cable, wireless, Internet and newer digitally-based telecommunication technologies. Reviews contemporary policy developments in U.S. and global telecommunications.

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.

***468. Mass Media Law and Regulation. (3)**

First Amendment, sources of law, law of defamation, invasion of privacy, Freedom of Information Act, copyright, advertising regulations, broadcasting and the FCC. Emphasis on laws and policies that directly affect news gathering and dissemination.

469. Multiculturalism, Gender and Media. (3)

(Also offered as Wm St 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.

475. Advanced Reporting. (3)

Interpretive reporting of public affairs with emphasis on investigation of subject matter, presentation and publication.

Prerequisite: 375 with a grade of C or better.

478. Political Journalism Practicum. (3 to a maximum of 6) Δ

This advanced news-writing course is intended to provide students with professional experience in political journalism. News reporting is centered on coverage of the annual state legislative session in Santa Fe. Students will work for a local newspaper or broadcast station to benefit from the supervision of professional editors.

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.

482. Advertising Campaigns. (3)

Theory, strategy and techniques applied to advertising campaigns.

Prerequisite: 384 with a grade of C or better or permission of instructor.

485. Public Relations Case Studies. (3)

Introduction to techniques in analyzing and judging public relations cases. Public relations objectives, policies and

materials are covered. Students will learn how to review, criticize and suggest policy alternatives and develop a substantive specialty.

Prerequisite: 385 with a grade of C or better or permission of instructor.

***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 with a grade of C or better or permission of instructor.

490. Undergraduate Problems. (1-3 to a maximum of 6) Δ

Prerequisite: 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.

Prerequisite: permission of department chairperson.

492. Internship in Communication. (1-3 to a maximum of 6) Δ

Internships in communication and/or journalism arranged with individual faculty members.

Prerequisites: completion, with a minimum grade point average of 2.5, of 9 hours in C & J, with at least one 300-level course and one course in the area of the internship. Permission of instructor required. **Offered on CR/NC basis only.**

493-493L. Research Topics Lab. (1)**494. Senior Thesis. (3)****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.

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.

512. 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.

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.

518. Seminar: Language Behavior. (3)

Theories and evidence on relationships among speech, language and behavior; special focus on the pragmatic dimension of semiotics, including general semantics, socio- and psycho-linguistics and communication systems.

519. Language and Culture. (3)

(Also offered as Anth 511 and Ling 559.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition.

Prerequisite: an introductory linguistics course.

520. Seminar: Instructional Communication. (3)

Theories, research and issues related to communication concepts and strategies for the teaching profession, including communication apprehension, critical thinking, self-disclosure, humor, feedback and questioning abilities.

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. Studies 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.

527. Seminar: Persuasion. (3)

Theories and research on the processes by which behavioral and attitudinal change are produced primarily by messages.

531. Contemporary Rhetoric. (3)

Approaches of different rhetorical theorists to the analysis of rhetorical discourse.

532. Studies in Rhetoric. (3 to a maximum of 6) Δ

Intensive study of theory and research in one area of rhetorical communication chosen by the instructor. Content varies from semester to semester, may be repeated with different content.

536. Seminar: Culture and Discourse. (3 to a maximum of 6) Δ

This course studies the ways culture is created, maintained and changed through discursive practices. Content varies from semester to semester; may be repeated with different content.

538. Seminar: Rhetorical Criticism. (3)

Survey of methods for analyzing symbols rhetorically as an approach to answering research questions in communication.

542. Current Developments 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.

543. 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.

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. Studies 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.

554. 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.

555. Seminar: Educational Linguistics. (3)

(Also offered as LLSS, Ling 555.)

561. Seminar: Communication and Media. (3)

Analysis of theories and methodological approaches used to examine media impact on society. Current media topics may be selected for class analysis.

562. Current Developments 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.

565. Multiculturalism, Gender and Media. (3)

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.

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.

Prerequisite: permission of department chairperson. **Offered on CR/NC basis only.**

599. Master's Thesis. (1-6) [1-5]

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.

Prerequisite: permission of department chairperson. **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.

607. Communication Research Methods: Quantitative. (3)

Advanced study of methods, techniques and instruments useful in investigations that employ quantitative analysis of human communication processes.

608. Communication Research Methods: Qualitative. (3)

Advanced study of methods, techniques and procedures useful in investigations that employ qualitative analysis of human communication processes.

614. Advanced Intercultural Communication. (3)

The relationship between culture and communication with implications for intercultural encounters, historical roots of intercultural communication and theories of intercultural communication.

699. Dissertation. (3-12)

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. **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 PLANETARY SCIENCES

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Duane M. Moore, Ph.D., University of Illinois
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John Shomaker, Ph.D., University of Birmingham (United Kingdom)
Thomas E. Williamson, Ph.D., The University of New Mexico
Kenneth Wohletz, Ph.D., Arizona State University

Professor Emeritus

Rodney C. Ewing, Ph.D., Stanford University
J. P. Fitzsimmons, Ph.D., University of Washington

Introduction

Students are advised to check with the department for information on new or changed requirements.

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 the Departmental Undergraduate Advisor to assist in curriculum planning. The B.S. degree is the recommended route for preparation for graduate study in the Earth Sciences. B.S. students do not need to select a minor: completion of degree requirements fulfills requirements for a Distributed Minor. Students wishing to concentrate in Geoscience fields (such as Environmental, Hydrology, Mineralogy/Materials, Quaternary, Geology, Geophysics, among others) are encouraged to consult recommended 'Track' guidelines (available in the Department Office or through the Departmental Undergraduate Advisor) for elective E&PS and supporting science courses. Petitions for course substitutions in the degree programs are welcome and should be made in consultation with a department advisor.

Major Study Requirements

For the degree of Bachelor of Science: E&PS required courses: 101, 105L (or Env Sc 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 121L and 122L; Math 162 and 163, and either Stat 345 or E&PS 433; Physcs 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 E&PS 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.

Note that E&PS 319L (*Introductory Field Geology*) is taught as a 3-week course immediately after the completion of the Spring semester.

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: E&PS required courses: 101, 105L (or Env Sc 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 121L and either Physcs 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 E&PS Undergraduate Committee) from selected Anthropology, Engineering or Geography courses. Total Credits of Supporting Science=16.

E&PS 319L (*Introductory Field Geology*) is taught as a 3-week course immediately after completion of the Spring semester.

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 may be applied to the Earth and Planetary Sciences minor (491–492).

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. E&PS 493 and 495 are required, as is a written senior thesis that will be orally defended.

Graduate Program

Graduate Advisors

Grant Meyer
Jane Selverstone

Application Deadlines

Fall semester:	January 31 (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. Application forms for admission and financial aid, forms for letters of recommendation and other application materials are available from the Department of Earth & Planetary Sciences. In addition to the application form and fee, three letters of recommendation, transcripts and statement of goals required by the Office of Graduate Studies, the Department also requires the general GRE scores for admission consideration.

The Department of Earth & Planetary Sciences has several graduate "tracks." For the general geoscience track, qualified students must have a background equivalent to the requirements for the B.S. degree in Earth & Planetary Sciences at the University of New Mexico. Students holding degrees in other areas may also be admitted with the understanding that they may be required to remove deficiencies in Earth & Planetary Sciences courses and the supporting sciences. Earth & Planetary Sciences courses required for the B.S. degree are mineralogy, petrology, structural geology, stratigraphy/sedimentology and introductory field geology. Work in the supporting sciences for the B.S. degree includes mathematics through calculus (Math 264 or equivalent), one semester of statistics and computer science, one year of general chemistry and one year of calculus based physics (Physcs 161 or 262 or equivalent). For other graduate tracks, required background courses in geosciences and in the supporting sciences differ; please consult the Department of Earth & Planetary Sciences. 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 a temporary advisor, identified by the Chairperson, 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 (E&PS)

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.

105L. Physical Geology Laboratory. (1)

Minerals, rocks and topographic and geologic maps; field trips. 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.
Prerequisite: 101 or Env Sc 101; pre- or corequisite: 105L or Env Sc 102L. {Fall, Spring}

203. Earth Resources and Man. (3)

Geologic occurrences of fuels and minerals and their influence on domestic and world affairs.
Prerequisite: 101 or Env Sc 101 recommended.

204. Gem Minerals and Gems. (2) Klein

The most common gem minerals and gems. Their geologic occurrence and origin, crystallographic, chemical and physical properties. Test procedures. Synthetic materials and imitation.

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.

211. Dinosaurs and their World. (3) Lucas, Williamson
Survey of the fossil record, evolution, paleobiology and extinction of dinosaurs, and the animals they shared the earth with. {Spring}

225. Oceanography. (3)

The ocean as a physical and chemical feature and a dynamic process. {Fall, Spring}

250. Geology of New Mexico. (3) Kues

Description of geologic features including structures, landforms and mineral resources of New Mexico. For earth science teachers at high schools and junior high schools.
Prerequisite: 101 or Env Sc 101.

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 Env Sc 101 or permission of the instructor.

****300. Topics in Geology. (1-4 to a maximum of 6) 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.
Prerequisite: permission of instructor.

****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. E&PS majors must enroll in 301 and 302L in the same semester.

Pre- or corequisite: Chem 121L or permission of instructor. {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)**

Selverstone
Introduction to classification, identification, occurrence and origin of igneous and metamorphic rocks.
Prerequisites: 302L, Math 162 or Chem 121L or permission of the instructor. {Spring}

****304L. Sedimentology and Stratigraphy. (4) Elrick**

Introduction to origin, petrology and stratigraphic occurrence of sedimentary rocks.
Prerequisites: 201L and Chem 121L, 303L or permission of instructor. {Fall}

****307L. Structural Geology. (4) Geissman, Karlstrom**

Nature and origin of rock structures and deformation; map and stereographic projection problems; stress and strain.
Prerequisites: 303L, 304L, Physcs 151 or 160 or permission of instructor. {Spring}

310L. New Mexico Field Geology. (4) Geissman, Karlstrom

Scientific method in field observation and analysis of geologic phenomena. Written report for each 4-hour field trip; 2-hour lecture to discuss previous field project and preparation for following project.
Prerequisites: 101 (or Env Sc 101), 105L (or Env Sc 102L).

****319L. Introductory Field Geology. (4) Geissman**

Principles and techniques of basic field mapping; layout, preparation, and presentation of maps and cross-sections; content of geologic reports.
Prerequisites: 304L, 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 Env Sc 101, C or better in Math 150.

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.
Prerequisite: permission of instructor.

****365. Exploring the Solar System. (3) Papike**

Geology of the planets as deduced from visual and geophysical observations, space probe data, laboratory experiments, study of meteorites and lunar samples and terrestrial analogs of planetary features. Only available for graduate credit for students in the College of Education.
Prerequisite: 101 or Env Sc 101.

400. Topics in Earth & Planetary Sciences. (1-4 to a maximum of 6) Δ*401./501. Colloquium. (1) † Δ**

Current topics in geology. For graduate students, may be repeated once for credit towards degree. See description for 490.
Prerequisite: junior standing. Offered on CR/NC basis only.

402./502. Environmental Mineralogy. (2)

Mineralogy of natural dust in the troposphere and hydrosphere. Asbestos, zeolites, silica and radon. Clay minerals and their application in remediation. Overview of some radioactive waste forms.
Prerequisites: 301, 302L.

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 121L and Math 163, or permission of instructor.

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, Chem 121L and Math 163 or permission of instructor.

410./510. Fundamentals of Geochemistry. (3) Asmeron
Geochemistry of igneous, metamorphic and sedimentary rocks. Geochemical methodology.
Prerequisite: 303L.

***411L. Invertebrate Paleontology. (4)** Kues
General principles and familiarization with diagnostic features of fossils. Introduction to environmental implications.
Prerequisite: 8 hrs. of E&PS or biology.

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. Non-E&PS majors: 101, Chem 121L and permission of instructor.

420L./520L. Advanced Field Geology. (4) Karlstrom
Advanced geological field techniques; special field problems concentrating on the Rio Grande Rift tectonism, and its effects on all ages of New Mexico rocks.
Prerequisite: 319L. Offered as a 3-week course (20 consecutive days). {Summer}

421L./521L. Metamorphism. (4) Selverstone
Metamorphic petrology and its applications to processes and tectonics. Discussions include thermochemistry, phase equilibria, thermobarometry, P-T paths and behavior of metamorphic fluid phase.
Prerequisites: 304L, 407L or permission of instructor.

427./527. Geophysics. (3) Geissman, Huestis, Roy
(Also offered as Physcs 327.) Applications of gravity, magnetism, seismology, heat flow to the structure, constitution and deformation of earth. Related aspects of plate tectonics and resource exploration.
Prerequisites: 101 (or Env Sc 101), Math 163, Physcs 161.

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.
Prerequisites: Math 163, knowledge of a computing language.

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.
Prerequisites: Math 162, Physcs 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: 105L.

***443L. Subsurface Geology. (3)**
Well-logging and cross-section correlation techniques; study of cuttings; electric gamma ray and acoustic logs; construction of structure contour, iso pach and iso pleth maps.
Pre- or corequisite: 307L.

445./545. Topics in Sedimentology and Stratigraphy. (1-4) Δ Smith, Elrick
Variable course content depending on student interest. Topics may include physical sedimentology, sequence stratigraphy, basin analysis, cycle stratigraphy and chemostratigraphy. May be repeated with different content to a maximum of 6 hours.

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 or permission of instructor. (Three summer weeks)

455L./555L. Computational and GIS Applications in Geomorphology. (3) Meyer
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.
Prerequisites: 101 or Env Sc 101, 433, 481 or permission of instructor.

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.
Prerequisites: Math 163, Physcs 160 or permission of instructor.

462./562. Hydrogeology. (3) Campana
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.
Prerequisites: 105L or Env Sc 102L, one semester each of calculus, chemistry, physics or permission of instructor.

465./565. Mars Evolution. (3)
A discussion of the evolution of planet Mars from 4.6 b.y. to present. Emphasis on evolution of Mars surface features and interior and the evolution of the Martian atmosphere. Results of recent space missions to Mars will be discussed.
Prerequisite: 365

467./567. Environmental Mechanics. (3) Campana
Introduction to stress and strain, dimensional analysis, fluid flow and heat transfer with applications to problems in the earth and environmental sciences.
Prerequisites: Math 163, Physcs 160 or permission of instructor.

472./572. Subsurface Fate and Transport Processes. (3) Campana
Physicochemical, hydrogeological, biological and mathematical aspects of chemical fate and transport in subsurface porous and fractured media. Introduction to multiphase and nonaqueous phase flow.
Prerequisites: 462 or C E 441 and Math 163 or 181 or permission of instructor. {Spring}

476./576. Physical Hydrology. (3) Campana
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.
Prerequisites: upper-division standing, Math 163 and Physcs 160 or permission of instructor. {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.

Prerequisites: 101 and 105L (or Env Sc 101 and 102L) or permission of instructor.

482L./582L. Geoarchaeology. (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.

Prerequisites: 101, 105L, Anth 121L, Anth 220 and at least junior standing in E&PS or Anth. {Spring}

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: 481L or permission of instructor.

***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: Physcs 161.

***490. Geologic Presentation. (1)**

Student review of geologic literature; preparation and critique of oral presentations.

Pre- or corequisite: 304L. Must co-enroll in 401 or 501.

491–492. Problems. (1-3, 1-3)**493. Independent Study. (3)**

Independent study for departmental honors.

Prerequisite: candidacy for honors in Earth and Planetary Sciences.

495. Senior Thesis. (3) †

Prerequisite: candidacy for honors in Earth and Planetary Sciences.

501./401. Colloquium. (1) † 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.

502./402. Environmental Mineralogy. (2)

Mineralogy of natural dust in the troposphere and hydrosphere. Asbestos, zeolites, silica and radon. Clay minerals and their application in remediation. Overview of some radioactive waste forms.

Prerequisites: 301, 302L.

503. Organic Geochemistry. (3) Crossey

Fundamentals of organic geochemistry; global carbon cycle; formation of hydrocarbons; environmental fate of organic compounds in the surface environment.

Prerequisites: 304L, Chem 122L.

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 121L and Math 163, or permission of instructor.

506L. Mathematical Crystallography. (4)

Basic principles of crystallographic calculations including the derivation of point groups and space groups.

Prerequisite: Math 314.

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, Chem 121L and Math 163 or permission of instructor.

508L. Paleomagnetism and Applications to Geological Problems. (3) Geissman

Discussion of the source, origin and application of geographically significant magnetizations in rocks. Experience in field sampling and data collection and analysis.

Prerequisites: 302L, Physcs 152L.

509. Environmental Geochemistry. (3) Asmerom, Crossey

Topical examination of geochemical aspects of environmental issues, with emphasis on critical phenomena of societal relevancy.

Prerequisite: permission of instructor.

510./410. Fundamentals of Geochemistry. (3) Asmerom

Geochemistry of igneous, metamorphic and sedimentary rocks. Geochemical methodology.

Prerequisite: 303L.

511. Sedimentary Geochemistry. (3) Crossey

The application of geochemical principles to surface and sub-surface processes in sedimentary systems.

Prerequisite: 304L or permission of instructor.

512L. High-temperature Geochemistry. (3)

Applications of thermodynamics to the study of metamorphic and igneous processes and of high-temperature gases.

Pre- or corequisites: 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.

514. Precambrian Geology. (3)

An interdisciplinary course which evaluates the first 3,500 million years of earth history. Initial lectures focus on methodology (geochemistry, geochronology, petrology, structure), followed by discussion of specific Archean and Proterozoic geologic terrains.

Prerequisite: 307L.

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.

Prerequisite: 304L. Non-E&PS Majors: 101, Chem 121L and permission of instructor.

516. Selected Topics in Geomorphology. (3) Δ

McFadden, Meyer

Course may be repeated for credit because subject matter varies, no limit.

517L. Instrumental Methods in Geochemistry. (2-4) † Δ

Principles and applications of selected instrumentation methods in analytical geochemistry. Instrumentation methods discussed each year may vary. This is a hands-on course that is designed to train scientists in instrumentation use applicable to their research and to provide them valuable tools for future employment. May be repeated once if topic varies.

Prerequisite: permission of instructor.

518L. Electron Microprobe Analysis. (3)

Theory and practice of electron microprobe analysis emphasizing geological materials.

Prerequisite: permission of instructor and a demonstrated need for the use of instrument.

519L. Selected Topics in Geochemistry. (2-4) Δ

Topics vary, so course may be repeated for graduate credit once at maximum credit.

Prerequisite: permission of instructor. {Offered upon demand}

520L/420L. Advanced Field Geology. (4) Karlstrom

Advanced geological field techniques; special field problems concentrating on the Rio Grande Rift tectonism and its effects on all ages of New Mexico rocks.

Prerequisite: 319L. Offered as a three-week course (20 consecutive days). {Summer}

521L/421L. Metamorphism. (4) Selverstone

Metamorphic petrology and its applications to processes and tectonics. Discussions include thermochemistry, phase equilibria, thermobarometry, P-T paths and behavior of metamorphic fluid phase.

Prerequisites: 304L, 407L or permission of instructor.

522. Selected Topics in Geophysics. (3) Δ Geissman, Roy

Course may be repeated for credit because subject matter varies, no limit.

Prerequisite: permission of instructor.

523. Topics in Tectonics. (3) Δ

Course may be repeated for credit because subject matter varies, no limit.

Prerequisite: 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 or permission of instructor.

527/427. Geophysics. (3) Geissman, Roy

(Also offered as Physcs 327.) Applications of gravity, magnetism, seismology, heat flow to the structure, constitution and deformation of earth. Related aspects of plate tectonics and resource exploration.

Prerequisites: 101 (or Env Sc 101), Math 163, Physcs 161.

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.

Prerequisites: Math 163, 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.

Prerequisite: permission of instructor.

535. Freshwater Ecosystems. (3) Campana

(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.

Prerequisites: Math 162 or 180, Chem 122L, Biol 495 or permission of instructor. {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.

Prerequisites: Math 162, Physcs 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.

Prerequisites: 587, 518L or permission of instructor.

540. Carbonate Sedimentology and Stratigraphy. (4)

Erick

Carbonate depositional processes (ancient and modern), facies patterns, associated rock types, and basin analysis. Includes laboratories covering skeletal and grain types, cements and carbonate diagenesis.

Prerequisite: 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) Δ Smith, Elrick

Variable course content depending on student interest. Topics may include physical sedimentology, sequence stratigraphy, basin analysis, cycle stratigraphy and chemostratigraphy. May be repeated with different content to a maximum of 6 hours.

547-548. Seminar. (2-3, 2-3) Δ

Course may be repeated for credit because subject matter varies, no limit.

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 or permission of instructor. {Three summer weeks}

555L/455L. Computational and GIS Applications in Geomorphology. (3) Meyer

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.

Prerequisites: 101 or Env Sc 101, 433, 481 or permission of instructor.

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.

Prerequisites: Math 163, Physcs 160 or permission of instructor.

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.

Prerequisites: Chem 121L, Chem 122L or either 310L, 351, E&PS 105L or permission of instructor.

562./462. Hydrogeology. (3) Campana
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.

Prerequisites: 105L or Env Sc 102L, one semester each of calculus, chemistry, physics or permission of instructor.

564. Geological Fluid Mechanics. (3) Campana
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.

Prerequisites: Math 264, Physcs 161 or permission of instructor. {Spring}

565./465. Mars Evolution. (3)

A discussion of the evolution of planet Mars from 4.6 b.y. to present. Emphasis on evolution of Mars surface features and interior and the evolution of the Martian atmosphere. Results of recent space missions to Mars will be discussed.

Prerequisite: 365.

566. Selected Topics in Hydrogeology. (1-3) Δ

Variable course content depending upon student demand and instructor availability. Topics vary, so course may be repeated for graduate credit once at maximum credit.

Prerequisite: permission of instructor.

567./467. Environmental Mechanics. (3) Campana

Introduction to stress and strain, dimensional analysis, fluid flow and heat transfer with applications to problems in the earth and environmental sciences.

Prerequisites: Math 163, Physcs 160 or 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.

Prerequisites: Physcs 262, Math 264.

572./472. Subsurface Fate and Transport Processes. (3) Campana

Physicochemical, hydrogeological, biological and mathematical aspects of chemical fate and transport in subsurface porous and fractured media. Introduction to multiphase and nonaqueous phase flow.

Prerequisites: 462 or C E 441, Math 163 or Math 181 or permission of instructor. {Spring}

574L. Hydrogeology Laboratory. (1) Campana

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 or permission of instructor.

575. Advanced Volcanology. (3)

Dynamics of volcanic eruptions, monitoring of volcanic hazards, geothermal energy, epithermal, numerical and analytical research techniques.

Prerequisite: 450L or permission of instructor.

576./476. Physical Hydrology. (3) Campana

(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.

Prerequisites: upper-division standing, Math 163, Physcs 160 or permission of instructor. {Fall}

580. Advanced Hydrogeology. (3) Campana

Advanced treatment of subsurface fluid flow and other transport phenomena through granular and fractured media.

Prerequisites: 462 or C E 441, Math 264 or permission of instructor.

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.

Prerequisites: 101, 105L or Env Sc 101, Env Sc 102L or permission of instructor.

582L./482L. Georachaeology. (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.

Prerequisites: 101, 105L, Anth 121L, Anth 220 and at least junior standing in E&PS or Anth. {Spring}

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.

Prerequisites: 101 or Env Sc 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.

Prerequisite: 481L or permission of instructor.

587. Advanced Mineralogy. (3) Brearley

Crystallographic principles; structure, chemistry, physical properties of rock forming minerals.

Prerequisites: 301, 302L, Chem 122L.

599. Master's Thesis. (1-6)

No limit on units. Offered on a CR/NC basis only.

699. Dissertation. (3-12)

No limit on units. 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 or graduate programs, including environmental sciences per se as well as peripheral fields such as Law and Medicine. Environmental Science covers a vast sweep of applied 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 disciplinary groups, a wide variety of approaches to environmental science can be accommodated. 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.

Required Environmental Science Core Courses:

Env Sc 101 or E&PS 101, Env Sc 102L or E&PS 105L, Env Sc 330, Env Sc 430, E&PS 401, E&PS 433 or Stat 345 or higher, and E&PS 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:

- a) Spatial analysis: E&PS 455L; Geog 281L, 381L, 487L
- b) Geochemistry: E&PS 203, 407L, 410, 415, C E 437L
- c) Geoscience: E&PS 201L, 301, 302L, 310L, 333, 402, 467
- d) Earth Surface Processes: E&PS 304L, 481L, 485L
- e) Hydrosience: E&PS 462 or C E 441, E&PS 472, 476
- f) Climate: E&PS 251, 352, 436, 439
- g) Ecology: Biol 203L, 310L, 403, 407L, 440L, 451, 463L, 475, 495, 496L

Supporting Science required courses:

Math 162, 163; Biol 123/124L or higher; Chem 121L; Physcs 160.

Students can satisfy the requirements for a distributed minor completing Chem 122L, Physcs 161 and 7 additional hours from Chemistry (above 122L), Math (above 163), Physics (above 161), Biology 123/124L or higher (not including courses counted in the Ecology disciplinary 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 E&PS Department. Six credits from courses in disciplinary 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:

1. Env Sc 101 and 102L (or E&PS 101 and 105L), and Env Sc 330.
2. Plus at least 13 additional hours selected from Env Sc 430, E&PS 433 (or Stat 345 or higher) and from at least two of the Environmental Science disciplinary groups. Only one course numbered 299 or below may count toward this requirement.

Environmental Science (Env Sc)

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. Credit not awarded for both 101 and E&PS 101. 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. Prerequisites: 101 or E&PS 101, Chem 121L and one of the following: Math 162, Biol 123/124L or higher, Physcs 160. (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. Prerequisites: 330, Math 163, Physcs 160, Chem 121L, Biol 123/124L or higher, or permission of instructor. (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. Prerequisites: 330, Math 163, Physcs 160, Chem 121L, Biol 123/124L or higher, or permission of instructor. (Spring)

Natural Science (Nat Sc)

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.

Prerequisite: 261L, Math 112 or permission of instructor.

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.

Prerequisites: 261L, 262L or permission of instructor.

ECONOMICS

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Professors

Alok K. Bohara, Ph.D., University of Colorado
David S. Brookshire, Ph.D., The University of New Mexico
H. Stuart Burness, Ph.D., University of Kansas
Donald Coes, Ph.D., Princeton University
Philip Ganderton, Ph.D., University of California (Santa Barbara)
Christine Sauer, Ph.D., Brown University

Associate Professors

Robert Berrens, Ph.D., Oregon State University
Melissa Binder, Ph.D., Columbia University
Janie Chermak, Ph.D., Colorado School of Mines
Kate Krause, Ph.D., University of Wisconsin
Richard Santos, Ph.D., Michigan State University

Assistant Professors

Kristine Grimsrud, Ph.D., Washington State University
Jennifer Thacher, Ph.D., University of Colorado, Boulder

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
Albert Church, Ph.D., Claremont Graduate School
Sanford Cohen, Ph.D., Ohio State University
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
Alfred L. Parker, Ph.D., Ohio State University
Chung Pham, Ph.D., University of Pennsylvania
Donald Tailby, Ph.D., Rutgers University
Paul Therikildsen, 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. Please 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: sug-

gested 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, 445 and 450) 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 2004: November 1
 Fall Semester 2004: July 1
 Spring Semester 2005: November 1
 Fall Semester 2005: 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 fields 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 field concentration (9 hours). See the Economics Graduate Student Handbook for specific requirements.

Minimum undergraduate prerequisites for graduate work in economics consist of 12 upper-division hours, including one semester each of micro theory, macro theory and money and banking. All applicants must submit their GRE general test scores (verbal, quantitative and analytical); in addition, 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. (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. (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.
 Prerequisites: 105, 106 or permission of instructor.

**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.
 Prerequisites: 105, 106 or permission of instructor.

**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.
 Prerequisites: 105, 106, Stat 145 or permission of instructor.

**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.
 Prerequisites: 105, 106 or permission of instructor.

*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.
 Prerequisites: 105, 106 or permission of instructor.

*321. Development Economics. (3)

Theories of development and growth. Problems facing developing countries and possible solutions. Historical case studies of some developing countries.
 Prerequisites: 105, 106 or permission of instructor.

*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.
 Prerequisites: 105, 106 or permission of instructor.

*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.
 Prerequisites: 105, 106 or permission of instructor.

*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.
 Prerequisites: 105, 106 or permission of instructor.

*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.
 Prerequisites: 105, 106 or permission of instructor.

*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.
 Prerequisites: 105, 106 or permission of instructor.

***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.

Prerequisites: 105, 106 or permission of instructor.

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, 106 or permission of instructor.

***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.

Prerequisites: 105, 106 or permission of instructor.

***350. Public Finance. (3)**

(Also offered as Pol Sc 350.) Taxation, governmental borrowing, financial administration and public expenditures.

Prerequisites: 105, 106 or permission of instructor.

***360. History of Economic Thought. (3)**

Development of the principle economic doctrines and schools of economic thought from the Physiocrats to Keynes.

Prerequisites: 105, 106 or permission of instructor.

395. Seminar in Current Economic Issues. (1-3) Δ

Topics will vary. Offered on an occasional basis. For course content, consult the economics department. Course may be repeated without limit provided the topics differ.

Prerequisites: 300, 303, permission of instructor.

***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.

Prerequisites: 300, 303 or permission of instructor.

***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) 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. Course may be repeated without limit provided the topics vary.

Prerequisites: 300, 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.

Prerequisites: 300, 303 or permission of instructor.

***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.

Prerequisites: 300, 303 or permission of instructor.

***424. International Trade. (3)**

Determinants of patterns of international trade and comparative advantage. Trade restrictions and gains from trade. International factor movements.

Prerequisite: 300.

***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: 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.

***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.

***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).

Prerequisites: 300, 350.

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, 303 and permission of instructor.

***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.

Prerequisites: 300, 350.

***478. Seminar in International Studies. (3)**

(Also offered as Pol Sc 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 or her particular background and relating it to international matters. Open only to seniors.

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.

499. Senior Honors Thesis. (4)

Prerequisites: 497 and/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.
Prerequisites: 503, 504 or permission of instructor.

503. Economic Theory. (3)

Macro and micro theory with applications.
Prerequisite: graduate standing or permission of instructor.

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.
Prerequisite: one year of calculus or permission of instructor.

505. Applied Macroeconomics. (3)

Basic macroeconomic theory applied to current economic problems and policy issues.
Prerequisite: 303 or equivalent or permission of instructor.

506. Macroeconomics I. (3)

Closed and open economy macroeconomics. Aggregate demand and supply. Different models of business cycles. Micro foundations of macroeconomics.
Prerequisites: 503, 504 or permission of instructor.

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.
Prerequisites: basic statistics and calculus or permission of instructor.

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.
Prerequisites: 504, 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 or permission of instructor.

514. Macroeconomics II. (3)

Dynamic macroeconomics. Optimal economic policy. Theories of economic growth.
Prerequisites: 504, 506 or permission of instructor.

517. Law and Economics. (3)

Economics provides an illuminating means of analyzing legal decisions and rulings. Topics in law: contracts, torts and administrative law. Applications: environmental economics, public finance and labor economics.
Prerequisite: 501 or 503 or permission of instructor.

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: 503 or permission of instructor.

521. Comparative Labor Problems. (3)

Immigration issues, labor markets in Latin America, and other comparative labor issues.
Prerequisite: 520 or permission of instructor.

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: 520 or permission of instructor.

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: 503 or permission of instructor.

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 or 503 or permission of instructor.

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: 503 or permission of instructor.

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.
Prerequisite: permission of instructor.

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: 504 or permission of instructor.

541. Sustainable Development. (3)

Seminar of the political economy of sustainable development with emphasis on the management of large natural systems, particularly river basins.
Prerequisite: permission of instructor.

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: 503 or permission of instructor.

543. Natural Resource Economics. (3)

Models of natural resource utilization. Fossil fuels, hard rock minerals, fisheries, forest resources, groundwater and surface water.
Prerequisites: 501, 542 or permission of instructor.

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.
Prerequisites: 501, 542 or permission of instructor.

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.
Prerequisite: 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: 503.

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.
Prerequisite: 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: 503 or permission of instructor.

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: 503 or permission of instructor.

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: 503 or permission of instructor.

583. Development Economics. (3)

Applies economic development theories to country-wide studies, with an emphasis on Latin America and other developing regions.
Prerequisite: 503 or permission of instructor.

584. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3)

(Also offered as Hist 689, Pol Sc, 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.
Prerequisites: permission of faculty advisor, graduate advisor and instructor. Offered on CR/NC basis only.

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only.

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

ECONOMICS-PHILOSOPHY**Introduction**

The combined major in economics and philosophy is an interdepartmental 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 or 450, and 3 hours to be selected from 320, 332, 350 or 424; Philosophy—21 hours selected from courses chosen in consultation with your advisor; and Ec-Ph 485.

Minor Study Requirements

Not offered.

ECONOMICS-PHILOSOPHY (Ec-Ph)

***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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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
Joy Harjo, M.F.A., University of Iowa, Joseph M. Russo
Professor of Creative Writing
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
Gary Scharnhorst, Ph.D., Purdue University
Peter L. White, Ph.D., Pennsylvania State University

Associate Professors

Jesse Aléman, Ph.D., University of Kansas
Lisa D. Chavez, M.F.A., Arizona State University
Finnie D. Coleman, Ph.D., University of Virginia

Cheryl Fresch, Ph.D., Cornell University
 Wanda Martin, Ph.D., University of Louisville
 Anita Obermeier, Ph.D., Arizona State University
 Charles Paine, Ph.D., Duke University
 Susan Romano, Ph.D., University of Texas
 Jerome P. Shea, Ph.D., University of New Mexico
 Julie Shigekuni, M.F.A., Sarah Lawrence
 Diane Thiel, M.F.A., Brown University
 Hector A. Torres, Ph.D., University of Texas
 Sharon Oard Warner, M.A., University of Kansas
 Carolyn Woodward, Ph.D., University of Washington

Assistant Professors

Elizabeth Archuleta, Ph.D., Pennsylvania State University
 Stephen Brandon, Ph.D., University of North Carolina
 (Greensboro)

Matthew R. Hofer, Ph.D., University of Chicago
 Aeron Hunt, PhD, University of Chicago
 Michelle Hall Kells, PhD, Texas A&M University
 Gregory Martin, M.F.A., University of Arizona
 Daniel Mueller, M.F.A., University of Iowa
 Carmen Nocentelli, PhD, Stanford University

Lecturers

James Burbank, M.A., University of New Mexico
 Marisa P. Clark, Ph.D., Georgia State University
 Michael B. Cabot, M.A., New Mexico 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
 Gene Frumkin, B.A., University of California (Los Angeles)
 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
 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 detailed 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. The 102 prerequisite is waived for students who are eligible to submit a Writing Proficiency Portfolio and plan to do so to fulfill their University Writing Requirement. 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 294, 295, 296, 297; 352 or 353; 351 or 354; 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 to go on to graduate study in English or American Literature.

Engl 250, 294, 295; one other survey chosen from 296 or 297; 351; 352 or 353; 354; one of the following: 460, 461, 462, 463, 464, 465, 466; two of the following: 410, 445, 449, 450, 451, 452, 453, 454, 456, 457, 458, 459, 470, 486; 6 additional hours at the 300 or 400 level; recommended electives: 304, 305, 471, 472, 473 or 474.

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.

180 ARTS AND SCIENCES

Language, Rhetoric, and Literature Sequence. Engl 250; one survey from 294, 295, 296, 297; 9 hours of courses in language, rhetoric or literature numbered 300 or above. 15 hours total.

Pre-Law Concentration (33 hours)

A program for students planning to go on to law school. Engl 250; 220 or 240; 9 hours from the following: 294, 295, 296, 297; 352 or 353; 3 hours from 460, 461, 462, 463, 470; 410 or 442 or 443; 320 or 413, 414, 415, 416, 418, 419, 420 or 441; 6 additional hours at the 300 or 400 level. Outside the department, the following courses are strongly recommended: a course in public speaking, C & J 130 or 332, Phil 156 (*Logic and Critical Thinking*) and Pol Sc 315 or 316 or 317 (*Constitutional Law: Powers/Liberties/Rights*).

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 221, 222, 223, 321, 322, 323, 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. The Medieval Studies minor represents a typical minor in period studies.

Medieval Studies Minor (21 hours)

A multidisciplinary program consisting of 21 hours of approved courses. Each student's program will be developed around the student's individual interests after approval by an advisor. A brochure of requirements is available from the Department of English and from the office of The Institute for Medieval Studies.

The distribution of requirements is as follows: 3 hours of English 315, the introductory course in Medieval Culture; 9

hours of courses in Medieval English Literature (English 211, 315, 351, 411, 440, 448, 449, 450, 451); 9 hours from courses in Medieval Art (Art Hi 262, 331, 404), Medieval History (History 303, 304, 305, 314, 320, 323, 326, 328, 386, 401, 402, 411, 416), Latin 101, 102, 201, 202, 351, 352, Greek 101, 102, 301, 302, Italian 475, Music 261, Philosophy 308, Religious Studies 360, Spanish 301, 411). Interested students should contact the Director of The Medieval Studies Program in the Department of English.

English as a Second Language

Students who speak and write English as a Second Language may enroll in special sections of English 101 and 102 designed for international students, recent immigrants, and others who have limited experience with standard American English. For placement and scheduling, students should apply in person at the Rhetoric and Writing office in the English Department. ESL sections of English 101 and 102 are offered for full credit (3 credit hours each). 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 411 Honors, a special seminar designed for honors students in English; 2) enroll in English 497, Individual Study, in the semester **before** graduation in order to write a prospectus for submission to the Undergraduate Committee no later than the end of the tenth week of the semester; and finally, 3) enroll in English 490, Senior Honors Thesis, to complete the Honors thesis for submission to the Undergraduate Committee no later than the end of the 12th week of the semester of graduation.

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

Application Deadlines

Fall semester: February 1

A Bachelor's Degree is required for all applicants to the Master's Programs in English; a Master's Degree in English or Comparative Literature is required for all applicants to the Ph.D. program. (Applicants to the Ph.D. program who hold an M.A. in Writing must pass the M.A. comprehensive examinations and submit an approved portfolio before they can be admitted.)

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 and three letters of recommendation. (Note: Applicants to the M.A. Writing program need not submit scores for the

Advanced Subject Test in English Literature but must submit a sample of their creative or professional writing for evaluation by the Writing Program faculty.)

Early application is recommended (all paperwork must be received on or before the listed deadline). Decisions on applications received by February 1 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 Rhetoric and Writing. The deadline for T.A. Applications is February 1.

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. (This course does not count toward the distribution requirement.)

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. and an M.A. with concentrations in Language and Literature and in Writing. The M.A. concentration in Language and Literature must be taken under Plan II, the M.A. concentration in Writing under Plan I, 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:

- English 500, *Introduction to the Professional Study of English*
- 12 hours of 500 and/or 600-level English Department classes, selected under advisement of the Director of English Graduate Studies.

M.A. Concentration in Language and Literature (32 hours)

1. All M.A. concentration in Language and Literature students must take English 500, *Introduction to the Professional Study of English*, and English 595, *Master's Colloquium* (6 hours total).
2. All M.A. concentration in Language and Literature students must complete a distribution requirement of at least 19 hours of course work, including a 4-hour seminar, from the following areas, with at least 3 hours from each group:
 - Group A: British Literature to 1660
 - Group B: British Literature 1660 to 1900
 - Group C: American Literature to 1900
 - Group D: Literatures in English since 1900
 - Group E: Criticism and Theory; Language, Rhetoric and Composition

All work counting toward the distribution requirements must be taken in courses numbered 500 or above.
3. All M.A. concentration in Language and Literature students must take at least one 4-hour seminar, which may be counted toward the distribution requirement.
4. All M.A. concentration in Language and Literature students must complete an additional 6 hours of electives

from any groups A through E, or from approved courses outside the department, for a total of 32 hours.

5. At the beginning of the fourth semester all M.A. concentration in Language and Literature students must take and pass the Master's 50-item examination.
6. Normally in the fourth semester, all M.A. concentration in Language and Literature students must submit their portfolio to the English Graduate Office for approval. To prepare the portfolio, students enroll in English 596, *Portfolio*, (1-hour C/NC) under the direction of the Graduate Director.

NOTE: The Graduate Committee must approve the portfolio before the Master's degree can be conferred.

M.A. Concentration in Writing (34 hours)

Students are encouraged to define an area of concentration in poetry, fiction, creative non-fiction or professional and technical writing by taking at least 9 hours of writing workshops in the defined area.

1. All M.A. concentration in Writing students must take English 501, *Introduction to the Profession for Writers*, and English 587, *Genre Studies* (6 hours total).
2. All M.A. concentration in Writing students must take 10 hours of course work, including one 4-hour seminar, from at least three of the distribution groups A through E (see above, item 2).
3. All M.A. concentration in Writing students must take at least 12 hours of writing workshops.
4. All M.A. concentration in Writing students must take at least 6 hours of English 599, *Master's Thesis*, and submit a thesis as explained in the general requirements for Plan I set forth earlier in this catalog.

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 but below the Ph.D. 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, structured as follows:

Required Courses (15 hours)

English 500	<i>Introduction to the Professional Study of English</i>	(3)
English 548	<i>Topics in Medieval Studies: Bibliographic Methods</i>	(3)
English 549	<i>Old English</i>	(3)
English 581	<i>Chaucer</i>	(3)
History 503	<i>Early Middle Ages 300 to 1050</i>	
–or– 504	<i>The High Middle Ages, 1050 to 1400</i>	(3)

Distributed Course Requirements (6 hours)

In addition to the required courses, the student in the M.A. concentration in Medieval Studies must take 6 hours of course work in English, exclusive of the 4-hour seminar, from at least two groups, A through E, provided that the classes are not in Old or Middle English.

Seminar Requirement (4 hours)

One seminar in Old or Middle English

Multidisciplinary Courses (9 hours)

The student must take three graduate courses in medieval topics from at least two disciplines. (A list of approved courses is available in the Medieval Studies Office.) The disciplines are: German, Greek, History, Italian, Latin, Music, Art History, Philosophy, Religious Studies, and Spanish.

Foreign Language Requirement

All students must take Latin and pass 202 *Intermediate Latin* or 352 *Accelerated Latin Reading* with a grade of B or better.

Master's Examination

A 50-item examination list of books, comprising the important multidisciplinary texts of the English medieval period, will form the basis of the Master's examination, which students will take after completing 18 hours of graduate credit. The list will represent works from medieval Philosophy and History, Music, Art History and aesthetics and include important texts from later periods, the largest proportion of which will be from the medieval studies discipline, but also will include works drawn from the British, Irish, and American literatures reading lists. The exam will be taken either in September or in February.

Exam Format

Please see Graduate booklet for policy and procedures.

Portfolio

Students must submit two article-length essays (20 to 30 pages, inclusive of notes), representing a professional level of scholarship, critical thinking, and writing. These papers must represent work (1) in Old and Middle English or (2) in one of these periods and either in philosophy, art, history or language (as defined by the interdisciplinary electives). These essays may have been written during the student's M.A. course work, but both students and advisors should keep in mind that these papers will be held to a more rigorous scrutiny and reflect a higher level of professional quality.

Submitting the Portfolio

Please see the department Graduate Studies booklet for policy and procedures.

Graduation: (Master's Concentration in Medieval Studies)

Please see the department Graduate Studies booklet for policy and procedures.

Foreign Language Requirement for the M.A.

Students in the M.A. programs must demonstrate a reading knowledge of a language other than English, including Greek, Latin, Italian, Spanish, French, German, Russian, Japanese, Chinese or Navajo. Other languages may be approved in certain cases. "Reading knowledge" is defined as the completion of a second semester, sophomore year course with a grade of B or better, or its equivalent.

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 Literature

(includes Criticism and Theory); Rhetoric and Writing; and a Concentration in Medieval Studies.

General requirements for the Ph.D. are set forth in earlier pages of this catalog. The Department of English specifies the following requirements for its doctoral concentration:

1. All Ph.D. students must take English 500, *Introduction to the Professional Study of English* (3 hours total).
2. All Ph.D. students must meet a theory requirement; British and American literature students take English 510; Rhetoric and Writing students take either English 542 or 543.
3. All Ph.D. students must take at least 8 hours in 600-level seminars, excluding any seminars taken in a Master's program.
4. All Ph.D. students must complete another 40 hours of course work, distributed over a broad range of English and American literature, Language and Rhetoric, and Criticism and Theory, for a minimum total of 54 semester hours of course work at the 500 level or above, including transfer credit. (**Note:** Normally students will transfer up to 24 hours from the M.A. into the Ph.D. program. The remainder of the 54 hour total must be taken while enrolled as a Ph.D. student. Dissertation hours, English 699, are not included in this total.)
5. All Ph.D. students must take and pass the Ph.D. comprehensive examinations.
6. All Ph.D. students must complete a dissertation, as explained in the general requirements for the Ph.D. set forth earlier in this catalog. **Note:** Students must enroll for a minimum of 18 hours of English 699 (Dissertation).

Foreign Language Requirement for the Ph.D.: Students in the Ph.D. program must demonstrate a reading knowledge of two languages other than English, including Greek, Latin, Italian, Spanish, French, German, Russian, Chinese, Japanese and Navajo. Other languages may be approved in certain cases. As an option to presenting two languages, students may choose to present two semesters of course work with a grade of B or better at the 300-level or above in one language other than English.

Ph.D. Concentration in Medieval Studies.

Applicants must have completed all requirements for the Master's Degree in English or a cognate discipline or have the Master's degree in hand.

1. Applicants who have not completed the following course work in their Master's program must complete these courses within the first two years of the Ph.D. program:
 - a. English 500 *Introduction to the Professional Study of English*
 - b. English 548 *Topics in Medieval Studies*, when taught as Bibliographic Methods
 - c. English 549 *Old English*
 - d. English 581 *Chaucer*
 - e. English 503 *Early Middle Ages 300 to 1050*—or— 504 *The High Middle Ages, 1050 to 1400*
2. A reading knowledge of Latin (to be satisfied no later than the second year of the program) and one additional language other than English.
3. Thirty hours of course work distributed as follows:
 - a. English 650 *Seminar: Studies in British Literature: Chaucer, Old English Literature*; English 680 *Seminar: Studies in Genre, Background, Forces: Old English or Middle English and other Medieval Language*; History 668 *Medieval History* (11 hours).
 - b. English Medieval Language & Literature (9 hours) to be selected from: English 548 *Topics in Medieval Studies: Medieval Aesthetics, Medieval Drama*; English 550 *Beowulf and Other Topics: Old English Poems, Anglo-Saxon Prose*; English 551 *Middle English: Middle English Language, Middle English Literature Survey*, excluding Chaucer.

- c. Multidisciplinary course work in Art History, Medieval History, Medieval Philosophy and Medieval language and literature other than English, such as Old Norse, Medieval Latin, Medieval Spanish (9 hours, only 3 of which may be taken in the History Department).
- d. English 697 *Problems for the Doctor's Degree*: Under the guidance of the students' committee members, students must prepare and submit an article-length essay (20–30 pages, inclusive of notes) to any of the major medieval journals (1 hour).

413/513. Scientific, Environmental and Medical Writing. (3 to a maximum of 9) [3] 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) Δ
Advanced study of professional writing theory and practice. Recent topics have included creative non-fiction, hypertext and advanced technical writing. May be repeated provided topic varies, no limit.

***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.

English (Engl)

I. Expository and Professional Writing

101. Composition I: Exposition. (3)
Expository writing and reading. Concentrates on organizing and supporting ideas in writing.
Prerequisite: satisfactory completion of IS-E 100 or verbal ACT of 19 or verbal SAT of 450.

102. Composition II: Analysis and Argument. (3)
Practice writing analytic and argumentative essays based on expository and literary readings. Some research required.
Prerequisite: C or better in 101 or verbal ACT of 29 or verbal SAT of 650.

219. Technical and Professional Writing. (3)
Practice in writing and editing of workplace documents, including correspondence, reports and proposals.
Prerequisite: 102 or its equivalent.

220. Expository Writing. (3 to a maximum of 6) Δ
An intermediate course with emphasis on rhetorical types, structure and style.
Prerequisite: 102 or its equivalent.

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 or its equivalent.

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.
Prerequisites: 219, 220 or 290.

330. Topics in Comparative and World Literature. (3 to a maximum of 6) Δ
(Also offered as Comp L 330.) Study of special topics in Comparative and World Literatures, including studies of genre, period, literary movements and themes.

331. Asian Literature and Culture in Translation. (3 to a maximum of 6) Δ
(Also offered as Comp L 331.) Study of the culture and literatures of India, China, Japan and other Asian traditions. Topics vary.

332. African Literature and Culture in Translation. (3 to a maximum of 6) Δ
(Also offered as Comp L 332.) Study of the culture and literatures of Africa. Topics vary.

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.

II. Creative Writing

221. Introduction to Creative Writing—Fiction. (3)
A beginning course in fiction, emphasizing process over product. Introduces issues of craft, workshop vocabulary, strategies for revision and the habit of reading as writer. A \$20.00 workshop fee is required.
Prerequisite: 101 or its equivalent.

222. Introduction to Creative Writing—Poetry. (3)
A beginning course in poetry, emphasizing process over product. Introduces issues of craft, workshop vocabulary, strategies for revision and the habit of reading as a writer. A \$20.00 workshop fee is required.
Prerequisite: 101 or its equivalent.

223. Introduction to Creative Writing: Creative Nonfiction. (3 to a maximum of 6) Δ
A beginning course in creative nonfiction, emphasizing process over product. Introduces issues of craft, workshop vocabulary, strategies for revision and the habit of reading as a writer. A \$20.00 workshop fee is required.
Prerequisite: 101 or its equivalent.

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: 221 or permission of instructor.

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: 222 or permission of instructor.

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: 223 or permission of instructor.

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: 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.

Prerequisites: 221, 321 or permission of instructor.

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.

Prerequisites: 222, 322 or permission of instructor.

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.

Prerequisites: 223, 323 or permission of instructor.

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.

Prerequisite: permission of instructor.

III. Literature and Language

107. Greek Mythology. (3)

(Also offered as Greek, Classics 107.) 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.

200L. Humanities Laboratory I. (1)

Presenting major works of literature on film.

206. Topics in Popular Literature. (3 to a maximum of 6) Δ

Reading and analysis of popular literary forms such as the spy novel, the detective novel, science fiction, best-sellers and fantasy.

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. Popular Literature and Topics in Medieval 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.

[American Indian and Indigenous Literatures.] (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)

Survey of Chicana/o novels, short stories, essays, poetry and drama, from the 19th century to the present, with emphasis on major themes such as history, culture, identity, language, and region.

270. An Introduction to Modern Literature. (3)

An introduction to American and European literature of the 20th century, concentrating on such major authors as Eliot, Faulkner, Fitzgerald, Yeats, Joyce, Ibsen, Camus and Chekhov.

281. Black Books I. (3)

(Also offered as Af Am 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. Introduction to the Short Story. (3)

The development of the modern short story from its beginnings in the 19th century to the present. Technique and theme will be studied in representative stories by American and European writers.

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 L 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 Relig 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.

****333. [*344.] Latin Literature and Culture in Translation. [Topics in Latin Literature in Translation.] (3 to a maximum of 6) Δ**

(Also offered as Clscs, Comp L 333.) Study of individual authors, genres or periods of Latin literature and culture in translation.

***334. [*345.] Greek Literature and Culture in Translation. [Topics in Greek Literature in Translation.] (3 to a maximum of 6) Δ**

(Also offered as Clscs, Comp L 334.) Study of individual authors, genres and periods of Greek literature and culture in translation.

***335. French Literature and Culture in Translation. [French Literature in Translation.] (3 to a maximum of 6) Δ**

(Also offered as Comp L, French 335.) Study of individual authors, genres and/or periods of French and Francophone literature and culture.

***336. German Literature and Culture in Translation. [Special Topics in German Literature in Translation.] (3)**

(Also offered as Comp L, German 336.) Study of individual authors, genres, and/or periods of German literature and culture in translation.

337. Italian Literature and Culture in Translation. (3 to a maximum of 6) Δ

(Also offered as Comp L, Ital 337.) Study of individual authors, genres, and/or periods of Italian literature and culture in translation.

***338. Russian Literature and Culture in Translation. [Great Russian Novels and Tales in Translation.] (3 to a maximum of 6) Δ**

(Also offered as Comp L, Russ 338.) An introduction to Russia's great novels and tales from the 19th and 20th centuries and their contribution to Russian culture and social thought.

339. Japanese Literature and Culture in Translation. [Japanese Literature in Translation.] (3) Δ

(Also offered as Comp L, Japan 339.) Study of individual authors, genres and/or periods of Japanese literature and culture in translation.

348. Introduction to Medieval Culture. (3)

Reading and analysis of major comparative medieval works in literature, history, art and architecture, and philosophy. Required for all Medieval Studies undergraduates.

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 L 350.) Study of medieval literature, language, and culture in the context of insular and continental texts.

351. Chaucer. (3)

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.

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. Chicano/a Cultural Studies. (3 to a maximum of 6) Δ

An examination of contemporary Chicano/a literature, criticism, murals, film, and other forms of popular culture, with an emphasis on the construction and representation of Chicano/a cultural identity.

381. Black Books II. (3)

(Also offered as Af Am 381.) This is the second phase of a three part journey through the Black experience in search of humanity and peace. The vehicle is post-slavery books written by and about books written by and about Black 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.

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.

406. The Folktale in English. (3)

Tradition of folk motifs and themes in development of the tale as a form of storytelling in English and American literature.

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.

432. [425.] Topics in Literature and Culture. (3 to a maximum of 6) Δ

(Also offered as Comp L and French 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. Repeatable to a maximum of 12 credit hours.

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: Engl 240 or an introductory course in linguistics or permission of the instructor.

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. [449./549.] 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. Topics in Medieval Studies. (3 to a maximum of 6) Δ

Advanced study of specialized aspects in medieval studies, such as manuscripts; paleography; literary and historical bibliographic methods; medieval Latin sources; cultural, feminist, and historical theoretical approaches to literature; medievalism in Britain and America; history of scholarship.

449/549. Middle English Language. [Old English.] (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. 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: 449 or permission of the instructor.

451/551. Topics in Medieval Studies. [Middle English.]

(3 to a maximum of 9) [3 to a maximum of 6] Δ
Advanced study of specialized aspects in medieval studies, such as manuscripts; paleography; literary and historical bibliographic methods; 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 6) 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 6) 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.

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. [American Indian and Indigenous Literatures.] (3 to a maximum of 9) [3 to a maximum of 6] 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. Chicano/a Literature. (3 to a maximum of 6) Δ

Advanced study of Chicano/a literature, literary history, criticism, theory, novels, short stories, essays, poetry, and film, with emphasis on ethnic, regional, gender, and linguistic identity from the nineteenth century to the present.

466/566. 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. 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.

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) [3] 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) Δ

Prerequisite: 421 or permission of instructor. May be repeated for credit, no limit, provided content varies.

522./422. Creative Writing Workshop: Poetry. (3) Δ

Prerequisite: 422 or permission of instructor. May be repeated for credit, no limit, provided content varies.

523./423. Creative Writing Workshop: Creative Nonfiction. (3, no limit) Δ

Prerequisite: 423 or permission of instructor. May be repeated for credit; no limit provided content varies.

528. Studies in Reading and Literature for Teachers. (3)

(Also offered as LLSS 528.)

536. Teaching Adult ESL Writing. (3)

Survey of theories and research on the acquisition of ESL writing skills with emphasis on empirical data.

537. Teaching Composition. (3)

Taught by the Director of Rhetoric and Writing, this course provides practical help in teaching English 101. (Required of all new Teaching Assistants in their first semester of teaching.) **Offered on a CR/NC basis only.**

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. [549./449.] 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. Topics in Medieval Studies. (3 to a maximum of 9) Δ

Advanced study of specialized aspects in medieval studies, such as manuscripts; paleography; literary and historical bibliographic methods; medieval Latin sources; cultural, feminist,

and historical theoretical approaches to literature; medievalism in Britain and America; history of scholarship.

549./449. Middle English Language. [Old English.] (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. 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: 549 or permission of the instructor.

551./451. Topics in Medieval Studies. [Middle English.] (3 to a maximum of 9) [3 to a maximum of 12] Δ

Advanced study of specialized aspects in medieval studies, such as manuscripts; paleography; literary and historical bibliographic methods; 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 Brontë's; 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. [American Indian and Indigenous Literatures.] (3 to a maximum of 9) [3 to a maximum of 6] 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. Chicano/a Literature. (3 to a maximum of 12) Δ

Advanced study of Chicano/a literature, literary history, criticism, theory, novels, short stories, essays, poetry, and film, with emphasis on ethnic, regional, gender, and linguistic identity from the nineteenth century to the present.

566./466. African-American Literature. (3 to a maximum of 12) Δ

An introduction to traditional and/or contemporary African-American texts. Topics have included Survey of the African-American Novel and Toni Morrison.

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 to a maximum of 6) [3 to a maximum of 12] Δ

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.

583. Milton. (3 to a maximum of 12) Δ

Intensive study of the works of John Milton. 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.

590. Problems and Methods of Literary Study. (3 to a maximum of 12) Δ

Advanced topics in Literary Theory and Criticism. Recent offerings have included Romanticism and the New Criticism, Contemporary Feminist Theory, The New Historicism, Professing English.

592. Teaching Literature and Literary Studies. (3)

Practicum on teaching literature and literary studies. Study of theoretical discourses about teaching also included. Topics vary. (Course will be offered once a year)

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)

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) ††

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)

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.

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) ††

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 for maximum of two consecutive semesters) ††

Permission of the Departmental Graduate Director required prior to registration.

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

ENGLISH-PHILOSOPHY

Introduction

The combined major in English and philosophy is an interdepartmental major administered jointly by the two departments. Students interested in this program should consult the Philosophy Department office. The purpose of the interdepartmental 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.

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. Eng-Ph 480.

Minor Study Requirements

Not offered.

English-Philosophy (Eng-Ph)

***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. Prerequisites: 6 hours of literature and 3 hours of philosophy from the courses specified as requirements for the program.

ENVIRONMENTAL SCIENCE

See *Earth & Planetary Sciences*.

EUROPEAN STUDIES

See *International Studies*

FOREIGN LANGUAGES AND LITERATURES

Natasha Kolchevska, Chairperson
Ortega Hall 229
MSC03 2080
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4771

Programs: Chinese, Classical Studies, Comparative Literature and Cultural Studies, French, German, Italian, Greek (Ancient), Japanese, Languages, Latin, Russian

Affiliated Programs: Arabic, Biblical Hebrew, Sanskrit

Professors

Natasha Kolchevska, Ph.D., University of California (Berkeley)—Russian
Byron Lindsey, Ph.D., Cornell University—Russian
Walter Putnam, Ph.D., University of Paris—French
Warren S. Smith, Ph.D., Yale University—Classics

Associate Professors

Susanne Baackmann, Ph.D., University of California (Berkeley)—German
Pamela Cheek, Ph.D., Stanford University—French
Monica S. Cyrino, Ph.D., Yale University—Classics
Katrin Schroeter, Ph.D., Brown University—German

Assistant Professors

Stephen Bishop, Ph.D., University of Michigan—French
Lorna Brau, Ph.D., New York University—Japanese
Martin Klebes, Ph.D., Northwestern University—German
Joseph McAlhany, Ph.D., Columbia University—Classics
Carmen Nocentelli, Ph.D., Stanford University—CLCS

Adjunct Professor

George F. Peters, Professor of German, Michigan State University

Lecturers

Machiko Bomberger, Teaching Certificate, Keio University (Tokyo)—Japanese

Rachele Duke, Ph.D., University of California (Los Angeles)—Italian
 Achim Oberst, Ph.D., McGill University—Greek
 Marina Peters—Newell, Ph.D., University of Washington—French
 Jian Zhu, M.A., The University of New Mexico—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
 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
 Julian White, Ph.D., University of North Carolina—French

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
- B.A. in Russian Studies

Minors

In addition to the fields of study listed above, minors are also available in the following:

- Greek
- Italian
- Latin
- Japanese
- Languages
- Russian
- Russian Studies

Courses in Chinese are also offered. For Arabic, see the courses listed below under “Foreign Languages” or the Department of African-American Studies. For Biblical Hebrew, see “Foreign Languages” or the Department of Religious Studies. For Sanskrit, see Philosophy.

For Swahili, see the Department of African-American Studies. For Navajo (Diné) or other Native American languages, see the Department of Linguistics. For Quechua (Quechua), see the Latin American and Iberian Institute.

Undergraduate Advisors

Director of Undergraduate Studies: Warren Smith
 Classical Studies: Monica Cyrino
 Chinese: Jian Zhu
 Comparative Literature and Cultural Studies: Pamela Cheek
 French: Walter Putnam
 German: Katrin Schroeter
 Greek: Monica Cyrino
 Italian: Rachele Duke
 Japanese: Lorie Brau
 Languages: Warren Smith
 Latin: Joseph McAlhany
 Russian: Natasha Kolchevska, Byron Lindsey

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 placement policies for that language. 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). Please 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.

Graduate Advisors

Director of Graduate Studies: Walter Putnam
 Comparative Literature and Cultural Studies: Pamela Cheek
 German Studies: Susanne Baackmann
 French and French Studies: Walter Putnam

Application and Admission

For information about admission to our graduate programs, contact the Director of Graduate Studies or visit our website www.unm.edu/~fll.

Application materials are available online at www.unm.edu/~grad (for U.S. citizens) or www.unm.edu/preview/na_intl.htm (for international students).

Applicants who are US citizens should send the Application for Admission form, official transcripts, the Registration Information Form and the application fee to:

The Office of Graduate Studies
 1 University of New Mexico
 MSC 03 2180, Humanities 107
 Albuquerque, NM 87131-0001
 Tel (505) 277-2711
 Fax (505) 277-7405

Applicants who are citizens of a country other than the U.S. should send the Application Form, TOEFL or IELTS results, certified translated copies of official academic records, financial guarantee and the application fee to:

Office of International Admissions
 MSC 06 3720
 1 University of New Mexico
 Albuquerque, NM 87131-0001 USA
 Tel (505) 277-5829
 Fax (505) 277-6686

Both US citizens and international students should send 3 letters of recommendation, a writing sample in the language of study and the letter of intent (see www.unm.edu/~fl or contact the Director of Graduate Studies for information about these documents) to:

Department of Foreign Languages & Literatures
 1 University of New Mexico
 MSC 03 2080, Ortega 229
 Albuquerque, NM 87131-0001
 Tel (505) 277-4771
 Fax (505) 277-3599

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.

Languages

Warren Smith, Advisor, Ortega Hall 353B, (505) 277-3708, wsmith@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. Latin or Greek 101 (3 hours)
2. Linguistics 101 or 292 (3 hours)
3. Nine hours of course work above 300 in each of two of the following languages (18 hours): French, German, Italian, 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 Chinese, Latin, Greek, Japanese, 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 Comparative Literature 223 or 380 (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. Latin or Greek 101 (3 hours)
2. Linguistics 101 or 292 (3 hours)
3. Nine hours of course work above 300 in each of two of the following languages: French, German, Greek, Italian, Latin, Portuguese, Russian (200 or above) and Spanish. Comparative Literature 223 or 380 may also be counted toward category 3 (18 hours)

Minor Study Requirements

Nine hours of courses above 300 in each of two languages (18 hours).

Chinese (Chin)

Jian Zhu, Advisor, Ortega Hall 327D, 277-5421

No major or minor study offered.

101. Elementary Chinese. (3)

102. Elementary Chinese. (3)

201. Intermediate Chinese. (3)

202. Intermediate Chinese. (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. (3,3)

Emphasizes reading and techniques of translating, especially in modern Chinese writing.

Classical Studies

Monica Cyrino, Advisor, Ortega Hall 353A, 277-3644, pan-dora@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 courses 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 of Latin courses above 200
 - ii. Nine hours of Greek courses above 200

—or—
- B. Greek Emphasis
 - i. Twelve hours of Greek courses above 200
 - ii. Nine hours of Latin courses 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 advanced by the major advisor.

Minor Study Requirements

Requirements: 18 hours:

1. Six hours Latin 201-202 or Greek 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 (CLSCS)

107. Greek Mythology. (3)
 (Also offered as Greek, Engl 107.) 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)
 (Also offered as Phil, Hist, Art Hi 204.) An interdisciplinary introduction to ancient Greece. Lectures on Greek art, history, literature and philosophy.

205. Roman Civilization. (3)
 (Also offered as Phil, Hist, Art Hi 205.) 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. [*344.] Latin Literature and Culture in Translation. [Topics in Latin Literature in Translation.] (3 to a maximum of 6) Δ**
 (Also offered as Comp L, Engl 333.) Study of individual authors, genres or periods of Latin literature and culture in translation.

***334. [*345.] Greek Literature and Culture in Translation. [Topics in Greek Literature in Translation.] (3 to a maximum of 6) Δ**
 (Also offered as Comp L, Engl 334.) Study of individual authors, genres and periods of Greek literature and culture in translation.

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. Prerequisite: permission of supervising instructor.

Comparative Literature and Cultural Studies

Pamela Cheek, Coordinator
 Ortega Hall 327B, 277-3810, pcheek@unm.edu
 MSC03 2080
 1 University of New Mexico
 Albuquerque, NM 87131-0001

Advisory Committee:
 Gary Harrison, English
 Feroza Jussawalla, English
 Joseph McAlhany, Foreign Languages and Literatures
 Carmen Nocentelli, English and Foreign Languages and Literatures
 Rebecca Schreiber, American Studies
 Kimberle López, Spanish and Portuguese

Additional Participating Faculty:
 Susanne Baackmann, Foreign Languages and Literatures
 Judith Bennahum, Theatre and Dance
 Stephen Bishop, Foreign Languages and Literatures
 Lorna Brau, Foreign Languages and Literatures
 Beverly Burris, Sociology
 Monica S. Cyrino, Foreign Languages and Literatures
 Susan Dever, Media Arts
 Elizabeth Hutchison, History
 Martin Klebes, Foreign Languages and Literatures
 Natasha Kolchevska, Foreign Languages and Literatures
 Les Field, Anthropology
 Alex Lubin, American Studies
 Walter Putnam, Foreign Languages and Literatures
 Katrin Schroeter, Foreign Languages and Literatures
 Warren Smith, Foreign Languages and Literatures
 Hector Torres, English
 Carolyn Woodward, English

The Undergraduate Major

Comparative Literature and Cultural Studies is an interdisciplinary major with concentrations in Cultural Studies, National Literatures and Film Studies. 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 Concentration (12 credits) offers the opportunity to pursue an individualized interdisciplinary program of study by taking courses chosen in consultation with the advisor for the major. The Cultures and Literatures (9 credits) component of the major broadens a student's awareness of the diversity of cultural productions around the world. 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 advisor for the major in order to construct an appropriate program of study. The advisor will determine which courses outside of Foreign Languages and Literatures may be applied to the major.



I. The Introduction to World Cultures and Critical Theory—9 credits

Comp L 223 (Engl 250 or equivalent, subject to approval of the director or advisor of the program); the remaining 6 credits may be fulfilled with the following courses: Comp L 224, Comp L 480, M Lang 101, Greek 107, Classics 344, Classics 345, French 335, German 336, Japanese 339, Russian 338, Russian 340 or equivalents, also subject to program approval.

II. The Concentration—15 credits

Students choose a concentration in one of three areas (Cultural Studies, National Literatures, Film Studies) and select appropriate courses numbered 300 and above from the following programs and departments affiliated with the major: Program in Comparative Literature and Cultural Studies, Foreign Languages and Literatures, American Studies, Art History, English, Media Arts (Film), Spanish and Portuguese, History, Anthropology, Political Science and Women's Studies.

- A. The Cultural Studies and Theory Concentration: Courses chosen in this concentration will normally focus on critical and cultural theory and will 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 National Literatures Concentration: Courses chosen in this concentration will be divided between two national literatures (one of which may be English or American Literature). Courses meeting the requirement for a national literature that is not English or American will not normally be in translation. Courses may include studies in theory, history, film and the arts, as well as in literary texts.

—or—

- C. The Film Studies Concentration: Courses chosen in this concentration will contribute to a student's knowledge of film history, film theory, film criticism and the analysis of the context surrounding film production and consumption.

III. Cultures and Literatures—9 credits

Literature, culture and theory courses on 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.

The Undergraduate Minor

Students complete 24 credits, as described below. Students must work closely with the director or advisor of the program and all courses are subject to program approval. Normally, courses taken in a student's major cannot be counted toward the minor.

1. Engl 250 (Comp L 260 or an equivalent);
2. Six credits taken in the following courses: Comp L 223, Comp L 224, Comp L 480, M Lang 101, Greek 107, Classics 344, Classics 345, French 335, German 336, Japanese 339, Russian 338, Russian 340 or equivalents; and
3. Fifteen credits in national literatures, cultural studies and theory or film studies, as described above.

Graduate M.A. Program

Comparative Literature and Cultural Studies is an interdisciplinary M.A. program administered by the coordinators 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 24 hours of graduate course work and additional 6 hours of thesis work. Students following Plan II will take 32 hours of graduate course work. Additionally, students following Plan I or Plan II will complete Foreign Languages and Literatures examination requirements for the degree by their final semester of study. Applicants under both plans must demonstrate proficiency in two languages, one of which may be English. Students in the Comparative Literature Concentration must be able to take graduate level courses in a literature that is not English. Students in the Classics Concentration must be able to take courses at the graduate level in Latin or Greek. 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 the first two semesters of a language sequence or by passing a proficiency examination.

Students will meet the Core course requirements for the program as well as requirements for a Concentration in either Comparative Literature, Cultural Studies or Classics (see description below).

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 committee on studies. Only 3 hours of problems courses may be counted toward the M.A. under Plan I and only 6 hours under Plan II.

I. The Core—12 credits

Comp L 500 or 580 or, with the approval of the director or advisor, an equivalent course in theory and criticism, preferably taken within the first semester of study; in addition, 9 credits at the 500-level or above in contemporary cultural theory, literary or film theory, or social and political theory. These additional 9 credits may be taken in affiliated departments with the approval of a program coordinator (and with advisement from a student's committee on studies).

—plus—

II. The Concentration:

- A. **The Comparative Literature Concentration**—Plan I (6 credits + 6 credits + 6 thesis credits); Plan II (10 credits + 10 credits)

In addition to the 12-credit Core described above, 12 credits under Plan I or 20 credits under Plan II. Students will split these credits evenly between literatures from two different languages (one of which may be English). Students under Plan I also take 6 credits of thesis.

—or—

- B. **The Cultural Studies Concentration**—Plan I (12 credits + 6 thesis credits); Plan II (20 credits)

In addition to the 12-credit Core described above, 12 credits under Plan I or 20 credits under Plan II in cultural studies, criticism and theory or their equivalents above the 500-level. Students under Plan I also take 6 credits of thesis. Students in this concentration will need to organize their course work into an interdisciplinary field defined with advisement from the committee on studies.

—or—

- C. **The Classics Concentration**—Plan I (12 hours + 6 thesis hours); Plan II (20 hours)

In addition to the 12-hour Core described above, students under Plan I, take 12 hours in either Greek or Latin above the 300-level and 6 hours of thesis. In addition to the 12-hour Core described above, students under Plan II, take 20 hours in either Greek or Latin above the 300-level.

Graduate Minor

The Program offers a graduate minor in comparative literature and cultural studies. Students may choose to emphasize course work in 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 hours

1. Three hours Comp L 500, 580, German 554, or French 610.
2. Fifteen hours of courses in one of the following areas:
 - A. **Comparative Literature:** Fifteen hours, 9 of which must be in a national literature at the levels described above. No more than 3 of these hours may be in a foreign literature course taught in translation.
 - B. **Cultural Studies:** Fifteen hours of theory and criticism courses, determined in consultation with a coordinator of the Program in Comparative Literature and Cultural Studies.
 - C. **Classics:** Fifteen hours in either Greek or Latin above the 300-level.

Comparative Literature (Comp L)

223–224. 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. 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. 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. [**344.] Latin Literature and Culture in Translation. [Topics in Latin Literature in Translation.] (3 to a maximum of 6) Δ**

(Also offered as Clscs, Engl 333.) Study of individual authors, genres or periods of Latin literature and culture in translation.

***334. [*345.] Greek Literature and Culture in Translation. [Topics in Greek Literature in Translation.] (3 to a maximum of 6) Δ**

(Also offered as Clscs, Engl 334.) Study of individual authors, genres and periods of Greek literature and culture in translation.

***335. French Literature and Culture in Translation. [French Literature in Translation.] (3 to a maximum of 6) Δ**

(Also offered as Engl, French 335.) Study of individual authors, genres and/or periods of French and Francophone literature and culture.

***336. German Literature and Culture in Translation. [Special Topics in German Literature in Translation.] (3)**
(Also offered as Engl, German 336.) Study of individual authors, genres, and/or periods of German literature and culture in translation.

337. 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. Russian Literature and Culture in Translation. [Great Russian Novels and Tales in Translation.] (3 to a maximum of 6) Δ**
(Also offered as Engl, Russ 338.) An introduction to Russia's great novels and tales from the 19th and 20th centuries and their contribution to Russian culture and social thought.

339. Japanese Literature and Culture in Translation. [Japanese Literature in Translation.] (3) Δ
(Also offered as Engl, Japan 339.) Study of individual authors, genres and/or periods of Japanese literature and culture in translation.

***340. Topics in Russian Literature in Translation. (3-6 to a maximum of 6) 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. [425.] Topics in Literature and Culture. (3 to a maximum of 6) Δ
(Also offered as Engl, French 432.) Varying topics in the practice and theory of literatures and cultures.

***452. Medieval English Mystics. (3)**
(Also offered as Relig 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.

***480. [*380.] 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}

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. Introduction to Graduate Study in Comparative Literature. (3)

551. Problems. (1-6 to a maximum of 9) 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) †
(Also offered as M Lang 580.) One problems course may be applied to degree. Requires advisor or chairperson approval.

599. Master's Thesis. (1-6)
Offered on a CR/NC basis only.

Foreign Languages (M Lang)

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. Team taught by faculty specialists. Repeated courses require advisor's approval; repeatable only if content/topic changes.

106. Elementary Arabic I. (3)

(Also offered as Af Am 106.) A course in elementary modern standard Arabic.

107. Elementary Arabic II. (3)

(Also offered as Af Am 107.) A course for those with very minimum exposure to modern Arabic language.

109. Biblical Hebrew I. (4)

(Also offered as Relig 109.) Introduction to the language of the Hebrew Bible.

206. Intermediate Arabic. (1)

(Also offered as Af Am 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. Prerequisites: 106, 107 or one year high or elementary school Arabic.

207. Intermediate Arabic II. (3)

(Also offered as Af Am 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. Prerequisites: 106, 107, 206 or one year elementary or high school Arabic.

***407. Sanskrit I. (3)**

(Also offered as Ling, Relig 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, Relig 408.) The continuation of Sanskrit I: the completion of the study of Sanskrit grammar and an introduction to the reading of Sanskrit texts.

457. [*457.] Special Topics in Languages Studies. (3)

Δ Repeated courses require advisor's approval; repeatable only if content/topic changes.

***480. Second Language Pedagogy. (3)**

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ
Permission of instructor required.

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) Δ

(Also offered as Comp L 580.) Repeated courses require advisor's approval; repeatable only if content/topic changes.

American Indian Languages

See Linguistics.

Apache (Apache)

No major or minor study offered.

Navajo

See Linguistics.

Quechua (Quechu)

See Latin American and Iberian Institute.

Zuni (Zuni)

No major or minor study offered.

French**Undergraduate Advisor:**

Walter Putnam, Ortega Hall 323B, (505) 277-1182

Lower-division Coordinator:

Marina Peters-Newell, Ortega Hall 319B, (505) 277-0525

Major Study Requirements

1. Thirty hours in French courses numbered above 290, including 301, 302, 305, 345, 346, 351, and 352. One content appropriate Comparative Literature course may be counted.
2. One 400 level French course, and
3. 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.

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), 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 (French 275–276) for 6 credit hours per semester. At the end of two semesters, students have completed the equivalent of French 101, 102, 201 and 202 and are prepared to enter third-year courses.

Graduate Program**Graduate Advisor**

Walter Putnam, Ortega Hall 323C, 277-1182

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 tracks: 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). Two semesters of another foreign language or its equivalent are required. Please 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 after approval from the committee on studies. Students with a declared minor must complete 48 hours of course work in the major field of study and 12 hours in the minor field.
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 (French)

101–102. Elementary French. (3, 3)
Conducted in French. {Fall, Spring}

103. Elementary French Conversation. (1)
Supplementary course to French 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.

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.

207. Introduction to Translation. (3)
May be taken concurrently with or after 202. Fundamental principles of translating; how to approach a text and assess its contents, style and particular problems; how to go beyond literal translation and work towards an accurate, polished translation.

275. Accelerated Beginning French. (6)
Encompasses the work of 101–102. 101–102 and 275 may not both be counted for credit.

276. Accelerated Intermediate French. (6)
Encompasses the work of 201–202. 201–202 and 276 may not both be counted for credit.

French 202 or the equivalent is prerequisite to all courses listed below, except 335.

301. Advanced Essay & Exploration I. [Advanced Composition and Conversation.] (3)
Contextual grammar review and study of stylistics to improve composition skills. Introduction to literature and/or cinema. Taught entirely in French.
Prerequisite: 202 or the equivalent.

302. Advanced Essay & Exploration II. [Beginning Stylistics and Translation.] (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.
Prerequisite: 202 or the equivalent.

305. French Phonology. (3)
Phonetic and phonemic system of French. Required for the undergraduate major. (Offered only once a year)

***335. French Literature and Culture in Translation. [French Literature in Translation.] (3 to a maximum of 6)**
△
(Also offered as Comp L, Engl 335.) Study of individual authors, genres and/or periods of French and Francophone literature and culture.

345. [345.] French Civilization. (3)**
Origins to French Revolution. In French.
Prerequisite: 202 or the equivalent.

346. [346.] French Civilization. (3)**
French Revolution to the present. In French.
Prerequisite: 202 or the equivalent.

351. [351.] Survey of French Literature. (3)**
Origins to 1800. Conducted in French.

352. [352.] Survey of French Literature. (3)**
1800 to present. Conducted in French.

380. Lectures and Discussions on French Studies. (1-4) △
Topic will vary. Team taught course presenting a multidisciplinary approach to aspects of French literature and culture. Repetition unlimited if content/topic changes.

385. Seminars in French Studies. (1-4) △
Titles of individual sections will vary as content varies. Topics will deal with specific aspects of French literature, culture and language. Repetition unlimited if content/topic changes.

407. [*407.] Translation. (3)
Study of principles and techniques of translating through comparative stylistics.
Prerequisites: 301, 302.

French 351 or 352 is prerequisite for all courses below.

432. [425.] Topics in Literature and Culture. (3 to a maximum of 6) △
(Also offered as Comp L, Engl 432.) Varying topics in the practice and theory of literatures and cultures.

440. [*440.] Teaching of French. (3)
Practicum; observation and criticism of classroom methods in use. **Offered on a CR/NC basis only.** {Fall}

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465. [*465.] T/French Film. (3 to a maximum of 9) Δ
Topics in French film.

***470. French Stylistics. (1-4) Δ**
Intensive study of French prose styles. Extensive writing practice. Repetition unlimited if content/topic changes.

485. [*485.] Advanced Seminars in French Studies. (1-4) Δ
Each section in this course will focus on a different topic. Titles of individual sections will vary as content varies. Topics will deal with specific aspects of French literature, culture and language on an advanced level. Repetition unlimited if content/topic changes.

497. Undergraduate Problems. (1-6 to a maximum of 6)
Prerequisite: 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.

501. History of the French Language. (3)
Study of the historical development of the French Language.

502. T/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. (3)
This course is designed for graduate students in Arts & Sciences who need to acquire a reading knowledge of French.

512. T/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.

522. T/Seventeenth Century French Studies. (3 to a maximum of 9) Δ
Topics in 17th-century French studies.

524. Seminar in Nineteenth-Century French Literature. (3)
Prerequisites: 351, 352.

532. T/ Eighteenth Century French Studies. (3 to a maximum of 9) Δ
Topics in 18th-century French studies.

542. T/Nineteenth Century French. (3-9 to a maximum of 9) Δ
Topics in 19th-century French studies.

552. T/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) Δ
May be repeated for credit.
Prerequisite: permission of instructor.

580. T/Cultural Studies. (3 to a maximum of 9) Δ
Topics in cultural studies.

582. T/Colonial and Postcolonial Studies. (3 to a maximum of 9) Δ
Topics in cultural studies.

584. ST/Women Writers. (3 to a maximum of 9) Δ
Topics in cultural studies.

585. Graduate Seminars in French Studies. (1-4) Δ
Each section in this course will focus on a different topic. Titles of individual sections will vary as content varies. Repetition unlimited if content/topic changes.
Prerequisites: 351, 352.

586. T/Gender and Sexuality. (3 to a maximum of 9) Δ
Topics in cultural studies.

588. T/Genre Studies. (3 to a maximum of 9) Δ
Interdisciplinary study of a specific literary genre.

599. Master's Thesis. (1-6)
Offered on a CR/NC basis only.

600. T/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. T/Topics in Theory. (3 to a maximum of 9) Δ
Topics in literary and cultural studies.

699. Dissertation. (3-12)
Offered on a CR/NC basis only.

German (German)

Undergraduate Advisor
Katrin Schroeter, Ortega Hall 347C, 277-9115,
katja@unm.edu

Lower-Division Coordinator
Martin Klebes, Ortega Hall 351C, 277-3617,
klebes@unm.edu

Major Studies Requirements

30 hours of course work, to include the following: German 301, 302, 307, 308 and 405. 370, 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 and/or a content-appropriate Comparative Literature course. No more than 18 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, 308, 405. The remaining hours may be selected from German courses above 300.

No more than 12 hours may be earned in courses offered at the German Summer School.

Minor Study Requirements

Fifteen hours in German courses above 300, including 301, 302.

Lower Division German

All beginning students should enroll in Elementary German (101), which provides a foundation in reading, writing, listening and speaking for all subsequent courses. Students with prior knowledge of German must take a placement exam and consult with the lower-division coordinator to determine the adequate course level. Heritage speakers are strongly advised not to enroll in lower-division language courses.

Graduate Program

Graduate Advisor

Susanne Baackmann, Ortega Hall 349C, 277-3206,
theodor@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 (MLang 501) (1 hour). Teaching assistants are also required to enroll in a Teaching Practicum (MLang 500) during their first semester of teaching. Two semesters of another foreign language or its equivalent are required of all M.A. candidates. Please contact the graduate advisor or the department for specific information.

Undergraduate Program

101–102. Basic German. (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}

275–276. Accelerated Beginning 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. (3, 3)

Continues development of skills in reading, writing, speaking and listening at the second-year level.

203–204. Intermediate German Conversation. (1-3) [2, 2] Δ

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.**

German 202 or 276 (or equivalent) is a prerequisite for all upper-level courses below.

301–302. Advanced German. (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. Germany Today. (3)

Study of present-day life and culture in Germany. Aimed at students who wish to improve their language skills by studying specific aspects of German society.
Prerequisite: 202 or equivalent.

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. German Literature and Culture in Translation.

[Special Topics in German Literature in Translation.] (3) Δ
(Also offered as Comp L, 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. [*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. [*405.] Advanced German Composition. [Advanced Grammar, Phonology and History of the German Language.] (3)

Intensive practice of writing skills in a variety of genres.

*446. Translation. [The Art of Translating.] (3)

Study of theories and methods of translating, and practical work in translation from German into English and English into German.

450. [450./550.] Special Topics in German Studies. (3)

Δ
Topics will deal with specific aspects of German literature and culture and language. Repetition unlimited if content changes.

480. [480./580.] Advanced Seminar in German Studies.

[Senior Colloquium in German.] (1-3) Δ
Advanced study of periods and genres in German literature and thought from 1700 to present. Repetition unlimited if content changes.

497. Undergraduate Problems. (1-3 to a maximum of 6)

[1-6 to a maximum of 6]
Prerequisite: permission of instructor.

498. Reading and Research for Honors. (1-3 to a maximum of 6) [1-6 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.
Prerequisite: 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.

549. 18th-Century German Literature and Culture. (3) Δ

Topics in German literature and culture from the Enlightenment to Early Romanticism and Weimar Classicism.

550. [550./450.] Special Topics in German Studies. (3)

Δ
Topics will deal with specific aspects of German literature, culture and language. Repetition unlimited if content changes.

551. Graduate Problems. [Problems.] (1-3 to a maximum of 6. [1-6] Δ
May be repeated per Office of Graduate Studies policy three times.
Prerequisite: permission of instructor.

552. [552./452.] 19th-Century German Literature and Culture. [Nineteenth-Century German Literature.] (3)
Topics in German literature and culture from Romanticism to the Fin-de-Siècle.

553. [553./453.] 20th-Century German Literature and Culture. [Twentieth-Century German Literature.] (3)
Topics in German literature and culture from the Fin-de-Siècle to contemporary developments.

555. German Critical Thought. (3) Δ
Aspects of German philosophical, critical, aesthetic, and social thought from the 18th to the 21st century.

556. German Women Writers. (3) Δ
Study of theories of gender and women writers from 1800 to the present.

599. Master's Thesis. (1-6)
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. [Advanced Language Instruction and Conversation.] (1-4) [2-4] 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. [Lectures and Discussions on German Studies.] (1-4) 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. [Seminars in German Studies.] (1-2) 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. Repetition unlimited if content/topic changes.

390. Workshop in German Studies. [Workshops 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. [German Stylistics.] (1-4) [2-4] 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.** [Advanced German Stylistics.] (1-4) [2-4] 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. [Lectures and Discussions on German Studies.] (1-4) 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. [*485.] Advanced Seminar in German Studies. [Advanced Seminars in German Studies.] (1-4) 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. [Lectures and Discussions on German Studies.] (1-4) 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. [Graduate Seminars in German Studies.] (1-4) 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. Repetition unlimited if content/topic changes.

Greek (Greek)

Monica Cyrino, Advisor, Ortega Hall 353A, 277-3644
Joseph McAlhany, Ortega Hall 347B, 277-1181

Major Study Requirements

See *Classical Studies*.

Minor Study Requirements

Twelve hours in courses numbered above 200, including 301 and 302.

101. Elementary Greek. (3)
Introduction to Classical Greek. (Fall)

102. Elementary Greek. (3)
Readings from simple prose.
Prerequisite: 101 or equivalent. (Spring)

104. New Testament Greek. (1-6 to a maximum of 6) Δ
(Also offered as Relig 104.) Introduction to New Testament Greek. Six hours is the equivalent of one year of Greek.

107. Greek Mythology. (3)
(Also offered as Clscs, Engl 107.) 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.

201-202. Intermediate Greek. (3, 3)
Systematic review of Greek grammar and syntax; reading of authors such as Plato and Herodotus.
Prerequisites: 101, 102.

***301-302. Classical Greek.** (3, 3) ††
Readings in Homer, Sophocles, Euripides, Plato and the New Testament, depending on the level and interests of the class.
Prerequisites: 101, 102, 201, 202.

497. Undergraduate Problems. (1-6 to a maximum of 6)
Prerequisite: permission of instructor.

551. Graduate Problems. (1-9 to a maximum of 9) Δ
Prerequisite: permission of instructor.

Italian (Ital)

Rachele Duke, Advisor, Ortega Hall 327C, 277-7371

Minor Study Requirements

Twenty-four hours of course work distributed as follows: 6 hours above the 275–276 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 (readings courses or seminars subject to approval); certain courses in Latin may also apply and are subject to approval.

275–276. Beginning Italian (Accelerated). (6, 6)
Intensive course for serious beginning students. 275 equivalent to 101–102. 276 equivalent to 201–202.
Prerequisite: 6 hrs. (or equivalent) of another language. {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.
Prerequisite: 276 or equivalent.

***308. Survey of Italian Literature II. (3)**
A survey of Italian culture as reflected in literary texts from the Renaissance to the present.
Prerequisite: 276 or equivalent.

337. Italian Literature and Culture in Translation. (3 to a maximum of 6) Δ
(Also offered as Engl, Comp L 337.) Study of individual authors, genres, and/or periods of Italian literature and culture in translation.

***475. Dante in Translation. (3)**
(Also offered as Relig 475.) Principally the *Vita Nuova* and the *Divine Comedy*.

497. Undergraduate Problems. (1-6 to a maximum of 6)
Prerequisite: permission of instructor.

498. Reading and Research for Honors. (6)
Open for Juniors and Seniors approved by Honors Committee.
Prerequisite: permission of instructor.

499. Honors Essay. (3)
Open to Seniors enrolled for departmental honors

551. Honors Essay. (3)
Open only to Seniors enrolled for departmental honors
Prerequisite: permission of supervising instructor.

Japanese (Japan)

Lorna Brau, Advisor, Ortega Hall 351A, 277-2434

Minor Study Requirements

Eighteen hours in courses numbered above 200. Six hours of Japanese language courses at the 201 level or above and 12 hours of courses selected from 301, 302, 320, 339, 411 and Hist 384. In addition, 3 hours of independent study may be taken with Japanese studies faculty on a Japan-related topic under M Lang 497.

First-Year Program

All beginning students should enroll in Basic Japanese (101 followed by 102), which provides a foundation in language skills for all subsequent courses.

Second-Year Program

All second-year Japanese students should enroll in Intermediate Japanese (201 followed by 202), which continues the development of all language skills. Students intending to go beyond the second year should sign up for 301/302. Transfer students and those who have studied Japanese in high school should seek advice from a member of the Japanese faculty.

101. Basic Japanese. (3)
Foundation course for all beginning students, with instruction in speaking, listening, reading and writing. {Fall}

102. Basic Japanese. (3)
Second half of foundation course 101.
Prerequisite: 101 or equivalent. {Spring}

201. Intermediate Japanese. (3)
Continues development of four language skills (speaking, listening, reading and writing) at the third semester level.
Prerequisite: 102 or equivalent. {Fall}

202. Intermediate Japanese. (3)
Continuation of 201.
Prerequisite: 201 or equivalent. {Spring}

297. Language & Culture. (3) Δ
This course introduces numerous aspects of business life and etiquette, and language necessary for a variety of business transactions. Realistic dialogue and useful practice exercises, such as initial meetings, telephone conversations, company tours, business conversations and the like appear throughout the course. May be repeated up to 6 credit hours.
Prerequisites: 101, 102, 201, 202 (or equivalent).

301. Advanced Japanese. (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.
Prerequisite: 202 or equivalent. {Fall}

302. Advanced Japanese. (3)
Continuation of 301.
Prerequisite: 301 or equivalent. {Spring}

320. Japanese Culture. (3) Δ
This course provides a multidisciplinary introduction to Japanese culture, with an emphasis on the anthropology and sociology of contemporary Japan. May be repeated up to 6 credit hours.

339. Japanese Literature and Culture in Translation.
[Japanese Literature in Translation.] **(3) Δ**
(Also offered as Comp L, Engl 339.) Study of individual authors, genres and/or periods of Japanese literature and culture in translation.

***411. Topics in Japanese Culture. (3) Δ**
Explorations of a variety of topics in Japanese language, literature, arts and social sciences. Repetition unlimited if content/topic changes.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ
Prerequisite: permission of instructor.

Latin (Latin)

Joseph McAlhany, Advisor, Ortega Hall 347B, 277-1181
Warren Smith, Ortega Hall 353B, 277-3708

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. (3)

Introduction to the Latin language; grammar, syntax and readings in Roman authors. {Fall, Spring}

102. Elementary Latin. (3)

Continuation of 101. Introduction to the Latin language; grammar, syntax and readings in Roman authors. {Spring}

103. Latin Lab Session. (1)

To be offered every term concurrently with 101 as a lab or practice session for the beginning student; only for those wishing an extra 1 hour credit. **Offered on a CR/NC basis only.**

105. Vocabulary Building. (3)

To assist the students in improving their vocabulary and knowledge of English through a study of the derivation of English from Greek and Latin roots.

201–202. Intermediate Latin. (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.

Prerequisites: 101–102 or the equivalent.

*303–304. Readings in Latin Literature. (3, 3) ††

Readings in Classical authors such as Plautus, Catullus, Vergil, Horace and Ovid. Occasional composition in Latin.

Prerequisite: 201–202 or the equivalent.

*351. Accelerated Latin. (3)

Essentials of basic Latin grammar, morphology and vocabulary, with emphasis on etymology and a comparative study of Latin and its relationship to the Modern Romance Languages and English.

*352. Accelerated Latin–Reading. (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

Prerequisite: permission of instructor.

503. Topics in Latin Language and Literature. (3) Δ ††

Graduate readings in Latin authors.
Prerequisites: 303, 304 or the equivalent.

551. Graduate Problems. (1-9 to a maximum 9) Δ

Prerequisite: permission of instructor.

Russian

Natasha Kolchevska, Advisor, Ortega Hall 349B, 277-7363
Byron Lindsey, Ortega 351B, 277-2538

Major Study Requirements

Option A: Regular Option

Thirty hours of courses in Russian language and literature/culture including the following:

Six hours Russ 201–202
Six hours Russ 301–302
Three hours Russ 401
Three hours Russ 402 or equivalent
Twelve hours Russ 407 and/or literature/culture course in translation.

Option B: Second Major Option

Twenty-four hours of courses in Russian language and literature/culture including the following:

Six hours Russ 201–202
Six hours Russ 301–302
Three hours Russ 401
Three hours Russ 402 or equivalent
Six hours Russ 407 and/or literature/culture course 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.

Advisement and Placement

Students who have studied Russian previously should seek advice from the Russian faculty.

Students enrolling in 101–102 and 201–202 are urged to enroll in the conversational courses 103–104 and 203–204 as supplements to these basic courses.

Russian (Russ)

101. Elementary Russian. (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. (3, 3)

Prerequisites: 101–102 or the equivalent.

290. Workshop on Russian Language and Culture. (1-6)

Intensive practical training in Russian language and culture.
Prerequisite: one year of Russian.

*301. Advanced Russian. (3)

Vocabulary building, basic grammar review and special attention to idiomatic Russian.

Prerequisite: 202 or equivalent.

*302. Advanced Russian. (3)

Emphasis on all four language skills, especially reading. The structure of Russian is reviewed in detail.

*338. Russian Literature and Culture in Translation.

[Great Russian Novels and Tales in Translation.] (3 to a maximum of 6) Δ

(Also offered as Comp L, Engl 338.) An introduction to Russia's great novels and tales from the 19th and 20th centuries and their contribution to Russian culture and social thought.

339. [230.] Russian Culture and History through Film.

[Introduction to Russian Studies.] (3)

(Also offered as Hist 335 and M A 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 Russian Literature in Translation. (3-6 to a maximum of 6) Δ**

(Also offered as Comp L 340.) Topics will deal with individual authors, genres, periods or themes. Repetition unlimited if content/topic changes.

***401–402. Russia Today. (3)**

Readings in contemporary Russian fiction and nonfiction with emphasis on translation. Conducted in Russian.

***407. Reading Russian Fiction. (3)**

Enhancement of language skills and reading comprehension in a literary context. Readings are selected from among pivotal 19th- and 20th-century writers. Conducted in Russian.

***490. Seminar in Russian Literature and Culture. (3) Δ**

Topic will deal with individual authors, genres or periods. Taught in English and/or Russian. Repetition unlimited if content/topic changes.

497. Undergraduate Problems. (1-6 to a maximum of 6)

Prerequisite: 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

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Albuquerque, NM 87131-0001
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Professors

Bradley T. Cullen, Ph.D., Michigan State University
Olen Paul Matthews, Ph.D., University of Washington
Stanley A. Morain, Ph.D., University of Kansas

Associate Professors

Jerry L. Williams, Ph.D., University of Oregon

Research Associate Professors

Richard P. Watson, Ph.D., University of Texas (Austin)

Professors Emeriti

Elinore M. Barrett, Ph.D., University of California (Berkeley)
Rodman E. Snead, Ph.D., Louisiana State University

Adjunct Faculty

Deirdre Kann, Ph.D., Purdue University
William Krausmann, Ph.D., University of Utah
Larry Layne, Ph.D., State University of New York (Syracuse)
Zachary McCormick, Ph.D., Oklahoma State University
W. Donald McTaggart, Ph.D., Australian National University
Paul Neville, M.A., University of New Mexico
Paul Rich, Ph.D., Harvard University
Stuart White, Ph.D., University of Wisconsin

Major Study

We live in a pluralistic and highly technical world in which it is paramount to ensure that technology works to human benefit, rather than to its detriment. To help people make intelligent decisions about places, Geography has sharpened its traditional stature among core disciplines through the development of modern spatial analytical 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. As a result, the Geography department's programs are focusing on environ-

mental analysis (human environment interaction) and geographic information technologies (geographic information systems, remote sensing and spatial statistics).

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 Survey of Environmental Issues	3
Geog 281L Survey of Geographic Information Technologies	4
One course Physical Environment Group	3
Two courses Resource Use and Management Group	6
One course Geographic Data Analysis Group	3-4
One course Regional Group	3
Geog 470 Concepts of Applied Geography	1
Geog 471 Applied Geography Seminar	3
Electives Any two 300- or 400-level Geog Courses	6
	39–40

Courses included in each of the above groups are as follows:

Physical Environment Group: 251, 351, 356, 359, 459.
Resource Use and Management Group: 360, 363, 365, 367, 461, 462, 463, 465.
Geographic Data Analysis Group: 381L, 383, 386, 483, 484, 487L, 488L.
Regional Group: 201, 301, 344, 345.

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 Survey of Environmental Issues	3
Geog 281L Survey of Geographic Information Technologies	4
Geog 470 Concepts of Applied Geography	1
Geog 471 Applied Geography Seminar	3
One course Resource Use and Management Group	3
Two courses Geographic Data Analysis Group	6-7
Three courses 300 level or above Physical Environment Group	9
Electives Any 300–400 level Geography course	3
	39–40

Courses included in the above groups are:

Physical Environment Group: 351, 356, 359, 459.
Resource Use and Management Group: 360, 363, 365, 367, 461, 462, 463, 465.
Geographic Data Analysis Group: 381L, 383, 386, 483, 484, 487L, 488L.

In addition for the B.S. degree, 9 credits of 300 level or above course work must be taken in Biology or Earth and Planetary Science. Math 162 is required for some courses in Biology and Earth and Planetary Sciences.

Minor Study Requirements

Geog 101, 102 and 15 additional hours.

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) require-

ment 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, 351, 352, 356, 359. Other geography courses are accepted toward fulfillment of the Social and Behavioral Sciences requirements in that College.

Graduate Program

Graduate Advisor
Bradley Cullen
bcullen@unm.edu

Graduate applicants please direct correspondence to Graduate Advisor.

Degree Offered

M.S. Geography

Concentrations: a) environmental analysis (human/environmental interaction) or b) geographic information technologies (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. Graduate students entering the program without Introductory GIS and Spatial Analysis will be considered deficient and will take those courses without graduate credit. 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:

Plan I	Credits
Geog 501	3
Geog 504	3
One physical geography seminar: 512 or 513	3
One GIT seminar: 521, 522	3
Four graduate credit or 500-level courses	12
Thesis	6
Total	30
Plan II	Credits
Geog 501	3
Geog 504	3
Two other courses: 512, 513, 521, 522 or 545	6
Seven additional graduate-credit or 500-level courses	21
Total	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 three areas listed below. Part or all of the Plan II exam may be applied and require field work. A regional emphasis in any of the three topics is acceptable.

1. Physical Geography.
2. Human/Environmental Interaction.
3. Geographic Information Technologies.

A graduate student who elects to do a master's degree in geography should have either an undergraduate degree in geography 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 human.

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.

Corequisite: 101. Two hrs. lab.

195. Survey of Environmental Issues. (3)

Survey of environmental issues related to the degradation of land, air and water resources.

201. World Regional Geography. (3)

The regional geography of the world. Both physical and human aspects are studied along with current economic and political problems.

251. Meteorology. (3)

(Also offered as E&PS 251.) Description of weather phenomena, principles of atmospheric motion, weather map analysis and weather prediction.

281L. Survey of Geographic Information Technologies.

[Introduction to Geographic Information Technologies.] (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 hrs. lab.

****301. Latin America. (3)**

The physical and cultural landscape of Latin America including patterns of settlement and resource use by aboriginal, colonial and modern people.

****344. Geography of New Mexico. (3)**

A geography of New Mexico which will concentrate on the natural, economic and social environments that relate to settlement systems. Includes a survey of settlement from pre-historic periods to the urban Rio Grande corridor.

****345. Geography of the Southwest. (3)**

Interdisciplinary study of selected areas of the greater Southwest based on both physical character (physiography) and on cultural traces associated with pre-historic and historic settlement. Field component will be required.

****351. Climatology. (3)**

An analysis of factors affecting climatic variations, including solar and terrestrial radiation, atmospheric temperature, pressure and wind patterns, the global hydrologic cycle and atmospheric chemistry.

352. Global Climate Change. (3)

(Also offered as E&PS 352.) Comparison of natural and anthropogenic causes of large-scale climate change. Factors influencing development of mitigation of adaptation policies. Prerequisite: 351 or permission of instructor.

****356. Systematic and Regional Biogeography.**

[Biogeography.] (3) Concepts and theories of historical and evolutionary biogeography focusing on flowering plants and mammals from the Cretaceous to present. Biotic evolution of Realms and

Biomes in context of plate tectonics, glacial episodes and modern human impacts.

****359. Water in Environmental Systems. (3)**

The drainage basin is used as the fundamental unit for a quantitative analysis of the movement and storage of water in the hydrologic system. Applied land and water use planning aspects are emphasized.

****360. Political Geography. (3)**

Spatial organization of political processes. Exercise of legal and political power over land and other resources. Resolution of conflicts between competing government units.

363. Resource 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.

****367. Urban Socioeconomic Issues. [Urban Spatial Patterns.] (3)**

An analysis of internal forces which influence the morphology of the city. Review of internal and regional urban location models with applications to cities in New Mexico. Elements of urban and regional land use mapping are studied through student field projects.

****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 hrs. lecture, 2 hrs. lab.

****383. Spatial Analysis. (3)**

Survey and application of common quantitative spatial analysis methods used for analyzing data within a spatial context, including spatial autocorrelation estimators, point pattern analysis, analysis of line data, and an introduction to geostatistics.

Prerequisite: Stat 145 or equivalent.

386. Earth Observing Systems. [Remote Sensing Systems.] (3)

A survey of satellite and aerial platforms and sensors. Emphasis is placed on design specifications, trade-offs in specifications to optimize system performance, techniques for radiometric and geometric calibration, calibration test sites, and data fusion and assimilation.

***402. Geographic Education. (3)**

Standard based geographic methods and concepts for social studies teaching. Presenting geographic techniques and materials in the classroom. Map use and field projects.

459/559. Natural Resources and GIS. [Water Resources and GIS.] (3)

Examination of advanced GIS concepts and application to natural resource assessment and problem identification. Synthesis of spatial data and analysis of spatial characteristics for natural resources.

Prerequisites: 381L or permission of instructor.

461/561. Environmental Conservation. (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.

Prerequisite: 102 or permission of instructor.

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.

Prerequisite: 101 or 102 or permission of instructor.

463/563. Public Lands and Other Shared Resources. (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.

465/565. [365.] Urban Environmental Management.**

[Urban Environment.] (3) Williams

History of urban attempts to manage the natural environment, both globally and locally. A review of ecological and natural constraints and feedbacks initiated by urbanization. Field classes and projects.

470. Concepts of Applied Geography. [Introduction to Applied Geography.] (1)

Background readings and discussions centered on Geography as a discipline. Concepts, methods and techniques of geographic analysis and modeling are applied to a specific geographic problem. This course is required before taking 471.

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.

Prerequisite: 470.

483L/583L. Digital Image Processing. [Image Processing.] (3)

Techniques for extracting information from Earth observing sensor data. Instruction includes steps of image processing from rectification and enhancement of digital aerial and satellite data, classification strategies, and merging of data with other map products.

Prerequisite: 281L. Two hrs lab.

484/584. Applied Remote Sensing. (3) Morain

Applications of aerial and satellite sensors for natural resources. Emphasis is on reviewing and evaluating remote sensing applications in the scientific literature. Further emphasis is placed on applications of remotely sensed data with geo info systems.

Prerequisite: permission of instructor.

487L/587L. Intermediate Geographic Information Systems. (3)

Examination of data structures in GIS. Database management. Approaches to spatial analysis and geostatistical analysis.

Prerequisite: 381L. Two hrs. lab.

488L/588L. Advanced Geographic Information Systems. (3)

Customization of GIS through use of object-oriented programming language. Project management in the programming environment.

Prerequisite: 487L. Two hrs. lab.

491/591.–492/592. Problems. (1 to a maximum of 3, 1 to a maximum of 3) [1-3, 1-3] Δ

Supervised individual study and field work.

493/593.–494/594. Internship in Applied Geography. (1 to a maximum of 3, 1 to a maximum of 3) [1-6, 1-6 to a maximum of 6] 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) [3] 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. Research Methods Seminar. (3)

504. Environmental Issues Seminar. (3)

512. Seminar in Physical Geography. [Seminar in Climatology.] (3 to a maximum of 6) Δ
Variable focus depending on the instructor. Typical foci include biogeography, water resources and elements of Earth systems science. Emphasis is on major research questions, recent advances in the field, and on recent literature related to the causal mechanisms.
Prerequisite: consent of instructor.

513. Seminar: Contemporary Issues in Water Resources. (3 to a maximum of 6) Δ

An examination of current issues in water resource management. Issues include integrated and environmentally based approaches for water resources management, integration of spatial technologies and techniques for water resource assessment and management.
Prerequisite: 359 or permission of instructor.

521. Environmental Modeling and Geographic Information Systems. (3 to a maximum of 6) Δ

Significant issues, problems and future trends in environmental modeling systems are linked with geographic information systems.
Prerequisite: 488L or permission of instructor.

522. Seminar in Remote Sensing. (3 to a maximum of 6) Δ

Focus on the major research questions, recent literature and recent advances in remote sensing.
Prerequisite: 484 or permission of instructor

545. Seminar: Geography of the Southwest. (3 to a maximum of 6) Δ

Application of geographic research methods to research topics from the American Southwest and Northern Mexico. Emphasis will be on human/land relationships. Field component required.
Prerequisites: 344 or 345 or permission of instructor.

559/459. Natural Resources and GIS. [Water Resources and GIS.] (3)

Examination of advanced GIS concepts and application to natural resource assessment and problem identification. Synthesis of spatial data and analysis of spatial characteristics for natural resources.
Prerequisites: 381L or permission of instructor.

561/461. Environmental Conservation. (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.
Prerequisite: 102 or permission of instructor.

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.
Prerequisite: 101 or 102 or permission of instructor.

563/463. Public Lands and Other Shared Resources. (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.

565/465. [365.] Urban Environmental Management.**

[Urban Environment.] (3) Williams
History of urban attempts to manage the natural environment: both globally and locally. A review of ecological and natural constraints and feedbacks initiated by urbanization. Field classes and projects.

570. Physical Climatology. (3)

(Also offered as E&PS 570.) Theory and observations of the Earth's climate system. Radiative transfer, conservation of heat and momentum, maintenance of circulation systems, mechanisms of climate change.
Prerequisites: Physcs 262, Math 264.

583L/483L. Digital Image Processing. [Image Processing.] (3)

Techniques for extracting information from Earth observing sensor data. Instruction includes steps of image processing from rectification and enhancement of digital aerial and satellite data, classification strategies, and merging of data with other map products.
Prerequisite: 281L. Two hrs lab.

584/484. Applied Remote Sensing. (3)

Applications of aerial and satellite sensors for natural resources. Emphasis is on reviewing and evaluating remote sensing applications in the scientific literature. Further emphasis is placed on applications of remotely sensed data with geo info systems.
Prerequisite: permission of instructor.

587L/487L. Intermediate Geographic Information Systems. (3)

Examination of data structures in GIS. Database management. Approaches to spatial analysis and geostatistical analysis.
Prerequisite: 381L. Two hrs. lab.

588L/488L. Advanced Geographic Information Systems. (3)

Customization of GIS through use of object-oriented programming language. Project management in the programming environment.
Prerequisite: 487L. Two hrs. lab.

591/491–592/492. Problems. (1 to a maximum of 3, 1 to a maximum of 3) [1-3, 1-3] Δ

Supervised individual study and field work.

593/493–594/494. Internship in Applied Geography. (1 to a maximum of 3, 1 to a maximum of 3) [1-6, 1-6 to a maximum of 6] 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)

Offered on a CR/NC basis only.

GEOLOGY

See *Earth & Planetary Sciences*.

GERMAN

See *Foreign Languages and Literatures*.

GREEK

See *Foreign Languages and Literatures*.

HISTORY

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Professors

Margaret Connell-Szasz, Ph.D., The University of New Mexico
 Linda Hall, Ph.D., Columbia University
 Paul Hutton, Ph.D., Indiana University
 Jonathan Porter, Ph.D., University of California (Berkeley)
 Noel H. Pugach, Ph.D., University of Wisconsin
 Patricia Ann Risso, Ph.D., McGill University
 Richard G. Robbins, Ph.D., Columbia University
 Virginia Scharff, Ph.D., University of Arizona
 M. Jane Slaughter, Ph.D., The University of New Mexico
 Ferenc M. Szasz, Ph.D., University of Rochester
 Melvin Yazawa, Ph.D., Johns Hopkins University

Associate Professors

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 Judy Bieber, Ph.D., Johns Hopkins University
 Melissa Bokovoy, Ph.D., Indiana University
 Kimberly Gauderman, Ph.D., University of California (Los Angeles)
 Timothy C. Graham, Ph.D., Cambridge University
 Elizabeth Hutchison, Ph.D., University of California (Berkeley)
 Timothy Moy, Ph.D., University of California (Berkeley)
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 Enrique A. Sanabria, Ph.D., University of California (San Diego)
 Andrew Sandoval-Strausz, Ph.D., University of Chicago
 Samuel Truett, Ph.D., Yale University

Professors Emeriti

Richard Berthold, Ph.D., Cornell University
 Donald C. Cutter, Ph.D., University of California (Berkeley)
 Robert Himmerich y Valencia, Ph.D., University of California (Los Angeles)
 Frank W. Ikle, Ph.D., University of California (Berkeley)
 John Kessell, Ph.D., The University of New Mexico
 Charles McClelland, Ph.D., Yale University
 Janet Roebuck, Ph.D., University of London
 Enrique Semo, Humboldt University
 Donald Skabelund, Ph.D., University of Utah
 Donald D. Sullivan, Ph.D., University of Colorado

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, 251–252, 281–282, 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 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.

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, 251, 252, 281, 282.

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 Coordinator**

Timothy Moy

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: Ancient, Medieval Europe, Modern Europe to 1815, Europe since 1815 (or a regional or topical specialty therein), United States to 1877, United States since 1877, American West, Latin America to 1810, Latin America

since 1810, Asia to 1600, Asia since 1600, Comparative History of Women and Gender.

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 History 665, normally in the first year of study. 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.

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.

Concentrations: students select three fields of study, two concentrations and an additional field, from the Ph.D. concentrations listed above. Students must take at least two seminars in each of their concentration and field unless insufficient seminars are available, in which case other courses may be substituted with departmental approval. Students must demonstrate competency in their fields by written and oral comprehensive examinations in the two concentrations and by written examination in the additional field.

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.

Breadth requirement: each student's program of study must include at least three graduate courses concerning a single geographic area outside the current boundaries of the United States. At least one of these must be a University of New Mexico History course.

Dissertation: History dissertations must be written in English.

History (Hist)

I. Survey Courses

101L. Western Civilization. (3) Bokovoy, Graham, Robbins, Rubenstein, Sanabria, Schibeci, Steen, Spidle
Ancient times to 1648. {Summer, Fall, Spring}

102L. Western Civilization. (3) Bokovoy, Robbins, Sanabria, Schibeci, Slaughter, Steen, Spidle
1648 to present. {Summer, Fall, Spring}

161L. History of the United States to 1877. (3) Connell-Szasz, Feller, Hutton, Pugach, Sandoval-Strausz, Scharff, 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. {Summer, Fall, Spring}

162L. History of the United States Since 1877. (3) Connell-Szasz, Farber, Feller, Hutton, Moy, Pugach, Sandoval-Strausz, Scharff, 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. {Summer, Fall, Spring}

204. Greek Civilization. (3)
(Also offered as Clscs, Phil, Art Hi 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 Clscs, Phil, Art Hi 205.) An interdisciplinary introduction to ancient Rome. Lectures on Roman literature, history, art and philosophy.

220. Studies in History. (1-3) 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. Course may be repeated without limit provided the topics vary. {Fall, Spring}

251. Traditional Eastern Civilizations. (3) Porter, Rizzo
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, Rizzo
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.

281. 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.

282. 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}

284. African-American History. (3)
(Also offered as Af Am 284.) The course examines major events and personalities that shaped the history of African Americans in the United States.

285. African-American History II.

(Also offered as Af Am 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) 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*. Course may be repeated without limit provided the topics vary.

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, Rubenstein

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, Rubenstein

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) Rubenstein

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) Robbins

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 Wm St 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) Rubenstein

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) 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*. Course may be repeated without limit provided the topics vary.

306./506. Reformation Era, 1500–1600. (3) Steen

(Also offered as Relig 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, Schibeci

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, Schibeci

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) Robbins

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 Wm St 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.

328./528. History of Science From Antiquity to the Scientific Revolution. (3) Moy

A history of western science from ancient Mesopotamia through the "Scientific Revolution."

411./611. History of England, 1066–1660. (3) Rubenstein

Survey of medieval foundations, Tudor era and 17th-century social and political revolutions.

IV. Modern Europe

300./500. Studies in History. (1-3) 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*. Course may be repeated without limit provided the topics vary.

310./510. Modern Europe, 1815–1890. (3) Schibeci

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, Schibeci

The origins of World War I, World War II and the search for peace.

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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) Robbins
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) Robbins
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, Schibeci
(Also offered as Wm St 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) Moy
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
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.

415/615. European Diplomatic History. (3) Schibeci, Spidle
Since 1815.

416/616. History of Medicine to 1850. (3) Spidle
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) Spidle
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) Schibeci
(Also offered as Soc 338.) 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) Schibeci
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) 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) Schibeci
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) Schibeci
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) Spidle
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) Pugach
(Also offered as Relig 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.

427/627. History of Sexuality. (3) Slaughter
(Also offered as Wm St 415.) 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 Wm St 416.) 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) 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*. Course may be repeated without limit provided the topics vary.

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)

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)

Farber

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)

Farber

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)

Farber, 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)

Pugach
Survey and analysis of U.S. foreign relations from independence to 1900.

341/541. U.S. Foreign Relations from 1900. (3)

Pugach
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 Nat Am 346.) This course will cover American Indian/Alaska Native history to 1850.

347/547. Native America, 1850–1940. (3)

Connell-Szasz

(Also offered as Nat Am 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 Nat Am 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. American Culture and Society Since 1860. (3)

Szasz

436/636. Race in 20th Century America. (3)

Farber

The 20th century history of Americans' struggle to solve "the problem of the color line."

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)

Moy

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)

Moy

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 Relig 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) 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*. Course may be repeated without limit provided the topics vary.

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) 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.

460/606. 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.

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 Nat Am 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) 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*. Course may be repeated without limit provided the topics vary.

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.

375/575. 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 Relig, Soc, Phil 389.) Pre-Columbian thought through independence ideologies.

390. Latin American Thought II. (3)

(Also offered as Soc, Relig, 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 Wm St 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 Wm St 419.) 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.

VIII. Asian History

300./500. Studies in History. (1-3) 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*. Course may be repeated without limit provided the topics vary.

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./588. 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 Relig, Phil, Pol Sc 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 Relig 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) 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*. Course may be repeated without limit provided the topics vary.

320./520. History of Women from Ancient Times to the Enlightenment. (3) Slaughter

(Also offered as Wm St 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.

321./521. Women in the Modern World. (3) Hutchison, Scharff, Schibeci, Slaughter

(Also offered as Wm St 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.

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322/522. History of the Women's Rights Movement. (3) Hutchison, Slaughter
(Also offered as Wm St 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.

427/627. History of Sexuality. (3) Slaughter
(Also offered as Wm St 415.) 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 Wm St 416.) 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.

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 Wm St 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 Wm St 419.) 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) 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*. Course may be repeated without limit provided the topics vary.

346/546. Native America to 1850. (3) Connell-Szasz
(Also offered as Nat Am 346.) This course will cover American Indian/Alaska Native history to 1850.

347/547. Native America, 1850–1940. (3) Connell-Szasz
(Also offered as Nat Am 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 Nat Am 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.

436/636. Race in 20th Century America. (3) Farber
The 20th century history of Americans' struggle to solve "the problem of the color line."

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 Nat Am 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) 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*. Course may be repeated without limit provided the topics vary.

323/523. History of the Jewish People to 1492. (3) Pugach
(Also offered as Relig 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) Pugach
(Also offered as Relig 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)
(Also offered as Relig 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 Relig 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) Moy
A history of western science from ancient Mesopotamia through the "Scientific Revolution."

329/529. History of Science Since the Enlightenment. (3) Moy
A history of western science from the Enlightenment to the 20th century.

416/616. History of Medicine to 1850. (3) Spidle
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) Spidle
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) Moy
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) Moy
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 Relig 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 Relig 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, Sandoval-Strausz, Slaughter, Spidle
Development of historical thought and writing.
Prerequisites: 101L–102L and a minimum of two upper-division courses in history. {Summer, Fall}

492. Senior Seminar. (3)
Prerequisite: permission of instructor.

493. Reading and Research in Honors. (3)
Prerequisite: permission of major advisor.

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) Δ
Permission of instructor required before registering. Course may be repeated without limit provided the topics vary.

497/597. Introduction to Editing Historical Journals. (3) Ball
Nature and problems of editing historical journals. Appraisal, evaluation, revision and preparation for publication, including practical experience.

***499. Internship. (3-9)** 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

665. Seminar in Historical Research Methods. (3, unlimited repetition) Δ

666. Seminar and Studies in History. (3, unlimited repetition) Δ

667. Seminar and Studies in Ancient History. (3, unlimited repetition) Δ

668. Seminar and Studies in Medieval History. (3, unlimited repetition) Δ

669. Seminar and Studies in Early Modern European History. (3, unlimited repetition) Δ

670. Seminar and Studies in European Cultural and Intellectual History. (3, unlimited repetition) Δ

671. Seminar and Studies in Modern European History. (3, unlimited repetition) Δ

672. Seminar and Studies in British History. (3, unlimited repetition) Δ

673. Seminar and Studies in Iberian History. (3, unlimited repetition) Δ

674. Seminar and Studies in Modern Russian History. (3, unlimited repetition) Δ

675. Seminar and Studies in Early American History. (3, unlimited repetition) Δ

676. Seminar and Studies in American Intellectual and Social History. (3, unlimited repetition) Δ

677. Seminar and Studies in Civil War Period. (3, unlimited repetition) Δ

678. Seminar and Studies in Recent American History. (3, unlimited repetition) Δ

679. Seminar and Studies in United States Military History. (3 to a maximum of 6) Δ



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680. Seminar and Studies in U.S. Social History and Theory. (3, unlimited repetition) Δ

681. Seminar and Studies in United States Diplomatic History. (3, unlimited repetition) Δ

682. Seminar in American Western History. (3, unlimited repetition) Δ

683. Seminar in American Indian History. (3, unlimited repetition) Δ

684. Seminar and Studies in Chicana/o History. (3 to a maximum of 6) Δ

685. Seminar in Borderlands History. (3, unlimited repetition) Δ

686. Seminar in Colonial Latin American History. (3, unlimited repetition) Δ

687. Seminar in Recent Latin American History. (3, unlimited repetition) Δ

688. Seminar and Studies in Brazilian History. (3, unlimited repetition) Δ
(Also offered as Lt-Am 504.) Format varies from research seminar to reading colloquium and covers the whole history of Brazil. Reading knowledge of Portuguese recommended.

689. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3, unlimited repetition) Δ
(Also offered as Econ, Pol Sc, Soc 584.)

690. Seminar in Latin-American Studies. (3, unlimited repetition) Δ
(Also offered as Lt-Am 504.)

691. Seminar and Studies in Far Eastern History. (3, unlimited repetition) Δ

692. Seminar in the History of Women and Gender. (3, unlimited repetition) Δ

693. Public History. (3)
This seminar will explore the field of Public History, the application of history outside the traditional teaching track in areas such as museum curating, archival curating, historical editing, film writing, public historical interpretation, contract history, historical preservation and other related areas of historical endeavor.

697-698. Problems. (1-9, 1-9, unlimited repetition) Δ

599. Master's Thesis. (1-6)
Offered on a CR/NC basis only.

699. Dissertation. (3-12)
Offered on a CR/NC basis only.

XIV. Graduate Courses

500/300. Studies in History. (1-3) 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*. Course may be repeated without limit provided the topics vary.

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, Rubenstein
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, Rubenstein
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) Rubenstein
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 Relig 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, Schibeci
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, Schibeci
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) Schibeci
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, Schibeci
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) Robbins
Survey of the Kievan, Mongol and Muscovite periods. Emphasis on political and social developments.

515/315. Romanov Russia to 1855. (3) Robbins
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) Robbins
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) Robbins
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
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, Schibeci, 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) Pugach
(Also offered as Relig 523.) 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) Pugach
(Also offered as Relig 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)
(Also offered as Relig 526.) 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)
(Also offered as Relig 527.) 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) Moy
A history of western science from ancient Mesopotamia through the "Scientific Revolution."

529/329. History of Science Since the Enlightenment. (3) Moy
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)
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) Farber
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) Farber
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) Farber, 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) Pugach
Survey and analysis of U.S. foreign relations from independence to 1900.

541/341. U.S. Foreign Relations from 1900. (3) Pugach
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.

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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 Nat Am 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.

575/375. 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.

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.

588/388. 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.

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.

597/497. Introduction to Editing Historical Journals. (3) Ball
Nature and problems of editing historical journals. Appraisal, evaluation, revision and preparation for publication, including practical experience.

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) Rubenstein
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) Rubenstein
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.

615/415. European Diplomatic History. (3) Schibeci, Spidle
Since 1815.

616/416. History of Medicine to 1850. (3) Spidle
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) Spidle
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) Schibeci
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) Schibeci
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) 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) Schibeci
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) Schibeci
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) Spidle
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) Pugh
(Also offered as Relig 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.

627/427. History of Sexuality. (3) Slaughter
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.

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.

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. American Culture and Society Since 1860. (3) Szasz

636/436. Race in 20th Century America. (3) Farber
The 20th century history of Americans' struggle to solve "the problem of the color line."

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) Moy

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) Moy

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 Relig 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.

606/460. 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)

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 Relig 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.

ITALIAN

See Foreign Languages and Literatures.

INTERNATIONAL STUDIES

Asian Studies

Jonathan Porter, Chairperson
Mesa Vista 1104
MSC06 3760
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-5214
jporter@unm.edu

Advisory Committee

Lorie Brau, Foreign Languages and Literatures
Andrew Burgess, Religious Studies
Krishna Kandath, Communication & Journalism
Noel Pugach, History
Fred G. Strum, 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 (Hist, Phil, Pol Sc, Relig 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 concentration and to have the proposed course distribution approved by the Asian Studies Committee at the beginning of the junior year. Regional concentrations 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):

Af Am 106, 107, 206, 207; Anth 328; Art Hi 303, 429 when the topic is appropriate; C & J 314, 413 when the topic is appropriate; Econ 450, 478; U Hon 302; Geog 336; 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; Japan 101, 102, 201, 202, 297, 320, 339, 411; M Lang 106, 107; Phil 334, 336, 337, 348, 438, 439, 440, 449; Pol Sc 478; Relig 107, 109, 230, 231, 263, 323, 324, 438, 439, 440, 442, 447/547 when topic is appropriate, 448, 449, 481; Soc 221, 478; U Hon 221, 222 when "Eastern Legacy," 301, 302 when topic is appropriate; Wm St 331 when topic is appropriate; Asian Studies Senior Thesis given as Hist, Phil, Relig or Pol Sc 453. For information about Arabic, Hebrew, Classical Chinese, Persian and Sanskrit see the Asian Studies Committee Chairperson.

European Studies

Chistine Sauer, Director
Steve Bishop, Assistant Director
2005 Economics Building (SSCI)
MSC05 3060
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-1963: eurost@unm.edu
www.unm.edu/~eurost/

Participating Faculty

Susanne Baackman, Foreign Languages and Literatures
Judith Bennahum, Theatre and Dance
Steve Bishop, Foreign Languages and Literatures
Melissa Bokovoy, History
James L. Boone, Anthropology
Pamela Cheek, Foreign Languages and Literatures
Monica Cyrino, Foreign Languages and Literatures
Helen Damico, English
Rachele Duke, Foreign Languages and Literatures
Timothy Graham, Institute for Medieval Studies
Kristine Grimsrud, Economics
Gary Harrison, English
Gail Houston, English
Martin Klebes, Foreign Languages and Literatures
Natalia Kolchevska, Foreign Languages and Literatures
Byron Lindsey, Foreign Languages and Literatures
Joseph McAlhany, Foreign Languages and Literatures
Neil Mitchell, Political Science
Carmen Nocentelli, Foreign Languages and Literatures
Marina Peters-Nowell, Foreign Languages and Literatures
Walter Putnam, Foreign Languages and Literatures
Richard Robbins, History
Jay Rubenstein, History
Enrique Sanabria, History
Christine Sauer, Economics
Katja Schroeter, Foreign Languages and Literatures
Jane Slaughter, History
Warren Smith, Foreign Languages and Literatures
Jake Spidel, History
Charlie Steen, History
Lawrence Straus, Anthropology
Neddy Vigil, Spanish and Portuguese
Iain Thomson, Philosophy
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 a general introductory seminar, the interdisciplinary "Introduction to European Studies" (3 hours), plus an additional 9 hours from any of 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 & 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 any of 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 Schools of Fine Arts, 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.

Russian Studies

Richard Robbins, Chairperson (2002–2003)
 Mesa Vista Hall 2094
 MSC06 3760
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 277-2451, 277-4428

For general current information about the program contact the department of History; for advisement and pertinent information about the individual fields of specialization, contact individual faculty members of the committee.

Committee in Charge

Melissa Bokovoy, History
 Gregory Gleason, Political Science
 Natasha Kolchevska, Foreign Languages and Literatures
 Byron Lindsey, Foreign Languages and Literatures
 Carole Nagengast, Anthropology
 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 Eastern Europe through the study of humanities, language, literature and the social sciences. Study of the Russian language beyond a reading knowledge is required. The major does not require a minor for graduation, though one is offered.

Major Study Requirements

I. The Core—(27 semester hours)	
Russian 201 and 202 (Intermediate Russian: 3 + 3 credits)	6
Russian 301 and 302 (Advanced Russian: 3 +3 credits)	6
Russian 339 (Russian Culture and History through Film AOA Hist 325 and M A 339: 3 credits)	3
Russian 338 or 340 (Russian Literature and Culture in Translation, 338, or Topics in Russian Literature, 340: 3 credits both are taught in translation)	3
History 315, 316 or 317 (History of Russia, three different (select two) chronological periods: 3 + 3 credits)	6
Political Science 357 Russian and Eurasian Government and Politics	3
Total	27

II. Electives—(9 hours)

Including, but not limited to the following:
 Russian 401/402 or 407 or any other Russian Literature in Translation course;
 History 300 (when offered with Russian content), 313, 314, 424, 674;
 Political Science 220, 240, 440;
 Economics 450.

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

Kimberly Gauderman, Director
 Latin American and Iberian Institute
 MSC02 1690
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 277-2961, FAX (505) 277-5989
<http://www.laii.unm.edu>

Professors

Garth Bawden, Anthropology
 Donald Coes, Economics
 David Craven, Art History
 Guillermina Engelbrecht, Education

Linda Hall, History
 Kim Hill, Anthropology
 Enrique Lamadrid, Spanish and Portuguese
 Carole Nagengast, Anthropology
 Cynthia Radding, History
 Tey Diana Rebolledo, Spanish and Portuguese
 Robert Santley, Anthropology
 Frederick Sturm, Religious Studies
 Susan Tiano, Sociology
 Nelson P. Valdés, Sociology

Associate Professors

Holly Barnet, Art History
 Judy Bieber, History
 Melissa Binder, Economics
 Teresa Cordova, Community and Regional Planning
 Les Field, Anthropology
 William Flemming, Community and Regional Planning
 Kimberly Gauderman, History
 Raul de Gouvea, International Management
 David Henkel, Community and Regional Planning
 Ana Magdalena Hurtado, Anthropology
 Elizabeth Hutchison, History
 Claudia Isaac, Community and Regional Planning
 Kimberle López, Spanish and Portuguese
 Margo Milleret, Spanish and Portuguese
 Rosalita Mitchell, Education
 Mark Peceny, Political Science
 Sylvia Rodriguez, Anthropology
 William Stanley, Political Science
 Richard Wood, Sociology

Assistant Professors

Jennifer Ahlfeldt, Art History
 Rena Torres Cacoullos, Spanish and Portuguese
 Susan Dever, Media Arts
 Dante DiGregorio, International Management
 Benjamin Goldfrank, Political Science
 Ray Hernández-Durán, Art History
 Leila Lehnen, Spanish and Portuguese
 Miguel López, Spanish and Portuguese
 Nancy López, Sociology
 Kathryn McKnight, Spanish and Portuguese
 Suzanne Oakdale, Anthropology
 Enrique Sanabria, History
 Eleuterio Santiago Diaz, Spanish and Portuguese
 Katherine Travis, Linguistics
 Samuel Truett, History

Interdisciplinary Committee on Latin American Studies

Chairperson, Kimberly Gauderman
 Melissa Binder, Economics
 David Cravin, Art and Art History
 Les Field, Anthropology
 Linda Hall, History
 Magdalena Hurtado, Anthropology
 Elizabeth Hutchison, History
 Nancy Lopez, Sociology
 Margo Milleret, Spanish and Portuguese
 Ken Roberts, Political Science
 Rena Torres-Cacoulbs
 Student Organization for LAS member

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 Director of Latin American Studies.

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 below. Students will work closely with the Staff Academic Advisor and the Director of Latin American Studies 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 three tracks for fulfilling the language requirement:
- 1) Spanish concentration with Portuguese support skills, requiring Spanish 301–302, Portuguese 275 or 276.
 - 2) Portuguese concentration with Spanish support skills, requiring Portuguese 311–312, Spanish 101–102.
 - 3) Balanced concentration, requiring demonstrated Spanish proficiency through Spanish 202 and Portuguese 276.

On a case-by-case basis, students may substitute a comparable level of study and proficiency in an indigenous language of Latin America for either Spanish or Portuguese with the approval of the Director of Latin American Studies.

- B. Core Courses (15 hours): Students will select 15 hours of Latin American content courses from one of the following three tracks:
- 1) Humanities courses in the following areas: Art History; History; Religious Studies; Spanish American Literature and Culture; Brazilian Literature and Culture; Media Arts.
 - 2) Social and Natural Sciences: Anthropology; Economics; Political Science; Sociology; History; Community and Regional Planning; Biology.
 - 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 Director of Latin American Studies.
- C. Electives with Latin American content (at least 9 hours) 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 from at least three different disciplines must be included in the major.

Brazil Studies Concentration

Participants in the Latin American Studies undergraduate major may earn a Certificate of Concentration in Brazilian Studies by completing the Portuguese language concentration requirement and five of the following courses: History 376, History 377, Portuguese 200, Portuguese 335, Philosophy 388, Portuguese 414 or 415. The director of Latin American Studies may approve the substitution of other courses with substantial Brazil content.

Dual Major

Under the "Three-Two" M.B.A. Program a student may take a dual major in Latin American studies and economics and continue for an M.B.A., completing the entire program in five years. Details are available at the Anderson School of Management or at the Latin American and Iberian Institute.

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 tracks as listed above; and 6 credit hours of elective courses.

Approved Electives

Anth 322, 324, 332, 337, 339, 340, 343, 344, 345, 366, 384, 387, 420; Art Hi 343, 411, 412, 450, 488, 489, 490, 493, 494; Econ 421, 423, 424, 429; Hist 281, 282, 300, 361, 363, 370, 371, 372, 373, 374, 375, 376, 377, 389, 390, 463, 464, 465, 468, 469, 471, 472, 473, 474, 475; 476; Lat Am 400, Phil 388, 389, 390; Pol Sc 308, 320, 321, 345, 355, 356, 400, 455; Port 311, 312, 335, 414, 415, 416, 421, 457, 458, 461, 462; Relig 387; Soc 221, 326, 389, 390, 420, 428, 484; Span 301, 302, 307, 350, 352, 353, 411, 412, 430, 431, 432, 433, 435, 438, 439. Other courses of Latin American content may be approved as electives upon petition to the Director of Latin American Studies.

Distributed Minor for Latin American Studies Major

In addition to a minor in a single department, Latin American Studies offers a distributed minor of 30 hours of Latin American studies content courses numbered over 300 but which do not count toward the major.

Departmental Honors

Students seeking honors in Latin American Studies should consult with the Director of Latin American Studies Programs 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

Kimberly Gauderman, Director of Latin American Studies (kgaud@unm.edu)

Joan A. Swanson, Academic Advisor (jswanson@unm.edu)

Application Deadlines

Fall semester and Summer session: February 1 (with financial aid consideration), April 1 otherwise

Spring semester: November 1

Please contact the Academic Advisor of the Latin American and Iberian Institute if you have any questions (505) 277-2961.

Degrees Offered

M.A. in Latin American Studies (MALAS)

Concentrations: Students concentrate in two areas chosen from the following: anthropology, art history, Brazilian literature, community and regional planning, economics, gender studies, history of the national period, history of the early period, human rights, international management, political science, religion and philosophy, sociology, Spanish American literature and Spanish linguistics. Students may also petition for approval of other thematic areas of concentration. The combination of areas must ensure that the program is interdisciplinary; for example, students taking either early or modern history as a concentration must choose a field other than history for their second concentration.

Ph.D. in Latin American Studies

Concentrations:

Major Field: anthropology of Latin America, pre-Columbian and Spanish Colonial art history, history of Latin America, Spanish American literature, Brazilian literature, Spanish linguistics, Latin American political science, sociology of Latin America. **Minor Field:** the major fields listed above plus economics and international management.

M.A. in Latin American Studies

Applications: Applicants to the program are required to submit, in addition to the application, three letters of recommendation, a letter of intent, academic writing sample and GRE scores.

Prerequisites: The Bachelor's degree, competence in Spanish or Portuguese and a demonstrable interest in Latin American area studies acquired through course work or experience.

Degree Requirements

Plan I (thesis option) 36 credit hours. Students must select two areas of specialization within the MALAS program and complete a series of courses (at least 15 credit hours in the major field and 9 credit hours in the minor). 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 numbered 500 or above (excluding 551 or 552 Problems courses) and 6 hours of thesis credits numbered 599. Students are required to present an oral defense of the thesis before a thesis committee composed of at least two persons in one area of specialization and one from the second area and are required to sit for the comprehensive examinations in one area of specialization.

Plan II (non-thesis option) 36 credit hours. Course work is divided between two areas of specialization (a minimum of 12 hours in each specialization or 15 hours in one specialization, with 9 hours in a second specialization) and 12 hours of elective credits. Students are required to sit for the comprehensive examinations which are administered by a Committee on Studies composed of two persons in each field.

Under the Plan II option, students must complete a minimum of 12 credits numbered 500 or above (excluding 551 Problems 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.

MALAS/MBA:

Offered jointly with the Robert O. Anderson Schools of Management, 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 B.A., 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.

MALAS/MCRP:

The joint master's program in Latin American Studies and Community and Regional Planning is designed for students who are interested in the professional practice of planning in a Latin American context. The role of the planning profession is to use and manage information to serve the long-range

needs of communities and policy makers at the local and regional scales. Planning practice in Latin America includes management of the built environment of complex urban settlements; planning for sustainable regional and local economic development; stewardship of fragile and damaged ecosystems; negotiating contested cultural, class and geographic claims to public goods and common lands; and facilitating community based responses to structural colonialism and globalization. As such, planning in Latin America involves proposing public domain solutions to social, economic and political problems, for both government and popular organizations.

The Community and 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. Graduates from the dual MCRP/MALAS degree possess the knowledge and skills necessary to support planning by diverse human communities throughout the Western Hemisphere. MCRP/MALAS 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 which respond to community identities and development needs.

Prerequisites to the program are competence in either Spanish or Portuguese (a fourth semester course or higher), 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 53 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 hour bridge seminar; 2) 27 hours of core course work in Community and Regional Planning; and 3) 24 hours of Latin American Studies course work divided between two of the following areas of specialization: Anthropology, Community and Regional Planning, Economics, Gender Studies, History, Human Rights, Political Science and Sociology. 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 areas of concentration in Latin American Studies.

MALAS/MSN:

The College of Nursing and the Latin American Studies program in the College of Arts and Sciences offer a dual graduate program leading to a Master of Science in Nursing and a Master of Arts in Latin American Studies. The program prepares nurses for leadership roles in health care delivery systems serving populations in Latin American countries or Hispanic populations within the United States. Students must select a major area of concentration in Nursing and two areas of specialization within Latin American Studies. The program offers both the thesis option (requiring 53 graduate credit hours) and the non-thesis option (56 credit hours). The program requires two to three years of full-time study including summers for completion. Prerequisites to the program are competence in either Spanish or Portuguese (a fourth semester course or higher or equivalent language training).

The program requires a minimum of 20 credit hours in Nursing courses and 20 credit hours in Latin American Studies courses, plus 13 additional cross-counted hours under Plan I (thesis option) or 16 hours under Plan II (non-thesis option).

The 20 hours of Nursing must include the following core courses: Nursing 501 *Theoretical Foundations of Advanced Nursing*, Nursing 503 *Research in Nursing I* and Nursing 505 *Health Care Policy, Systems and Financing for Advanced Practice Roles*. An additional 6 to 12 credits (depending on the area) will be required in one of the following concentrations selected by the student: Teaching of Nursing, Administration of Nursing, Adult Health Nursing, Community

Health Nursing, Parent/Child Nursing, Nurse/Midwifery, Family Nurse Practitioner.

The 20 hour LAS course work requirement must include 9 hours taken in each of the two selected areas of concentration. At least 6 hours of 500-level course work is required. Any concentration approved for LAS may be selected, though the following areas are recommended: anthropology, economics, gender studies, history, human rights, management, political science, sociology and a special concentration in Southwest studies.

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. The program requires 80 hours of Law course work that must include 9 hours of international law, 24 hours of Latin American Studies course work and, in addition, a 3-hour elective 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 degree requires that students complete at least 12 credit hours in two of the following approved Latin American language and area studies: Anthropology, Art History, Brazilian Literature, Community and Regional Planning, Economics, Gender Studies, Hispanic Linguistics, History of the Early Period, History of the National Period, Human Rights, International Management, Philosophy, Political Science, Sociology and Spanish American Literature. Students may elect to do a Plan I (thesis route) or Plan II (non thesis).

At least two years of undergraduate course work (or equivalent language training) in either Spanish or Portuguese is required prior to admission to the program.

MALAS/MALLSS:

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 an emphasis 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. in Latin American Studies

The Ph.D. in Latin American Studies is designed to meet the needs of a small number of unusual 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 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: Applicants to the doctoral program are required to submit, in addition to the application, three letters of recommendation, a letter of intent, GRE scores and a sample of academic writing.

Prerequisites: A Master's degree in the intended major field or in Latin American Studies with appropriate areas of specialization. Specific entrance requirements may vary depending on the student's intended major field. Each applicant for admission is screened by the department of the projected major field before being approved by the Director of Latin American Studies.

Degree Requirements

The program requires a minimum of 54 semester hours of graduate credit work (not including dissertation) beyond the Bachelor's degree. This work must include a major field consisting of at least 30 credit hours and a minor field of at least 15 hours. The remaining 9 hours may be elective credits or additional course credits in the major or minor fields. Competence in both Spanish and Portuguese is required. A comprehensive examination covering the major and minor fields will be given at the completion of all course work.

Latin American (Lt-Am)

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, Religious Studies, Political Science, Spanish, Portuguese and Sociology.

400. Topics in Latin American Studies. (3) 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 to a maximum of 6) Δ

Prerequisite: permission of program chairperson. For undergraduates only.

499. Senior Honors Thesis. (3)

Prerequisite: candidacy for honors in Latin American Studies.

500. Topics in Latin American Studies. (3) 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) Δ

(Also offered as Span 504, Hist 690, 688.) (Fall, Spring)

525. Proseminar on Latin American Politics. (3)

(Also offered as Soc 525.)

551. Master's Problems. (1-3) Δ

Guided individual research and reading. Students may include up to 12 credit hours in their Master's program and 6 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) Δ Offered on a CR/NC basis only.

651. Latin American Doctoral Problems. (1-3) Δ

Students may include no more than 6 credit hours in their Ph.D. program.

699. Latin American Studies Dissertation. (3-12)

Offered on a CR/NC basis only.

LINGUISTICS

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Professors

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Vera P. John-Steiner, Ph.D., University of Chicago
Sherman E. Wilcox, Ph.D., The University of New Mexico

Associate Professors

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Larry P. Gorbet, Ph.D., University of California (San Diego)
Jill P. Morford, Ph.D., University of Chicago
Caroline Smith, Ph.D., Yale University
Phyllis Perrin Wilcox, Ph.D., The University of New Mexico

Assistant Professors

Barbara J. Shaffer, Ph.D., The University of New Mexico
Christine P. Sims, Ph.D., University of California (Berkeley)
Catherine E. Travis, Ph.D., La Trobe University (Australia)

Lecturers

Karen Naughton, Ph.D., The University of New Mexico
Bonnie J. Rudy, M.A., California State University, Northridge
Josephine Santiago, B.A., The University of New Mexico
Roseann S. Willink, M.A., The University of New Mexico

Professor Emeritus

Garland D. Bills, Ph.D., University of Texas at Austin
Eduardo Hernández Chávez, Ph.D., University of California (Berkeley)
Alan J. Hudson, Ph.D., Yeshiva University
Robert W. Young, Honorary LL. D., The University of New Mexico

Associated Faculty in Other Departments

LynnDianne Beene, Ph.D., University of Kansas (English)
George F. Luger, Ph.D., University of Pennsylvania (Computer Science)
Rena Torres Cacoullous, Ph.D., The University of New Mexico (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; 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 typology, language evolution, socio-cultural and interactional studies, fieldwork, discourse analysis, and experimental inquiry. In addition the Department

offers programs of study in linguistics, including concentrations in Computational Linguistics and Native Languages of the Southwest, and specializes in the area of signed languages. 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 36 hours numbered above 200 (24 in required courses, 12 in approved electives) and four semesters of a second language or the equivalent. Required courses are: Ling 292, 303, 304, 322, 331, 367, 412 or 446, 425 or 429. The 12 hours in approved electives may be selected from courses in linguistics or from courses in other departments approved by the Department of Linguistics.

Signed Language Studies

The B.A. major in Linguistics with a concentration in Signed Language Studies requires 36 hours (24 required, 12 in approved electives) and four semesters of American Sign Language 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 department 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 department.

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 30 hours, including at least 21 hours of linguistics courses numbered above 200: Ling 292, 303, 304, 322 and 9 additional hours selected from the requirements or approved electives for the major.

Minor in Navajo Language and Linguistics

The minor in Navajo Language and Linguistics requires 21 hours of Navajo language and Navajo linguistics courses: Navajo 101–102, 201–202, 301, 302 and 401. Nine additional hours must be selected from the following courses or from approved electives from Linguistics, LLSS or Native American Studies: Ling 292, 331, and 415.

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 18 hours of basic linguistics, including introductory linguistics, phonetics, phonological analysis, grammatical analysis, introductory sociolinguistics and introductory psycholinguistics. 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 18 hours of core course work, including one course in each of the following areas: phonology (502, 503), syntax (523), semantics and discourse (525, 529), psycholinguistics (560, 563, 565, 566, 568, 569L), sociolinguistics (533, 535, 539) and language change (546). The remaining required hours are selected by the candidate, with the approval of the Graduate Advisor.

Computational Linguistics

In addition to the course work for the Linguistics M.A., the M.A. Major in Linguistics with a concentration in Computational Linguistics requires five prerequisite Computer Science courses, three recommended graduate-level Computer Science courses plus two additional electives or two plus nine thesis hours. One of three Master's exami-

nation 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 an Emphasis 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 emphasis on 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 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 hours. Requirements include: 1) one of the following three phonology courses (502, 503, 505), syntax (523) and two of the following four courses (524, 529, 548, or a seminar on cognitive grammar currently offered as Ling 554, Seminar in Linguistic Theory). If any of these courses were taken for your M.A. program, they may be applied to the Ph.D. 2) at least one methods course; 3) three advanced seminars in the areas of preparation for the comprehensive examination; 4) a comprehensive examination over three areas of specialization; 5) reading, writing and conversational ability in a language other than the student's native language; 6) knowledge of the structure of a non-Indo-European language; and 7) course work in statistics up to and including analysis of variance or the equivalent.

Please contact the department for more detailed information on admissions and requirements for the M.A. and Ph.D. programs or consult the Web site, www.unm.edu/~linguist.

Computational Linguistics

The Ph.D. Major 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 computer science 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.

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.

292. Introduction to Linguistic Analysis. (3) Hudson

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.

295. Special Topics in Current Language Issues.

[Language: Current 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)

303. English Phonetics. (3) Smith

(Also offered as C & J, 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) Bybee, Smith

(Also offered as Anth 317.) Phonetic principles and phonological theory, descriptive analysis of phonological systems, transcriptional practice, and problems from selected languages. Prerequisite: 303.

322/522. Grammatical Analysis. (3) Axelrod, Gorbet

(Also offered as Anth 318.) Principles of morphological and syntactic analysis and the theory of grammar, descriptive analysis of grammatical structures and problems from selected languages. Prerequisite: 292 or Sign 305.

331/531. Language in Society. (3) Alexrod, Sims

Cross-cultural view of speech varieties as they reflect social organization. Topics: social dialects, societal multilingualism, language contact, language attitudes, language policy and planning. Prerequisite: an introductory linguistics course.

334/534. Language and Gender. (3) Axelrod

(Also offered as Wm St 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) Basso, Dinwoodie, Gorbet

(Also offered as Anth 310 and C & J 319.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition. Prerequisite: an introductory linguistics course.

367/567. Psychology of Language. (3) Morford

(Also offered as Psych 367.) Theoretical and methodological issues in psycholinguistics, including comprehension, speech perception and production, language acquisition, bilingualism, brain and language, reading. Prerequisite: 292 or Psych 265 or Sign 305.

***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.

***407. Sanskrit I. (3)**

(Also offered as M Lang, Relig 407.) An introduction to the Sanskrit language in conjunction with readings from classical Sanskrit literature in translation.

***408. Sanskrit II. (3)**

(Also offered as M Lang, Relig 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. Morphology. (3) Axelrod, Bybee

An introduction to principles underlying structure of words and paradigms in languages of different types. How word structure reflects cognitive organization and how it is affected by child language acquisition and historical change.

Prerequisite: 292 or Sign 305.

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.

Prerequisites: 304 and permission of instructor. {Offered upon demand.}

415./515. Native American Languages. (3) Axelrod, Sims

(Also offered as Anth 415.) 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.

425./525. Semantic Analysis. (3) Axelrod, 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.

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.

433./533. Sociolinguistic Variation. (3) Torres-Cacoullous

Linguistic variability in relation to social status and situational context, attitudinal correlates of language stratification and sociolinguistic change in progress.

Prerequisite: 331.

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) Sims

(Also offered as LLSS 460/560 and Nat Am *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) Axelrod

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 or permission of instructor.

446./546. Introduction to Language Change. (3) Bybee

(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.

447./547. [449./549.] Old English (3 to a maximum of 6)

Δ

(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. [Old English.] (3)

(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) John-Steiner, Morford

(Also offered as Psych 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: Ling/Psych 367.

469L./569L. Experimental Psycholinguistics. (3) Morford

(Also offered as Psych 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.

Prerequisites: 367 and a course in statistics or research methodology.

490./590. Topics in Linguistics. (1-3 to a maximum of 12) Δ

Special topics motivated by expertise of instructor and interest of students.

495. Undergraduate Problems. (1-6) Δ

For original individual study project approved by instructor. Maximum of 6 hrs. creditable to linguistics major or minor.

Prerequisite: permission of instructor.

498. Reading and Research for Honors. (3)

Prerequisite: approval for honors in Linguistics or in Signed Language Interpreting.

499. Honors Thesis. (3)

Prerequisite: 498.

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502. Generative Theories of Phonology. (3) Bybee, 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.

503. Usage-based Phonology. [Phonological

Representation.] (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.

504/304. Phonological Analysis. (3) Bybee, Smith

(Also offered as Anth 517.) Phonetic principles and phonological theory, descriptive analysis of phonological systems, transcriptional practice, and problems from selected languages.

Prerequisite: 303.

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.

Prerequisites: 303, 304.

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.

512/412. Morphology. (3) Axelrod, Bybee

An introduction to principles underlying structure of words and paradigms in languages of different types. How word structure reflects cognitive organization and how it is affected by child language acquisition and historical change.

Prerequisite: 292 or Sign 305.

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.

Prerequisites: 304, permission of instructor. {Offered upon demand}

515/415. Native American Languages. (3) Axelrod, Sims

(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.

521. Formal Syntactic Theories. (3) Axelrod

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.

522/322. Grammatical Analysis. (3) Axelrod, Gorbet

(Also offered as Anth 318.) Principles of morphological and syntactic analysis and the theory of grammar, descriptive analysis of grammatical structures and problems from selected languages.

Prerequisite: 292 or Sign 305.

523. Functional Syntactic Theories. (3) Axelrod, 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.

525/425. Semantic Analysis. (3) Axelrod, 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.

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.

531/331. Language in Society. (3) Axelrod, Sims

Cross-cultural view of speech varieties as they reflect social organization. Topics: social dialects, societal multilingualism, language contact, language attitudes, language policy and planning.

Prerequisite: an introductory linguistics course.

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.

533/433. 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.

534/334. Language and Gender. (3) Axelrod

(Also offered as Wm St 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.

536/436. Language and Education in Southwest Native American Communities. (3) Sims

(Also offered as LLSS 460/560 and Nat Am *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) ^A

Variable topics such as variation theory, language planning, pidgins and creoles, language attitudes and dialectology.

540/440. Introduction to Linguistics. (3) Axelrod

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 or permission of instructor.

546/446. Introduction to Language Change. (3) Bybee (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.

547/447. [549./449.] Old English (3 to a maximum of 6) Δ (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: 412/512 or 322/522.

549/449. Middle English Language. [Old English.] (3) (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.

555. Seminar in Educational Linguistics. (1-3 to a maximum of 12) Δ (Also offered as LLSS, C & J 555.)

559/359. Language and Culture. (3) Basso, Dinwoodie, Gorbet
(Also offered as Anth 511 and C & J 519.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition. Prerequisite: an introductory linguistics course.

560/460. Child Language. (3) John-Steiner, Morford (Also offered as Psych 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. Prerequisite: Ling/Psych 367.

565. Seminar in Thought and Language. (3) John-Steiner (Also offered as Psych, Ed Psy 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 Psych 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: Ling/Psych 367.

567/367. Psychology of Language. (3) Morford (Also offered as Psych 367.) Theoretical and methodological issues in psycholinguistics, including comprehension, speech perception and production, language acquisition, bilingualism, brain and language, reading. Prerequisite: 292 or Psych 265 or Sign 305.

568. Seminar in Psycholinguistics. (3 to a maximum of 12) Δ Morford (Also offered as Psych 569.) Prerequisite: permission of instructor.

569L./469L. Experimental Psycholinguistics. (3) Morford (Also offered as Psych 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. Prerequisites: 367 and a course in statistics or research methodology.

581. Seminar in Linguistics of Signed Languages. (3 to a maximum of 12) Δ B. Schaffer, P. Wilcox, S. Wilcox
Topics such as American Sign Language linguistics, acquisition of signed languages and psycholinguistics of processing signed languages.

590/490. Topics in Linguistics. (1-3 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. Prerequisite: permission of instructor.

599. Master's Thesis. (1-6)
Offered on a CR/NC basis only.

699. Dissertation. (3-12)
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 (Navajo)

(No major offered. For minor study requirements, see Linguistics.)

101-102. Elementary Navajo. (3, 3) Willink
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}

103-104. Basic Medical Navajo. (3, 3) Willink
Fundamentals of Navajo for students in the medical profession. Does not satisfy language requirement of College of Arts and Sciences. {Offered upon demand}

105. Written Navajo. (3) Willink
Introduction to Navajo writing and reading; for native speakers of Navajo only. 101 and 105 may not both be counted for credit.

201-202. Intermediate Navajo. (3, 3) Willink
Intermediate Navajo for students who have completed 102 or 105, or equivalent. Continued development of all four skills. Prerequisite: 101-102 or 105, or equivalent. {201-Fall, 202-Spring}

206. Creative Writing and Advanced Reading. (3) Willink
For native speakers of Navajo only. Prerequisite: 105 or permission of instructor.

311./511. [301.] Navajo Verb System I. [Navajo Verbal System I.] (3)
This course emphasizes Navajo grammar and introduces students to the prefix template of the Navajo verb. Verb paradigms in the imperfective are covered using a variety of literary and cultural materials. Prerequisite: 202 or 206 or equivalent.

312./512. [302.] Navajo Verb System II. (3)
The course continues study of the verb paradigms in Navajo and introduces the perfective, usitative, iterative, progressive and future modes using a variety of literary and cultural material. Discussion includes Navajo aspectual variation, stem alternations and conjugation patterns. Prerequisite: 301 or permission of instructor.

315./515. [305.] Advanced Navajo. (3)
An examination of Navajo syntax, including voice alternations (passive, causative), relative and subordinate clause constructions and discourse structure. Prerequisite: 202 or permission of instructor.

401/501. Navajo Linguistics. (3 to a maximum of 12) Δ
Introduction to linguistics in Navajo including phonetics and phonology, grammar, semantics, pragmatics and sociolinguistics.

Prerequisite: 202 or permission of instructor.

495. Undergraduate Problems. (1-6 to a maximum of 6) Δ Willink

Prerequisite: permission of instructor.

501/401. Navajo Linguistics. (3 to a maximum of 12) Δ
Introduction to linguistics in Navajo including phonetics and phonology, grammar, semantics, pragmatics and sociolinguistics.

Prerequisite: 202 or permission of instructor.

511/311. [301.] Navajo Verb System I. [Navajo Verbal System I.] (3)

This course emphasizes Navajo grammar and introduces students to the prefix template of the Navajo verb. Verb paradigms in the imperfective are covered using a variety of literary and cultural materials.

Prerequisite: 202 or 206 or equivalent.

512/312. [302.] Navajo Verb System II. (3)

The course continues study of the verb paradigms in Navajo and introduces the perfective, usitative, iterative, progressive and future modes using a variety of literary and cultural material. Discussion includes Navajo aspectual variation, stem alternations and conjugation patterns.

Prerequisite: 301 or permission of instructor.

515/315. [305.] Advanced Navajo. (3)

An examination of Navajo syntax, including voice alternations (passive, causative), relative and subordinate clause constructions and discourse structure.

Prerequisite: 202 or permission of instructor.

595. Graduate Problems. (1-6)

Original independent study project approved by instructor.

Prerequisite: permission of instructor.

Signed Language Interpreting (Sign)

(For major study requirements, see *Linguistics*.)

201. Introduction to Signed Language. (3) Naughton, 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) Naughton, 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 or permission of instructor.

211. American Sign Language II. (3) Naughton, 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 or permission of instructor.

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 or permission of instructor.

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 or permission of instructor.

***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: Ling 101 or 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 or permission of instructor.

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 or permission of instructor.

***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.

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: 352.

355. Deaf History and Literature. (3) Naughton, 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: 320 or permission of instructor.

***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 Ethics and business practices of the professional interpreter.

Prerequisites: 212 and 214 and 310 and 352 and Ling 101.

370. ASL-English Translation. (3)

Orientation to the theory and practice of translation of ASL to English. Included are discussion and practice of semantic and stylistic equivalence, methodology, determining logical relations within propositions and videotaping of students' ongoing models of translation.

380. Contrastive Analysis for Interpreters. (3)

English and American Sign Language are contrasted on several levels—lexical, syntactic, semantic and discourse structures—with an eye toward solutions to potential problems for interpreters.

Prerequisite: 310.

***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 and Engl 102.

***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 and Engl 102.

413. Transliteration. (3)
Introduction to theory and practice of transliterating (interpreting between spoken and signed English). Topics include linguistics and pragmatic analysis of source message; signed English, assessing client language needs, production issues such as mouthing and restructuring.

***418. Seminar in Signed Language Interpreting. (3)** [1-3 to a maximum of 12] 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.

***419. Practicum in Signed Language Interpreting. (1-4 to a maximum of 4)** Shaffer Δ
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 or permission of instructor.

***490. Topics in Signed Language. (1-6 to a maximum of 12)** Δ

495. Undergraduate Problems. (1-6 to a maximum of 24) Δ

MATHEMATICS AND STATISTICS

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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
Sam Efromovich, Ph.D., Moscow Institute of Physics and Technology—Statistics
James A. Ellison, Ph.D., California Institute of Technology
Pedro F. Embid, Ph.D., University of California (Berkeley)
Krzysztof Galicki, Ph.D., SUNY at Stony Brook
Frank L. Gilfeather, Ph.D., University of California (Irvine)
Thomas M. Hagstrom, Ph.D., California Institute of Technology
Vladimir I. Koltchinskii, Ph.D., Kiev University (Ukraine)—Statistics
Wojciech Kucharz, Ph.D., Jagiellonian University (Krakow, Poland)

Jens Lorenz, Ph.D., University of Münster (Germany)
Terry A. Loring, Ph.D., University of California (Berkeley)
Stanly L. Steinberg, Ph.D., Stanford University
Alexander P. Stone, Ph.D., University of Illinois
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Todd M. Kapitula, Ph.D., University of Maryland
Michael J. Nakamaye, Ph.D., Yale University
Monika Nitsche, Ph.D., University of Michigan
Maria C. Pereyra, Ph.D., Yale University
Vakhtang Putkaradze, Ph.D., Copenhagen University
Ronald M. Schrader, Ph.D., Pennsylvania State University—Statistics

Assistant Professors

Gabriel Huerta, Ph.D., Duke University—Statistics
Laura Salter Kubatko, Ph.D., Ohio State University—Statistics
Kristin Umland, Ph.D., University of Illinois (Chicago)

Lecturers

Adriana Aceves, M.S., University of Arizona
Jurg Bolli, M.S., University of Zurich (Switzerland)
James Dudley, M.A., The University of New Mexico
Cathy Gosler, M.A., The University of New Mexico
John M. Hamm, Ph.D., University of Arizona
Philip P. Herlan, M.S., State University College of New York (Buffalo)
Victoria Kauffman, M.A., The University of New Mexico
Justin Kubatko, M.A.S., Ohio State University—Statistics

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
Peter Vorobieff, Ph.D., Lehigh University, PA
Robert Warnock, Adjunct Professor, Ph.D., Harvard University
Burton Wendroff, Adjunct Professor, Ph.D., New York University

Professors Emeriti

Richard C. Allen, Ph.D., The University of New Mexico
Robert F. Cogburn, Ph.D., University of California (Berkeley)
Jeffrey R. Davis, Ph.D., Washington University
Ralph E. DeMarr Ph.D., University of Illinois
Roger C. Entringer, Ph.D., The University of New Mexico
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Archie G. Gibson, Ph.D., University of Colorado
Nancy A. Gonzales, Ed.D., Harvard University
Richard J. Griego, Ph.D., University of Illinois
Theodore Guinn, Ph.D., University of California (Los Angeles)
Liang-Shin Hahn, Ph.D., Stanford University
Reuben Hersh, Ph.D., New York University
Lambert H. Koopmans, Ph.D., University of California (Berkeley)
James V. Lewis, Ph.D., University of California (Berkeley)
Richard C. Metzler, Ph.D., Wayne State University
Merle Mitchell, Ph.D., George Peabody College of Teachers
Cornelis W. Onneweer, Ph.D., Wayne State University
Pramod K. Pathak, Ph.D., Indian Statistical Institute
Clifford R. Qualls, Ph.D., University of California (Riverside)
Arthur Steger, Ph.D., University of California (Berkeley)
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 spe-

ARTS AND SCIENCES

cialized society. Active research throughout the mathematical disciplines, 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. The major in mathematics with the mathematics education option satisfies all the requirements for a license to teach mathematics at the secondary level in New Mexico.

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.

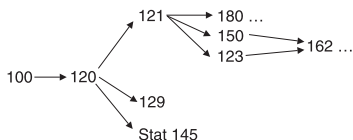
A beginning student who wishes to take Math 163 or a more advanced course must have departmental approval.

A student who wishes to enroll in a course requiring a prerequisite 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.

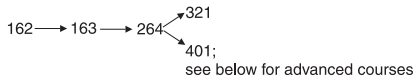
Transitional courses



Calculus for biological and social sciences

180 → 181

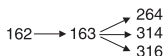
Mathematics major sequence



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.
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 C S 152L 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 and 402 and six of the following courses: 313, 319, 327, 331, 421, 431, 434, 441, 462, 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 401 is not chosen, then the concentration must include one of 441, 462, 463, 464, 466, 471 or 472. Students are strongly encouraged to take science and engineering courses with significant mathematical content.

Concentration III (Math Education). Undergraduates seeking secondary certification in Mathematics may be enrolled in either the College of Arts and Sciences or the College of Education. Mathematics major and minor requirements differ somewhat between the two colleges. The requirements for an A&S major are: Math 321 (or 314), 305, 306, 338, Stat 345 and at least 12 hours from Math 307, 308, 309, 311, 317, 319, 322, 331, 375, 401, 406 or other upper division courses approved by the math-education advisor.

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 C S hours of which the following are required: C S 152L, 261, 251L, E CE 238L, C S 257L and two of C S 341L, 351L and 361L.

The C S advisor may make exceptions where appropriate. See the C S department catalog entry for substitutions and restrictions.

Concentration V (Distributed). In addition to the usual mathematics major requirements, this concentration requires completion of Math 317 or 327 or Stat 345 and at least two of the following 10 groups of courses. Reasonable substitutions, approved by the student's advisor, are allowed. The remainder of the required 27 credits at the 300 level and above may be chosen by the student with the approval of the advisor.

1. 401 and 402 (Analysis)
2. 322 and 421 (Algebra)
3. 431 and either 331 or 434 (Topology/Geometry)
4. 319 and one of 317, 318, 327 (Discrete Mathematics)
5. Two of 312, 316, 462, 463, 466 (Differential Equations)
6. 311 and 313 (Multivariate and Complex Calculus)
7. 375 and either 464 or 471 (Computational Mathematics)
8. Stat 345 and Stat 427 (Applied Statistics)
9. 441 and Stat 453 (Statistics Theory, preparation for second actuarial exam)
10. 472 and an approved course, possibly in another department, in image processing

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.

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. Promising students lacking an adequate undergraduate background may be admitted to the graduate program but will be 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.

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 this 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.

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 Math and various concentrations may be found in the *Handbook for Graduate Students in Mathematics*. Copies of the Handbook can be found on the Web site: <http://www.math.unm.edu/gradhandbook/handbook.html>.

NOTE: Math 501 and 502 cannot be counted toward hours needed for graduate degrees in Mathematics and Statistics.

Graduate Minor in Mathematics

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.

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 C S 152L.
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, 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.

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

Concentrations: applied statistics, theoretical 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 will be 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.

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 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

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.

Mathematics (Math)

I. Introductory Courses

IS-M 100. Elementary Algebra. (4)

Includes signed numbers, solving linear equations, formulas, graphing, solving systems of equations and applications. Also covers exponents and polynomials, factoring, roots and radicals and quadratics. Satisfactory completion of Math 100 meets prerequisite for Math 120. **Offered on a CR/NC basis only.**

106. Problems in Intermediate Algebra. (1)

Study session for 120 with an emphasis on problem solving. Corequisite: 120. **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. Corequisite: 121. **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. Corequisite: 180. **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 and areas of simple geometric shapes. Emphasis on problem solving skills. The grading scale for this class is A+ to B-, CR/NC.
Prerequisites: fulfillment of department placement requirements or a CR in Math 100. Not open to students with credit for mathematics courses numbered 121 or above. Acceptable as credit toward graduation but not acceptable to satisfy the Arts and Sciences mathematics group requirement. {Summer, Fall, Spring}

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.
Prerequisite: fulfillment of department placement requirements or a grade of A+ to B-, or CR in Math 120. {Summer, Fall, Spring}

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.
Prerequisite: C (not C-) or better in Math 121. {Summer, Fall, Spring}

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.
Prerequisite: fulfillment of department placement requirements or a grade of A+ to B-, or CR in Math 120. {Summer, Fall, Spring}

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.
Prerequisite: C (not C-) or better in Math 121. Corequisite: Math 123.

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.
Prerequisite: fulfillment of department placement requirements or C (not C-) or better in Math 150 and Math 123. {Summer, Fall, Spring}

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: C (not C-) or better in Math 162 or permission of department chairperson. {Summer, Fall, Spring}

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.
Prerequisites: fulfillment of department placement requirements or a grade of C (not C-) or better in Math 121 or 150. {Summer, Fall, Spring}

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.
Prerequisites: C (not C-) or better in 180 and some knowledge of trigonometry or 123 (123 can be taken simultaneously with 181). {Summer, Fall, Spring}

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 or permission of department chairperson. {Summer, Fall, Spring}

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)
The intuitive and logical background of arithmetic; properties of sets; algorithms of arithmetic in base ten and other bases; properties of the integers, mathematical terminology; elements of number theory; problem solving.
Prerequisite: fulfillment of department placement requirements or CR in IS-Math 100. {Summer, Fall, Spring}

112. Mathematics for Elementary and Middle School Teachers II. (3)
The properties of the rational number system; extension to the irrationals; decimal and fractional representation of real numbers; geometry.
Prerequisite: C (not C-) or better in Math 111. {Summer, Fall, Spring}

215. Mathematics for Elementary and Middle School Teachers III. (3)
Topics from probability and statistics, coordinate geometry and measurement, and algebra; some applications of mathematics; elements of logic; enrichment topics for the classroom.
Prerequisites: C (not C-) or better in Math 111 and 112. {Summer, Fall, Spring}

300. Computing in the Mathematics Curriculum. (3)²
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.

305. Mathematics from a Historical Perspective. (3)²
A survey of mathematical developments prior to 1800; emphasis on problem solving techniques; comparison of older and more modern methods.
Prerequisite: 163. {Fall}

306. College Geometry. (3) ²

An axiomatic approach to fundamentals of geometry, both Euclidean and non-Euclidean. Emphasis on historical development of geometry. {Spring}

308. Theory and Practice of Problem Solving. (3) ²

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: 1 semester calculus. Corequisite: 306.

309. Applications of Mathematics. (3) ²

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: one semester calculus and Corequisite: 306.

338. Mathematics for Secondary Teachers. (3) ²

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: one year of calculus. {Fall}

339. Topics in Mathematics for Elementary and Middle School Teachers. (1-3) Δ ²

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}

350. Topics in Mathematics for Secondary Teachers. (1-3) Δ ²

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}

Footnote:

² These courses are available for graduate credit for the Masters in Education.

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: grade of C (not C-) or better in 264 or permission of department chairperson. {Summer, Fall, Spring}

****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.

Prerequisites: 264, 316. {Summer, Fall, Spring}

****313. Complex Variables for Engineering. (3)**

Theory of functions of a complex variable with applications to physical and engineering problems.

Prerequisite: 264. Recommended: 311. {Spring}

****314. Linear Algebra with Applications. (3) ¹**

Systems of linear equations, matrices, linear transformations, determinants, eigenvalues and eigenvectors. Efficient computational methods emphasized.

Prerequisite: 163 or equivalent. {Summer, Fall, Spring}

****316. Applied Ordinary Differential Equations. (3)**

An introduction to the algorithmic theory of ordinary differential equations. Topics to be covered: elementary theory of ordinary differential equations, numerical methods, phase-plane analysis, introduction to Laplace transformations.

Prerequisite: 163. 264 is recommended. {Summer, Fall, Spring}

****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: one year of calculus. {Fall}

****318. Graph Theory. (3)**

Trees, connectivity, planarity, colorability, and digraphs; algorithms and models involving these concepts.

Prerequisite: permission of instructor. {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. Discrete Structures. (3)**

Designed primarily for computer engineers but useful to many others, this course provides the foundations for the mathematical analysis of algorithms. Topics include: combinatorics, Boolean logic, induction, sets, relations, functions, graphs and other discrete mathematical structures.

Prerequisite: one year of calculus. {Fall}

****331. Survey of Geometry. (3)**

Topics from affine, projective, Euclidean and hyperbolic geometries.

Prerequisites: 163 and either 314 or 321. {Offered upon demand}

***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 C S 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.

Prerequisites: 163 and some ability in Fortran or C programming. {Fall, Spring}

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.

Prerequisite: permission of instructor. {Offered upon demand}

393. Topics in Mathematics. (3) Δ

Selected topics from analysis, algebra, geometry, statistics, model building, interdisciplinary studies and problem solving. May be repeated for credit, no limit. {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 or permission of instructor. {Fall, Spring}

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: 401/501 or permission of instructor.

****412. [*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.
Prerequisites: 264 and 314 or 316.

***415. Philosophy of Mathematics. (3)**

(Also offered as Phil 415.) This course is a survey of the main philosophical views on the nature of mathematics and mathematical knowledge. Some of the material covered makes essential use of important results of logical theory.
Prerequisite: 356 or 456 or permission of instructor.

***416. Axiomatic Set Theory. (3)**

(Also offered as Phil 416.) Starting with elementary logical considerations, this course develops set theory as a foundation for all mathematics. The presentation is rigorous but assumes no specific topics in previous mathematics. Recommended for the student interested in abstract mathematics, who wishes to learn to do rigorous proofs.
Prerequisite: one year of college mathematics or Math/Phil 356 or Math/Phil 456. (Offered upon demand)

***421. Modern Algebra II. (3)**

Theory of fields, algebraic field extensions and Galois theory for fields of characteristic zero.
Prerequisite: 322 or 422. (Alternate Springs)

****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. Introduction to Topology. (3)**

Metric spaces, topological spaces, continuity, algebraic topology.
Prerequisite: 401. (Alternate Falls)

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) Δ**

May be repeated for credit, no limit. (Offered upon demand)

441./527. 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 or equivalent. (Fall)

***456. Metalogic. (4)**

(Also offered as Phil 456.) This course offers technical and philosophical expositions of fundamental results of the metatheory of Predicate Logic, such as the completeness theorem and Godel's incompleteness results. It also offers introductory expositions of set theory and computability.
Prerequisite: 356 or permission of instructor.

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, 316, 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.
Prerequisites: 312, 313, 314 or 321, one of 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 or permission of instructor. (Fall)

***466. Mathematical Methods in Science and Engineering. (3)**

Special functions and advanced mathematical methods for solving differential equations, difference equations and integral equations.
Prerequisites: 311, 312, 313, 316. (Spring)

***471. Introduction to Scientific Computing. (3)**

(Also offered as C S 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, 321 or 401 or permission of the instructor. (Offered upon demand)

499. Individual Study. (1-3 to a maximum of 6)

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

****501./401. [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 or permission of instructor.

****502./402. [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: 401/501 or permission of instructor.

504. Introductory Numerical Analysis: Numerical Linear Algebra. (3)

(Also offered as C S 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.
Prerequisites: 464, 514, some knowledge of programming. (Spring)

505. Introductory Numerical Analysis: Approximation and Differential Equations. (3)

(Also offered as C S 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.
Prerequisites: 316 or 401 and some knowledge of programming. (Fall)

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 Fourier Analysis (time permitting). Prerequisites: 321, 401. {Fall}

511. Introduction to Analysis II. (3)

Continuation of 510. Differentiation in \mathbb{R}^n . Inverse and implicit function theorems, integration in \mathbb{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 Poincaré Map. Introduction to perturbation theory. Prerequisites: 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. Prerequisites: 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) Δ

May be repeated for credit, no limit.

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. Prerequisites: 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. Prerequisites: 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. Prerequisites: 431, 521 or permission of instructor. {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}

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 or permission of instructor. {Alternate Falls}

537. Riemannian Geometry. (3)

Theory of connections, curvature, Riemannian metrics, Hopf-Rinow theorem, geodesics. Riemannian submanifolds and Riemannian submersions. Prerequisite: 511 or permission of instructor. {Alternate Springs}

539. Selected Topics in Geometry and Topology. (3) Δ

May be repeated for credit, no limit.

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 or permission of instructor. {Offered on 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}

549. Selected Topics in Probability Theory. (3) Δ

(Also offered as Stat 569.) May be repeated for credit, no limit.

551. Problems. (1-3) \dagger

May be repeated for credit, no limit.

557. Selected Topics in Numerical Analysis. (3) Δ

(Also offered as C S 557.) Possible topics include approximation theory, two point boundary value problems, quadrature, integral equations and roots of nonlinear equations. May be repeated for credit, no limit.

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. Prerequisites: 316, 441 and some familiarity with elementary PDEs. {Offered upon demand}

569. Selected Topics in Analysis. (3) Δ
May be repeated for credit, no limit.

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.
Prerequisites: 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 or permission of the instructor. {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.
Prerequisites: 462, 504, 505. {Offered upon demand}

578. Numerical Partial Differential Equations. (3)
Introduction to the numerical analysis of partial differential equations.
Prerequisites: 463, 504, 505. {Alternate Falls}

579. Selected Topics in Applied Mathematics. (3) Δ
May be repeated for credit, no limit.

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.
Prerequisites: 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.
Prerequisites: 312, 314, 316, 401 or equivalent with permission of instructor. {Alternate Springs}

598. Practicum. (1-6 to a maximum of 6) †
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)
Offered on a CR/NC basis only.

605. Graduate Colloquium. (1-1 to a maximum of 4)
Students present their current research.

619. Seminar in Number Theory. (1-3)

629. Seminar in Algebra. (1-3) Δ
May be repeated for credit, no limit.

639. Seminar in Geometry and Topology. (1-3) Δ
May be repeated for credit, no limit.

649. Seminar in Probability and Statistics. (1-3) Δ
(Also offered as Stat 649.) May be repeated for credit, no limit.

650. Reading and Research. (1-6 to a maximum of 12) †

669. Seminar in Analysis. (1-3) Δ
May be repeated for credit, no limit.

679. Seminar in Applied Mathematics. (1-3) Δ
May be repeated for credit, no limit.

689. Seminar in Functional Analysis. (1-3)

699. Dissertation. (3-12)
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: fulfillment of department placement requirements or a grade of A+ to B-, CR in Math 120. {Summer, Fall, Spring}

245. Introduction to Business Statistics. (3)
(Also offered as Mgt 290.) 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 or equivalent and C S 150L.

270. Statistical Quality Control and Improvement. (3)
Examines statistical process control (SPC), control chart applications and development, sampling techniques, design of experiments and process reliability. Students will use computer programs to apply quality assurance concepts.
Prerequisite: Math 121.

****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: one year of calculus. {Summer, Fall, Spring}

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.
Prerequisites: 345, 427 or permission of instructor.

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 or permission of instructor.

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.

Prerequisites: 345, 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.

Prerequisites: 427 and some familiarity with matrix algebra. {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 or equivalent. {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 or permission of instructor.

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 or permission of instructor. {Offered upon demand}

479. Topics in Statistics. (3) Δ

Modern topics not covered in regular course offerings. May be repeated for credit, no limit.

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}

485. 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: 461 or permission of instructor. {Offered upon demand}

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.

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.

Prerequisites: 345, 427 or permission of instructor.

****527./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: an introductory statistics course or permission of instructor. {Fall}

****528./428. [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 or permission of instructor.

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.

Prerequisites: 345, 427 or permission of instructor. {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 or permission of instructor. {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.
Prerequisites: 345, 527.

****538. [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 or permission of instructor. {Fall}

****539. [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 or permission of instructor. {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.
Prerequisites: 527, some familiarity with matrix algebra. {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.
Prerequisites: 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}

554. Intermediate Statistical Inference. (3)

This is a continuation of 553. Topics include: a review of basic tools with emphasis on proofs and problem-solving, data reduction and sufficiency, global properties of estimators,

large sample theory, decision theory, optimal tests, sequential analysis, elements of time series analysis.
Prerequisite: 553. {Fall}

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 or equivalent. {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 or permission of instructor. {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) Δ

(Also offered as Math 549.) May be repeated for credit, no limit.

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 or permission of instructor.

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 or permission of instructor. {Offered upon demand}



579. Selected Topics in Statistics. (3) Δ
May be repeated for credit, no limit.

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 or permission of instructor. (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 or permission of instructor. (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 or permission of instructor.

595. Problems. (1-3) \dagger
May be repeated for credit, no limit.

597. Statistical Consulting Laboratory. (1-3) Δ
Provides experience in statistical consulting and analysis of real data. May be repeated for credit, no limit.
Prerequisite: 528 or permission of instructor.

599. Master's Thesis. (1-6)
Offered on a CR/NC basis only.

605. Graduate Colloquium. (1-1 to a maximum of 4) Δ
Students present their current research.

649. Seminar in Probability and Statistics. (1-3) Δ
(Also offered as Math 649.) May be repeated for credit, no limit.

650. Reading and Research. (1-6 to a maximum of 12) \dagger

699. Dissertation. (3-12)
Offered on a CR/NC basis only.

PEACE STUDIES MINOR

Jennifer Moore, Director (Law)
Betsy Erbaugh, Advisor (Sociology)
Peace Studies Program
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Faculty

Colston Chandler (Physics)
Philip Gonzales (Sociology)
Carole Nagengast (Anthropology)
Shiame Okunor (African-American Studies)
Mark Peceny (Political Science)
Christine Rack (Sociology)
Barri Sanders (UNM-Taos, Peace Studies Program)
Jane Slaughter (History)
Ted Sturm (Philosophy)

Students

Adolphine Carole (Sociology)
Fiona Sinclair (American Studies)

Community Organization Representatives

Anita Amstutz (Albuquerque Mennonite Church)

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. 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 Study 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

Entry:	Pol Sc 240 International Politics	3
Physcs	105 Physics and Society	3
Internship:	Peace Studies Internship	3
Closure:	Peace Studies Seminar	3

The Peace Studies Internship and Seminar requirement may be satisfied through relevant courses approved by the Peace Studies Program Committee (see Advisor).

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:

Am St 320	T/Globalization Theory & Practice	3
Am St 182	Environment, Science & Technology	3
Anth 420	Ethics in Anthropology	3
C & J 318	Language, Thought and Behavior	3
Econ 204	Origins and Development of Economic Thought	3
English 420	Language and Diversity	3
Ling 490	T/Rhetoric of War	3
Phil 102	Current Moral Problems	3
Phil 358	Ethical Theory	3
Phil 441	Philosophical Movements/Contemporary	3
Pol Sc 260	Political Ideas	3
Pol Sc 362	Modern Political Theory	3
Soc 312	Causes of Crime	3
Relig 247	Ecology and Spirit	3
UHon 302	Sem/Modern Terrorism & US Constitution	3

Group II – Methodology and Practice of Conflict Resolution

Suggested courses:

Am St 300	T/Globalization & Nonviolent Resistance	3
Am St 310	Nonviolence Issues	3
Anth 251	Forensic Anthropology	3
Anth 453	Advanced Forensic Anthropology	3
Arthi 429	T/Visible Agendas	3
Biol 402	ST/Bioterrorism	3
C & J 221	Interpersonal Communication	3
C & J 314	Intercultural Communication	3
C & J 320	Mediation	3
FLC	Conflict and Reconciliation	3
Pol Sc 442	International Peacekeeping and Conflict Resolution	3
Psych 374	Cross-cultural Psychology	3
Psych 450	ST/Psychological Trauma	3
Wm St 279	Intercultural Communication Between Women	3

Group III – Conflict and Conflict Resolution at the International Level

Suggested courses:

Af Am 303	Black Religion and Liberation	3
Anth 339	Human Rights in Anthropology	3
Soc 461	Dynamics of Social Change	3

Geog 201	World Regional Geography	3
Geog 360	Political Geography	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
Pol Sc 220	Introduction to Comparative Politics	3
Pol Sc 240	International Politics	3
Pol Sc 320	T/Islam and Politics	3
Pol Sc 320	T/Middle Eastern Politics	3
Pol Sc 342	American Foreign Policy	3
Pol Sc 345	Inter-American Relations	3
Pol Sc 356	Political Developments in Latin America	3
Pol Sc 440	International Conflict, Arms Control & Disarmament	3
Soc 221	Global Issues	3
FLC	World Religions/Violence in the Name of God	3
Wm St 331	Third World Women	3
Wm St 339	Women and Cultural Violence	3
Wm St 379	T/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
Pol Sc 307	Politics of Ethnic Groups	3
Pol Sc 313	Women and the Law	3
Pol Sc 322	Politics of Human Rights	3
Pol Sc 441	Civil Wars	3
Soc 216	Dynamics of Prejudice	3
Soc 416	Race & Cultural Relations	3
Soc 331	Collective Behavior	3
Wm St 353	Women and Creativity	3

PHILOSOPHY

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Professors

Andrew Burgess, Ph.D., Yale University
 John Bussanich, Ph.D., Stanford University
 Russell B. Goodman, Ph.D., The Johns Hopkins University
 George Frederick Schueler, Ph.D., University of California (Berkeley)
 John Taber, Ph.D., Universitat Hamburg

Associate Professors

Barbara Hannan, Ph.D., University of Arizona
 Iain Thomson, Ph.D., University of California (San Diego)

Assistant Professors

Kelly Becker, Ph.D., University of California (San Diego)
 Richard Hayes, Ph.D., University of Toronto
 Brent Kalar, Ph.D., Harvard University

Professors Emeriti

Helena Eilstein, Ph.D., University of Warsaw
 Donald Lee, Ph.D., University of California (San Diego)
 Paul F. Schmidt, Ph.D., Yale University
 Fred Gillette Sturm, Ph.D., Columbia University
 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

ARTS AND SCIENCES

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: Pol Sc 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 498–499 for at least a total of 6 hours credit.

Graduate Program

Graduate Director
John Taber

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)

101. Introduction to Philosophical Problems. (3)

Philosophical issues and methodology illustrated through selected problems concerning values, knowledge, reality; and in social, political and religious philosophy.

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.

111. [111–112.] Humanities I. [Humanities I–II.] (3) [3, 3]

Comparative introduction to the development of human civilizations emphasizing philosophic thought, religious practice and artistic expression.

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.

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. Modern Philosophy. (3)

An historical study from the Renaissance through Kant.

204. Greek Civilization. (3)

(Also offered as Clscs, Hist, Art Hi 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 Clscs, Hist, Art Hi 205.) An interdisciplinary introduction to ancient Rome. Lectures on Roman literature, history, art and philosophy.

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.

258. Introduction to Moral Philosophy. (3)

An introduction to philosophical issues arising in the study of morality, such as relativism, subjectivism and freedom of will.

307/507. Hellenistic Philosophy. (3)

An in-depth survey of Greek philosophy after Aristotle, with equal attention to the major philosophical schools of Stoicism, Epicureanism and Skepticism and to the topics they address in ethics, cosmology, and logic/epistemology. Prerequisite: 201 or permission of instructor.

308/508. Medieval European Philosophy. (3)

Major thinkers from Augustine through Ockham. Prerequisite: 201 or permission of instructor.

331/531. Ch'an and Zen Buddhist Philosophy. (3)

(Also offered as Relig 331.) 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: 336 or 337 recommended.

332/532. 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: 101 or 201 or 202 or permission of instructor.

334/534. Philosophies of India. (3)

Upanishads, Bhagavad-gita, Jainism, Buddhism, the six Hindu systems and recent developments. Prerequisite: 101 or 201 or 202 or permission of instructor.

335/535. Topics in Indian Philosophy. (3 to a maximum of 18) Δ

Prerequisite: 334 recommended.

336/536. Chinese Philosophy I. (3)

The development of Chinese thought from pre-Confucian times through the T'ang dynasty.

337/537. Chinese Philosophy II. (3)

Chinese thought from the Sung dynasty to the present.

341. Topics in Philosophy. [Philosophic Questions.] (1-3) Δ

An investigation of some important philosophic debates. May be repeated six times for credit.

342. Selected Philosophers. (3 to a maximum of 18) Δ

A treatment of the thought of a major philosopher.

343/543. 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: 202 or permission of instructor.

344/544. Nineteenth-Century Philosophy. (3)

From Kant through Hegel, Marx, Schopenhauer, Kierkegaard, Mill, Nietzsche. Prerequisite: 202 or permission of instructor.

346/546. Twentieth-Century Philosophy. (3) †

Twentieth-century philosophies. Prerequisite: 202 or 344 or permission of instructor.

348/548. 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: 101 or 201 or 202 or 334 or 336 or permission of instructor.

350/550. 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. Prerequisite: 156 or 356 or permission of instructor.

352/552. Theory of Knowledge. (3)

Problems and theories of epistemology. Prerequisite: 101 or 201 or 202 or permission of instructor.

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 or permission of instructor.

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 or permission of instructor.

359./559. Philosophy of Biology. (3)

This course consists of a close and critical examination of selected philosophical issues that arise from the methodological and conceptual content of evolutionary biology.

360./560. Christian Classics. (3)

(Also offered as Relig 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 previous course in Religious Studies or Philosophy or permission of instructor.

361./561. Modern Christian Thought. (3)

(Also offered as Relig 361.) Background of the intellectual issues facing Roman Catholic and Protestant traditions today.

Prerequisite: one previous course in Religious Studies or Philosophy or permission of instructor.

363./563. Environmental Ethics. (3)

Close reading of contemporary writings by naturalists, lawyers, theologians and philosophers on the philosophical aspects of environmental problems.

365./565. Philosophy of Religion. (3)

(Also offered as Relig 365.) Philosophic analysis of some major concepts and problems in religion.

Prerequisite: one previous course in Philosophy or Religious Studies or permission of instructor.

367./567. 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 experience; evaluation; artists/author's status; meaning; reception; hermeneutics and representation.

Prerequisite: one previous course in philosophy and in the arts or literature or permission of instructor.

371./571. Classical Social and Political Philosophy. (3)

From Plato to Hobbes.

Prerequisite: 101 or 201 or permission of instructor.

372./572. Modern Social and Political Philosophy. (3)

From Hobbes to present.

Prerequisite: 101 or 202 or 371 or permission of instructor.

381./581. Philosophy of Law and Morals. (3)

Nature and function of public law and its relation to moral belief.

Prerequisite: 201 or 202 or 358 or permission of instructor.

384./584. Philosophy of Mind. (3)

A study of certain issues connected with the nature and status of minds.

Prerequisite: 201 or 202 or 352 or 354 or permission of instructor.

388./588. Topics in Brazilian Thought. (3)

(Also offered as Relig 388.) A philosophical analysis of selected topics from Brazilian intellectual history and contemporary Brazilian thought in the areas of art, economics, literature, philosophy, politics, religion, theatre and society.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

389./589. Latin American Thought I. (3)

(Also offered as Hist, Relig, Soc 389.) Pre-Columbian thought through independence ideologies.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

390./590. Latin American Thought II. (3)

(Also offered as Hist, Relig, Soc 390.) Positivism through contemporary thought.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

402./502. Plato. (3)

Prerequisite: one course in Philosophy. 201 highly recommended.

403./503. Aristotle. (3)

Prerequisite: one course in Philosophy. 201 highly recommended.

404./504. Augustine. (3)

(Also offered as Relig 404.)

Prerequisite: one course in Philosophy or Religious Studies. 201 or Relig 360 strongly recommended.

406./506. Descartes. (3)

Prerequisite: one course in Philosophy. 202 highly recommended

409./509. Hume. (3)

Prerequisite: 202 or permission of instructor.

410./510. Kant. (3)

Prerequisite: 202 or permission of instructor.

412./512. Hegel. (3)**413./513. Kierkegaard. (3)**

(Also offered as Relig 413.)

415./515. Philosophy of Mathematics. (3)

(Also offered as Math 415.) This course is a survey of the main philosophical views on the nature of mathematics and mathematical knowledge. Some of the materials covered make essential use of important results of logical theory.

Prerequisite: 356 or 456 or permission of instructor.

416./516. Axiomatic Set Theory. (3)

(Also offered as Math 416.) Starting with elementary logical considerations, this course develops set theory as a foundation for all mathematics. The presentation is rigorous but assumes no specific topics in previous mathematics. Recommended for any student interested in abstract mathematics, philosophy of mathematics or logical theory who wishes to learn to do rigorous proofs.

Prerequisite: one year of college mathematics or Math/Phil 356 or Math/Phil 456. (Offered upon demand)

421./521. Heidegger. (3)**422./522. Wittgenstein. (3)****438./538. Buddhist Philosophy—India. (3)**

(Also offered as Relig 438.) A survey of Hinayana and Mahayana philosophical thought as it developed in South Asia, together with its religious, historical and social context.

439./539. Buddhist Philosophy—China. (3)

(Also offered as Relig 439.) Development of Buddhist thought in China and East Asia from T'ang dynasty to the present.

440./540. Buddhist Sutras Seminar. (3 to a maximum of 12) Δ

(Also offered as Relig 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.

441. Philosophical Movements. (3 to a maximum of 24) Δ

Topic varies.
Prerequisite: one previous course in Philosophy or permission of instructor.

442. Individual Philosophers. (3 to a maximum of 24) Δ

Figure varies.
Prerequisite: one previous course in Philosophy or permission of instructor.

445/545. Philosophy of Language. (3)

Philosophies of meaning with special attention to the relations between language and thought.
Prerequisite: 202 or 352 or permission of instructor.

449/549. The Bhagavad Gita and Yoga. (3)

(Also offered as Relig 449.) A study of this very important text of Hindu thought and the philosophies of Samkhya and Yoga, which serve as its background.

453. Asian Studies Thesis. (3)

(Also offered as Relig 449.) Cross-cultural and interdisciplinary investigations of problems and methodologies current in Asian studies.

456. Metalogic. (4)

(Also offered as Math 456.) This course offers technical and philosophical expositions of fundamental results of the metatheory of Predicate Logic, such as the completeness theorem and Godel's incompleteness results. It also offers introductory expositions of set theory and computability.
Prerequisite: 356 or permission of instructor.

480/580. Philosophy and Literature. (3 to a maximum of 12) Δ

(Also offered as Eng-Ph 480.) Selected philosophical movements and their relationships to literary masterpieces.
Prerequisites: 6 hours of literature and 3 hours of philosophy from the courses specified as requirements for the program.

485/585. Philosophical Foundations of Economic Theory. (3)

(Also offered as Ec-Ph 485.)
Prerequisites: Econ 105, Econ 106.

497. Honors Seminar. (3) †

For departmental honors in philosophy. {Offered upon demand}

498. Reading and Research. (1-3) †

499. Senior Thesis. (3) †
For departmental honors. {Offered upon demand}

502/402. Plato. (3)

Prerequisite: one course in Philosophy. 201 highly recommended.

503/403. Aristotle. (3)

Prerequisite: one course in Philosophy. 201 highly recommended.

504/404. Augustine. (3)

(Also offered as Relig 504.)
Prerequisite: one course in Philosophy or Religious Studies. 201 or Relig 360 strongly recommended.

506/406. Descartes. (3)

Prerequisite: one course in Philosophy. 202 highly recommended

507/307. Hellenistic Philosophy. (3)

An in-depth survey of Greek philosophy after Aristotle, with equal attention to the major philosophical schools of Stoicism, Epicureanism and Skepticism and to the topics they address in ethics, cosmology and logic/epistemology.
Prerequisite: 201 or permission of instructor.

508/308. Medieval European Philosophy. (3)

Major thinkers from Augustine through Ockham.
Prerequisite: 201 or permission of instructor.

509/409. Hume. (3)

Prerequisite: 202 or permission of instructor.

510/410. Kant. (3)

Prerequisite: 202 or permission of instructor.

512/412. Hegel. (3)

513/413. Kierkegaard. (3)

(Also offered as Relig 513.)

514. 20th-Century European Theory. (3)

(Also offered as Soc 514.) Analytical Marxism, Nietzsche, Spengler, Sociobiology, Foucault, Sartre, Lukacs, The Frankfurt School.

515/415. Philosophy of Mathematics. (3)

This course is a survey of the main philosophical views on the nature of mathematics and mathematical knowledge. Some of the materials covered make essential use of important results of logical theory.
Prerequisite: 356 or 456 or permission of instructor.

516/416. Axiomatic Set Theory. (3)

Starting with elementary logical considerations, this course develops set theory as a foundation for all mathematics. The presentation is rigorous but assumes no specific topics in previous mathematics. Recommended for any student interested in abstract mathematics, philosophy of mathematics or logical theory who wishes to learn to do rigorous proofs.
Prerequisite: one year of college mathematics or Math/Phil 356 or Math/Phil 456. {Offered upon demand}

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.**

521/421. Heidegger. (3)

522/422. Wittgenstein. (3)

526. Seminar in Asian Philosophers. (3 to a maximum of 27) Δ

531/331. Ch'an and Zen Buddhist Philosophy. (3)

(Also offered as Relig 531.) 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: 336 or 337 recommended.

532/332. 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: 101 or 201 or 202 or permission of instructor.

534/334. Philosophies of India. (3)

Upanishads, Bhagavad-gita, Jainism, Buddhism, the six Hindu systems and recent developments.
Prerequisite: 101 or 201 or 202 or permission of instructor.

535/335. Topics in Indian Philosophy. (3 to a maximum of 18) Δ

Prerequisite: 334 recommended.

536/336. Chinese Philosophy I. (3)

The development of Chinese thought from pre-Confucian times through the T'ang dynasty.

537/337. Chinese Philosophy II. (3)

Chinese thought from the Sung dynasty to the present.

- 538./438. Buddhist Philosophy—India. (3)**
(Also offered as Relig 538.) A survey of Hinayana and Mahayana philosophical thought as it developed in South Asia, together with its religious, historical and social context.
- 539./439. Buddhist Philosophy—China. (3)**
(Also offered as Relig 539.) Development of Buddhist thought in China and East Asia from T'ang dynasty to the present.
- 540./440. Buddhist Sutras Seminar. (3 to a maximum of 12) Δ**
(Also offered as Relig 540.) 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.
- 541. Seminar in Philosophical Movements. (3 to a maximum of 27) Δ**
- 542. Seminar in Individual Philosophers. (3 to a maximum of 27) Δ**
- 543./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: 202 or permission of instructor.
- 544./344. Nineteenth-Century Philosophy. (3)**
From Kant through Hegel, Marx, Schopenhauer, Kierkegaard, Mill, Nietzsche.
Prerequisite: 202 or permission of instructor.
- 545./445. Philosophy of Language. (3)**
Philosophies of meaning with special attention to the relations between language and thought.
Prerequisite: 202 or 352 or permission of instructor.
- 546./346. Twentieth-Century Philosophy. (3) †**
Twentieth-century philosophies.
Prerequisite: 202 or 344 or permission of instructor.
- 548./348. 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: 101 or 201 or 202 or 334 or 336 or permission of instructor.
- 549./449. The Bhagavad Gita and Yoga. (3)**
(Also offered as Relig 549.) A study of this very important text of Hindu thought and the philosophies of Samkhya and Yoga, which serve as its background.
- 550./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.
Prerequisite: 156 or 356 or permission of instructor.
- 551. M.A. Problems. (1-3) Δ**
May be repeated nine times for credit.
- 552./352. Theory of Knowledge. (3)**
Problems and theories of epistemology.
Prerequisite: 101 or 201 or 202 or permission of instructor.
- 554. Seminar in Metaphysics & Epistemology. (3 to a maximum of 18) Δ**
- 556. Seminar in Philosophical Logic. (1-6) Δ**
This course consists of a close examination of a topic in logical theory in the philosophy of logic or in a philosophical area that utilizes the methods of logic or is relevant to issues in logical theory. May be repeated six times for credit providing topic varies.
Prerequisites: 356 and permission of instructor.
- 558. Seminar in Value Theory. (3 to a maximum of 18) Δ**
- 559./359. Philosophy of Biology. (3)**
This course consists of a close and critical examination of selected philosophical issues that arise from the methodological and conceptual content of evolutionary biology.
- 560./360. Christian Classics. (3)**
(Also offered as Relig 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 previous course in Religious Studies or Philosophy or permission of instructor.
- 561./361. Modern Christian Thought. (3)**
(Also offered as Relig 561.) Background of the intellectual issues facing Roman Catholic and Protestant traditions today.
Prerequisite: one previous course in Religious Studies or Philosophy or permission of instructor.
- 563./363. Environmental Ethics. (3)**
Close reading of contemporary writings by naturalists, lawyers, theologians and philosophers on the philosophical aspects of environmental problems.
- 565./365. Philosophy of Religion. (3)**
(Also offered as Relig 565.) Philosophic analysis of some major concepts and problems in religion.
Prerequisite: one previous course in Philosophy or Religious Studies or permission of instructor.
- 567./367. 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 experience; evaluation; artist's/author's status; meaning; reception; hermeneutics and representation.
Prerequisite: one previous course in philosophy and in the arts or literature or permission of instructor.
- 571./371. Classical Social and Political Philosophy. (3)**
From Plato to Hobbes.
Prerequisite: 101 or 201 or permission of instructor.
- 572./372. Modern Social and Political Philosophy. (3)**
From Hobbes to present.
Prerequisite: 101 or 202 or 371 or permission of instructor.
- 580./480. Philosophy and Literature. (3 to a maximum of 12) Δ**
Selected philosophical movements and their relationships to literary masterpieces.
Prerequisites: 6 hours of literature and 3 hours of philosophy from the courses specified as requirements for the program.
- 581./381. Philosophy of Law and Morals. (3)**
Nature and function of public law and its relation to moral belief.
Prerequisite: 201 or 202 or 358 or permission of instructor.
- 582. Seminar in Philosophy of Literature. (3 to a maximum of 12) Δ**
Selected topics in the interrelationship of philosophy and literature. N.B.: Seminar for Philosophy M.A. candidates concentrating in philosophy of literature.
- 584./384. Philosophy of Mind. (3)**
A study of certain issues connected with the nature and status of minds.
Prerequisite: 201 or 202 or 352 or 354 or permission of instructor.
- 585./485. Philosophical Foundations of Economic Theory. (3)**
Prerequisites: Econ 105, 106.
- 588./388. Topics in Brazilian Thought. (3)**
A philosophical analysis of selected topics from Brazilian intellectual history and contemporary Brazilian thought in the

areas of art, economics, literature, philosophy, politics, religion, theatre and society.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

589/389. Latin American Thought I. (3)

Pre-Columbian thought through independence ideologies.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

590/390. Latin American Thought II. (3)

Positivism through contemporary thought.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

599. Master's Thesis. (1-6) Δ

May be repeated three times for credit. **Offered on a CR/NC basis only.**

651. Ph.D. Problems. (1-3) Δ

May be repeated six times for credit.

699. Dissertation. (3-12) Δ

May be repeated six times for credit. **Offered on a CR/NC basis only.**

PHILOSOPHY-ECONOMICS

See Economics-Philosophy.

PHILOSOPHY-ENGLISH

See English-Philosophy.

PHYSICS AND ASTRONOMY

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 William Sutherland, Ph.D., University of Virginia
 David W. Tyler, Ph.D., The University of New Mexico
 Geoffrey B. West, Ph.D., Stanford University

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 25 regular faculty members, another dozen research, adjunct and part-time faculty members, a dozen postdoctoral research associates and from their interactions with well over 50 undergraduate majors and 100 graduate students. The atmosphere is enriched by activities of the Center for Advanced Studies, the Consortium of the Americas for Interdisciplinary Science, an NSF-funded Cross-Disciplinary Optics Research and Education (C.O.R.E.) program, 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 SAI 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 Institute 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 Web site at <http://panda.unm.edu>.

Undergraduate Program

The basic courses Physics 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

Freshmen students planning to major or minor in physics or astrophysics who have the necessary mathematics usually take Physics 160, 160L and Math 162 in their first semester and Physics 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 Physics 151 and 160, nor for both Physics 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: Physics 301, 303, 304, 307L, 308L, 330, 405, 406, 491, 492, 493L; Math 311, 312, 316, 321; Chem 121L-122L; C S 151L; and one 3-hour Physics course numbered above 300. Physics 451 and 452 cannot be substituted for the 3-hour elective course numbered above 300.

For the degree of B.S. in Astrophysics: Astr 421, 422; Physics 301, 303, 304, 330, 405, and either 406 or 491; 6 hours of astronomy courses numbered above 399; Math 311, 312, 316.

For the degree of B.A. in Physics and Astrophysics: Astr 271; Physics 330; two courses chosen from Physics 303, 307L or 405; three additional 3-hour, upper-level courses in Physics or Astronomy, one of which must be in Astronomy; 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 a topic that is accepted by the faculty mentor, the student should register for the 1 credit hour honors course, Astro/Physics 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 midpoint 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 Physics 301, 302, 303, 304, 330, 405, 406; Math 316.

Astrophysics

Physics 330 and one course chosen from Physics 301, 302, 303, 405; Astr 270, 271; 3 hours of Astronomy courses numbered above 399; Math 316.

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 Optical Science and Engineering M.S. and Ph.D. programs are multidisciplinary and assume an undergraduate background including optics, optical engineering, and/or optoelectronics.

There is no foreign language requirement for graduate degrees in physics. 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:	February 1
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 research atmosphere is very 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 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 Physics 503, 505, 511 and 521. In addition, if material equivalent to Physics 466 or 467 and one of the advanced labs (Physics 476L, 477L or 493L) is not included in the student's prior education, these courses must also be taken for the graduate degree.

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

Current research areas include: 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, and quantum computing.

Administered jointly by the departments of Physics and Astronomy and of Electrical and Computer Engineering, the program features an internship option under which a student can apply qualified industrial/government laboratory research credit along with successfully completed standard course work toward the degree. Under Plan I (thesis-based), a minimum of 24 hours of course work and 6 hours of thesis credit (599) is required. Under Plan II(a) (standard course-based), a minimum of 33 hours of course work, including 3 hours of research seminar (Physics 500) or problems course (Physics 551, 552, 650 or E CE 551, 651) with at least 2 of those hours in Optics, is required. Under Plan II(b) (internship course-based), a minimum of 33 hours of course work, including 3 hours of internship (under the course number Physics 559/E CE 599), is required. All three plans must include Physics 463/E CE 463, Physics 464/E CE 464, Physics 476L or 477L, E CE 574L, Physics 511 or E CE 561, and E CE 564 or E CE 565 as well as 6 hours (only 3 hours under Plan I) drawn from E CE 475, Physics 521, Physics 554/E CE 567, Physics 555/E CE 568, Physics 529 or E CE 572, Physics 569 or E CE 595, Physics 564, E CE 577, Physics 566, Physics 531, and Physics 556. Passing of an oral M.S. examination is required under Plans II(a) and II(b).

Ph.D. in Physics

The research atmosphere is very 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 Doctor of Philosophy in Physics requires a minimum of 48 semester hours of graduate work **exclusive of dissertation**. These hours must include Physics 503, 505, 511, 521, 522/Astr 537, a laboratory or experimental problems course, four seminars (Physics 500 and/or 501) and four electives chosen from a departmental list available from the student's department advisor. Details **MUST** be discussed with a graduate advisor each semester. In addition, if the student has not previously taken courses equivalent to Physics 466/467, then those courses must be included in the Ph.D. course work.

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 Physics 463, 464, 466/467, 511, 521, 554, 555 and one of 476L/477L, 522, 530, 564, 566, or 569. Students are encouraged to take two semesters of Physics 500/501 (Advanced Seminar).

More information about the Optical Science and Engineering Program is available at the Web site: <http://www.optics.unm.edu/>.

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.

Astr 101L. Astronomy Laboratory. (1)

Intended as an adjunct to Astr 101, this course deals with elementary techniques in astronomical observations. Two hrs. Pre- or corequisite: Astr 101.

Astr 109. Selected topics in Astronomy. (1-3 to a maximum of 12)

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. Prerequisites: 101 and permission of instructor. (Offered upon demand.)

Physcs 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 *Physcs 102L* for an optional laboratory.

Physcs 102L. Physics Laboratory. (1)

Students involve themselves in experiments and projects showing basic concepts related to the atom, the environment and the universe. Pre- or corequisite: 102. Two hrs. lab.

Physcs 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)

Physcs 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 *Physcs 106L* for an optional laboratory. (Fall)

Physcs 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 hrs. lab. (Fall)

Physcs 107. Problems for introduction to Physics. (1)

Instructor-led study session for Physcs 102, including problem solving and demonstrations.

Corequisite: 102. Offered on a CR/NC basis only.

Physcs 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 *Physcs 108L* for an optional laboratory. (Spring)

Physcs 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 hrs. lab. (Spring)

Physics (Physcs)

For Physcs 102 through 108L, see the general interest courses described above.

151. General Physics. (3)

Mechanics, sound, heat, fluids. The sequence 151, 151L, 152, 152L is generally required of pre-medical, pre-dental and pre-optometry students. Only 151 and 152 are required of pharmacy students.

Prerequisite: a working knowledge of trigonometry and of algebra at the level of Math 150.

151L. General Physics Laboratory. (1)

Mechanics, sound, heat.

Pre- or corequisite: 151. Three hrs. lab.

152. General Physics. (3)

Electricity, magnetism, optics.

Prerequisite: 151.

152L. General Physics Laboratory. (1)

Electricity, magnetism, optics.

Pre- or corequisite: 152. Three hrs. 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.

Pre- or corequisite: Math 162.

160L. General Physics Laboratory. (1)

Mechanics, sound.

Pre- or corequisite: 160. Three hrs. lab.

161. General Physics. (3)

Heat, electricity, magnetism.

Prerequisite: 160. Pre- or corequisite: Math 163.

161L. General Physics Laboratory. (1)

Electricity and magnetism.

Pre- or corequisite: 161. Three hrs. 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 hrs. lab.

267. Problems in General Physics. (1)

Problem solving and demonstrations related to 262.
Corequisite: 262. Offered on a CR/NC basis only.

****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: Astr 101, Physcs 102, or Nat Sc 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 or equivalent. {Fall}

****302. Optics. (3)**

Geometrical optics; wave theory of light; Fresnel and Fraunhofer diffraction; polarization; dispersion, absorption and scattering. {Alternate Springs}

****303. Analytical Mechanics. (3)**

Statics and dynamics of particles and rigid bodies, mechanics of continuous media, Lagrange's and Hamilton's equations, small vibrations.
Pre- or corequisites: Math 316, Math 311. {Fall}

****304. Analytical Mechanics. (3)**

Statics and dynamics of particles and rigid bodies, mechanics of continuous media, Lagrange's and Hamilton's equations, small vibrations.
Pre- or corequisite: Math 312. {Spring}

****307L. Junior Laboratory. (3)**

Experiments in modern physics and experimental methods. One lecture, 3 hrs. lab. each semester. {Fall}

****308L. Junior Laboratory. (3)**

Contemporary electronics. One lecture, 3 hrs. lab. each semester. {Spring}

****327. Geophysics. (3)**

(Also offered as E&PS 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.
Prerequisites: 262, E&PS 101 (or Env Sc 101), Math 264 or permission of instructor.

****330. Introduction to Modern Physics. (3)**

Special relativity; quantum effects; introductory quantum mechanics; atomic and subatomic physics; instruments of modern physics.
Prerequisite: 262 or equivalent. {Spring}

***400. Seminar. (1 hr. per semester) $\dagger\dagger$**

Student presentations, both extemporaneous and prepared, of undergraduate physics problems. Offered on CR/NC basis only.

****405. Electricity and Magnetism I. (3)**

Electrostatics, theory of dielectric materials; magnetostatics, theory of magnetic materials; direct and alternating circuit

theory; Maxwell's equations; propagation, reflection and refraction of plane waves; wave guides and cavity resonators. Prerequisites: Math 311, Math 316. {Spring}

****406. Electricity and Magnetism II. (3)**

Electrostatics, theory of dielectric materials; magnetostatics, theory of magnetic materials; direct and alternating circuit theory; Maxwell's equations; propagation, reflection and refraction of plane waves; wave guides and cavity resonators. Prerequisite: Math 312. {Fall}

***430. Introduction to Solid State Physics. (3)**

Free electron gas, energy bands, crystals, semiconductors, metals, elementary excitations, superconductivity. Prerequisite: 491 or equivalent. {Alternate Springs}

***445. Introduction to Cosmic Radiation. (3)**

(Also offered as Astr 445.) Primary cosmic radiation, Störmer 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}

***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 or equivalent. {Alternate Springs}

451/551. Problems. (1-3 to a maximum of 6)

Offered on a CR/NC basis only.

***452. Research Methods. (1-3 to a maximum of 6)**

456. Honors Problems. (1 to a maximum of 2)
(Also offered as Astr 456.) Independent studies course for students seeking departmental honors. {Fall, Spring}

***463. Advanced Optics I. (3)**

(Also offered as E CE 463.) Electromagnetic theory of geometrical optics, Gaussian ray tracing and matrix methods, finite ray tracing, aberrations, interference.
Prerequisite: 302. {Fall}

***464. Laser Physics I. (3)**

(Also offered as E CE 464.) Resonator optics. Introduction to two-level system, spontaneous and stimulated emission; gas, semiconductor and solid state lasers.
Prerequisite: 406 or E CE 362. {Fall}

***466. Methods of Theoretical Physics I. (3)**

Complex variables; special functions; ordinary differential equations; integral transforms; numerical methods. {Fall}

***467. Methods of Theoretical Physics II. (3)**

Partial differential equations; Green's function; integral equations; linear algebra; numerical methods. {Spring}

***476L. Experimental Techniques of Optics. (3)**

Diffraction, interference, optical detectors, lens aberrations, lasers, spectra, scattering, optical testing. One lecture, 3 hrs. lab. {Fall}

***477L. Experimental Techniques of Optics. (3)**

Diffraction, interference, optical detectors, lens aberrations, lasers, spectra, scattering, optical testing. One lecture, 3 hrs. lab. {Spring}

***491. Intermediate Quantum Mechanics I. (3)**

Schrödinger Equations; Heisenberg uncertainty principle; postulates; Dirac notation; one-dimensional potentials; harmonic oscillator; angular momentum; H⁺Atom.
Prerequisites: 330 or equivalent, Math 321. {Fall}

***492. Intermediate Quantum Mechanics II. (3)**

Spin; Pauli principle; perturbation theory; scattering; applications of quantum mechanics. {Spring}

***493L. Contemporary Physics Laboratory. (3)**

Spectrographic methods; lasers, atomic structure; high T_c superconductivity; natural and artificial radioactivity; cosmic rays. One lecture, 5 hrs. lab. (Spring)

***495. Theory of Special Relativity. (3)**

Relativistic kinematics and dynamics, relativistic electromagnetism, application to subatomic physics and astrophysics. (Offered upon demand)

500. Advanced Seminar. (1-3) Δ

May be repeated to a maximum of 12 hours. Offered on CR/NC basis only.

501. Advanced Seminar. (1-3) Δ

May be repeated to a maximum of 12 hours.

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)

512. Selected Topics in E & M. (3)

Prerequisite: 511. (Offered upon demand)

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.

Prerequisites: 491, 492 or equivalent. (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 or equivalent. (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.

Prerequisites: 521, 522. (Alternate Years)

524. Quantum Field Theory II. (3)

A continuation of 523. (Offered upon demand)

529. Condensed Matter I. (3)

Band concepts; Bloch functions; phonons and their interactions; superconductivity.

Prerequisites: 430, 521. (Alternate Falls)

530. Condensed Matter II. (3)

Optical properties; transport theory; excitons; superfluidity.

Prerequisite: 529. (Offered upon demand)

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.

Prerequisite: 521 or equivalent. (Alternate years)

534. Plasma Physics I. (3)

(Also offered as Astr, Ch-NE, E CE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydro-magnetic waves, plasma transport, stability, kinetic theory, nonlinear effects, applications.

Prerequisite: consent of instructor. (Fall)

535. Plasma Physics II. (3)

(Also offered as Ch-NE, E CE 535.) 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.

Prerequisite: 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)

537. Advanced Astrophysics II. (3) \dagger

(Also offered as Astr 537.) Astrophysical problems as illustrations of quantum mechanics: H- 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. (Alternate Springs)

538L. Selected Methods of Theoretical & Computational Physcs. (3-4) \dagger

Selected topics in methods of theoretical and computational physics. (Offered upon demand)

540. Introduction to Nuclear Physics. (3)

Selected topics within nuclear physics. (Offered upon demand)

542. Particle Physics I. (3)

Overview of the standard model, including electroweak interactions, gauge theories, QCD, other selected topics.

Prerequisites: 450, 491, 492 or equivalent. (Alternate Falls)

543. Particle Physics II. (3)

Continues 542, with emphasis on standard model, electroweak interactions, gauge theories, QCD and experimental aspects of particle physics. (Alternate Springs)

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 E CE 554.) Coherence theory, coherent objects and incoherent imaging, 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.

Prerequisite: 554. (Offered upon demand)

559. Internship in Optical Science and Engineering. (3)

(Also offered as E CE 559.) Students do research and/or development work at a participating industry or government laboratory in any area of optical science and engineering.

564. Laser Physics II. (3) $\dagger\dagger$

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 to a maximum of 6) Δ $\dagger\dagger$

Study and manipulation of quantum coherence with electromagnetic fields. Quantum coherent spectroscopy; photon statistics and nonclassical light; open quantum systems; decoherence; special topics.

Prerequisite: 564. (Alternate Years)

568. [555.] Nonlinear Optics. (3)

(Also offered as E CE 568.) General concepts, microscopic approach, nonlinear optical effects and devices.
Prerequisites: 554, 564. (Alternate Springs)

569. Advanced Topics in Modern Optics. (3 to a maximum of 6) Δ \dagger

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.
Prerequisite: 503. (Offered upon demand)

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. (Alternate years)

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. (Alternate years)

580. Advanced Plasma Physics. (3)

(Also offered as Ch-NE, E CE 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.
Prerequisites: 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)**

May be repeated to a maximum of 12 hours, but 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) 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 corequisites: 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 hrs. lab. (Fall)

271. General Astronomy. (3)

Stellar astronomy, the galaxy, extra-galactic systems, cosmology.
Pre- or corequisites: Math 150 or 162 and any physics course numbered 150 or higher. Recommended prerequisite: 270. (Spring)

271L. General Astronomy Laboratory. (1)

Observations of the moon, planets and stars.
Pre- or corequisite: 271. Three hrs. lab. (Spring)

***421. Concepts of Astrophysics. (3)**

Radiation processes, interaction of radiation with matter, simple applications to a variety of astrophysical problems.
Prerequisites: Physcs 330 or 491, Physcs 492 or their equivalent. (Fall)

***422. Stars and Stellar Systems. (3 to a maximum of 6 hours) Δ \dagger**

Applications of advanced astrophysical concepts to single stars and stars in groups (binaries, clusters and galaxies).
Prerequisite: 421. (Spring)

***423. Radio Astronomy. (3)**

Single dish and aperture synthesis radio observations; emission processes at radio wavelengths: synchrotron radiation, thermal bremsstrahlung.
Prerequisites: Physcs 330 or 491 and 492 or their equivalent. (Offered upon demand)

***424. Extragalactic Astronomy and Cosmology. (3) \dagger**

Distribution, properties and interactions of galaxies and quasars; large scale clusterings of matter, formation and evolution of the universe; physical cosmology. (Offered upon demand)

***425. Galactic Astronomy. (3)**

The observed and inferred structure, kinematics and evolution. (Offered upon demand)

***426. Optics and Instrumentation. (3) \dagger**

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. Selected Topics in Planetary Astronomy. (3) \dagger**

Planetary physics; planetary investigation using space vehicles; optical properties of planetary atmospheres. (Offered upon demand)

***445. Introduction to Cosmic Radiation. (3)**

(Also offered as Physcs 445.) 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)**

(Also offered as Physcs 456.) Independent studies course for students seeking departmental honors.

534. Plasma Physics I. (3)

(Also offered as Ch-NE, Physcs, E CE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, nonlinear effects, applications.
Prerequisite: consent of instructor. (Fall)

536. Advanced Astrophysics I. (3)

(Also offered as Physcs 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) \dagger

(Also offered as Physcs 537.) 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. (alternate Springs)

POLITICAL SCIENCE

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Deborah McFarlane, Ph.D., University of Texas
Neil J. Mitchell, Ph.D., Indiana University
Joseph Stewart, Jr., Ph.D., University of Houston

Associate Professors

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Mark Peceny, Ph.D., Stanford University
Kenneth M. Roberts, Ph.D., Stanford University
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William B. Stanley, Ph.D., Massachusetts Institute of Technology

Assistant Professors

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Benjamin Goldfrank, Ph.D., University of California (Berkeley)
Timothy B. Krebs, Ph.D., Loyola University Chicago

Lecturers

Ellen Grigsby, Ph.D., University of North Carolina (Chapel Hill)
Gilbert K. St. Clair, Ph.D., The University of New Mexico

Adjunct and Associated Faculty

Larry J. Gordon, M.P.H., University of Michigan
Constantine Hadjilambrinos, Ph.D., University of Delaware
Roger Hagengruber, Ph.D., University of Wisconsin
Kerry G. Herron, Ph.D., The University of New Mexico

Professors Emeriti

Edward K. Fuge, ABD, University of Denver
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
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 Pol Sc 110 toward a major. A grade of C or better is required in all political science courses counted toward the major.

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.

Concentrations

All students interested in pursuing a 'concentration' should consult the departmental undergraduate advisor as early as possible after declaring a political science major. The student may declare and pursue a 'concentration' in either International Politics, Pre-Law or Public Policy, as follows:

International Politics

Twelve hours of political science 'core' requirements must include Pol Sc 220 and 240. Of the remaining 24 hours of courses required for the major, at least 12 hours must be taken from the following list:

- | | |
|------------|--|
| Pol Sc 300 | Political Topics ('concentration' related) |
| Pol Sc 320 | Topics in Comparative Politics |
| Pol Sc 321 | Comparative Politics: Developing Countries |
| Pol Sc 322 | Human Rights and Political Violence |
| Pol Sc 340 | Topics in International Politics |
| Pol Sc 341 | International Conflict and Cooperation |
| Pol Sc 342 | American Foreign Policy |
| Pol Sc 345 | Inter-American Relations |
| Pol Sc 346 | International Political Economy |
| Pol Sc 351 | Western European Politics |
| Pol Sc 355 | Central American Politics |
| Pol Sc 356 | Political Development in Latin America |
| Pol Sc 357 | Russian and Eurasian Government and Politics |
| Pol Sc 377 | Population Policy and Politics |
| Pol Sc 400 | Advanced Political Topics ('concentration' related) |
| Pol Sc 440 | International Conflict, Arms Control, and Disarmament |
| Pol Sc 441 | Civil Wars |
| Pol Sc 442 | International Peacekeeping and Conflict Resolution |
| Pol Sc 446 | Trade Law and Policy |
| Pol Sc 455 | Political Economy of Latin America |
| Pol Sc 496 | Undergraduate Seminar-Honors ('concentration' related) |
| Pol Sc 497 | Senior Thesis-Honors ('concentration' related) |
| Pol Sc 499 | Independent Study ('concentration' related) |

In addition, internships (Pol Sc 291/491) with governmental and non-governmental organizations working on international issues are highly recommended. (Contact Undergraduate Internship Advisor.)

NOTE: Additional relevant courses may be added with approval of the departmental chairperson.

Pre-Law

Twelve hours of the political science 'core' requirements must include Pol Sc 200. Of the remaining 24 hours of courses required for the major, Pol Sc 303 (Law in the Political Community) must be taken plus at least 12 hours from the following list:

Pol Sc 260	Political Ideas
Pol Sc 280	Introduction to Political Analysis
Pol Sc 300	Political Topics ('concentration' related)
Pol Sc 301	Government of New Mexico
Pol Sc 302	Comparative State Politics
Pol Sc 311	Legislative Process
Pol Sc 313	Women and the Law
Pol Sc 314	Women's Contemporary Legal Issues
Pol Sc 315	Constitutional Law: Powers
Pol Sc 316	Constitutional Law: Liberties
Pol Sc 317	Constitutional Law: Rights
Pol Sc 400	Advanced Political Topics ('concentration' related)
Pol Sc 446	Trade Law and Policy
Pol Sc 496	Undergrad Seminar-Honors ('concentration' related)
Pol Sc 497	Senior Thesis-Honors ('concentration' related)
Pol Sc 499	Independent Study ('concentration' related)

In addition, internships (Pol Sc 291/491) in a law related activity are highly recommended. (Contact Undergraduate Internship Advisor.)

NOTE: Additional relevant courses may be added with approval of the departmental chairperson.

Public Policy

Twelve hours of the political science 'core' requirements must include Pol Sc 200, 270 and 280. Of the remaining 24 hours of courses required for the major, at least 12 hours must be taken from the following list.

Pol Sc 300	Political Topics ('concentration' related)
Pol Sc 301	Government of New Mexico
Pol Sc 305	Public Opinion and Electoral Behavior
Pol Sc 350	Public Finance
Pol Sc 373	Urban Policies and Problems
Pol Sc 375	Public Management and Administration
Pol Sc 376	Health Policy and Politics
Pol Sc 377	Population Policy and Politics
Pol Sc 400	Advanced Political Topics ('concentration' related)
Pol Sc 446	Trade Law and Policy
Pol Sc 470	Public Policy Analysis
Pol Sc 475	Environmental Politics
Pol Sc 496	Undergrad Seminar-Honors ('concentration' related)
Pol Sc 497	Senior Thesis-Honors ('concentration' related)
Pol Sc 499	Independent Study ('concentration' related)

In addition, internships (Pol Sc 291/491) with government agencies are highly recommended. (Contact Undergraduate Internship Advisor.)

NOTE: Additional relevant courses may be added with approval of the departmental 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.

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
Christine M. Sierra

Application Information
Fall admission only.

Priority for admission and financial aid will be given to applications received by February 1. 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, political theory and public policy.

All candidates 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. At the M.A. and Ph.D. levels, each student will concentrate in two fields. (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 a field research paper, comprehensive examinations and departmental approval of the student's dissertation prospectus.

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) three letters of recommendation from former instructors. The GRE scores must be mailed directly to the Political Science Department by Educational Testing Services. Items 2) and 3) may be included in the self-managed application packet or sent directly to the department. Note that the Office of Graduate Studies requires a one or two page letter of intent that should differ from the writing sample. Applicants should include that letter in the self-managed application packet.

Political Science (Pol Sc)

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.) {Fall, Spring}

111L. The Political World: Enhanced Skills and Study Group Lab. (1)

An optional laboratory to be taken concurrently with 110. One 1-hour lab per week designed to enhance analytical skills and mastery of content area associated with 110.

Corequisite: 110. **Offered on CR/NC basis only.** {Fall, Spring}

291. Internship. (1-3) Δ

Provides supervised work experience in the practical application of political science skills.

Prerequisites: permission of instructor and department chairperson. Pol Sc 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}

299. Introductory Political Topics. (3) 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. Pol Sc 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) 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. No limits on repetitions if topics vary.

303. Law in the Political Community. (3)

(Also offered as Am St 303.) Introduction to the role of law, legal actors and institutions in politics and society. {Fall, Spring}

***400. Advanced Political Topics. (3) 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. No limits on repetitions if topics vary.

491. Internship. (1-3) Δ

Provides supervised work experience in the practical application of political science skills. Pol Sc 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.

Prerequisites: permission of instructor and department chairperson. **Offered on CR/NC basis only.** {Fall, Spring}

495. Junior Honors Seminar. (3)

Prerequisite: permission of instructor. {Fall}

496. Undergraduate Seminar. (3) 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. No limits on repetitions if topics vary.

497. Senior Thesis. (3)

Prerequisite: permission of instructor.

499. Independent Study. (1-3)

Open to majors and minors with 3.30 GPA and permission of instructor. Pol Sc 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.

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. {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)

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.

***304. Group Politics. (3)**

Theories and research on the roles played by interest groups (economic, social and ethnic) on different arenas of government (electoral, legislative, judicial and executive), principally in the United States.

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 or permission of instructor.

***306. Political Parties. (3)**

The American party system, national, state and local.

***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.

Recommended preparation: 200 or 308.

***308. Hispanics in U.S. Politics. (3)**

The status, role and activities of Hispanic/Latino Americans in the U.S. political system.

Recommended preparation: 200 or 307.

309. Black Politics. (3)

(Also offered as Af Am 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 Wm St 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 Wm St 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.
Prerequisites: 200, 303.

***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, 303.

317/512. 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.
Prerequisites: 200, 303.

318. Civil Rights Politics and Legislation. (3)

(Also offered as Af Am 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. Recommended prerequisite: Af Am 103.

***319. Political Socialization. (3)**

A survey and analysis of orientations of people toward their country, government and politics; the development of these attitudes, values and beliefs from early childhood to maturity; the influence of the school, family, peers, media and other agents of political socialization.

372/512. 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.

***374. Women in American Politics. (3)**

Analysis of the status and roles of women in American politics from historical and contemporary perspectives. Topics include the women's movement in the U.S., elite and grassroots activism and "women's issues" in public policy.

***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 required. Recommended preparation: 301, 302, 305, 306 or 311.

Comparative Politics**150. Introduction to Latin America. (3)**

(Also offered as Soc 150.) 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.

250. Latin America Through Film. (3)

(Also offered as Soc 250.) Interdisciplinary introduction to Latin American studies through documentary films, lectures, reading and discussion.

***320. Topics in Comparative Politics. (3) Δ**

Topics will be noted in appropriate class schedules. No limits on repetitions if topics vary.

***321. Comparative Politics: Developing Countries. (3)**

Prerequisite: 220.

322. Human Rights and Political Violence. [Politics of Human Rights.] (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: 200.

329. Introduction to African Politics. (3)

(Also offered as Af Am 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.
Recommended preparation: Hist 282.
Prerequisite: 220 or permission of instructor.

***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 Relig, Phil, Hist 453.) Cross-cultural and interdisciplinary investigations of problems and methodologies current 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) Δ**

Selected problems of international politics. No limits on repetitions if topics vary.
Prerequisite: 240.

341/512. 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.

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.

Prerequisites: 200, 240.

441/512. 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.

442/512. International Peacekeeping and Conflict Resolution. (3)

Examines the increasingly important role of multilateral peacekeeping operations in the post-Cold War world.

Prerequisite: 240.

446/512. 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, 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 recommended.

***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 recommended.

Public Policy

***350. Public Finance. (3)**

(Also offered as Econ 350.) Taxation, government borrowing, financial administration and public expenditures.

Prerequisite: Econ 106.

373/512. 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.

***375. Public Management and Administration. (3)**

The organization, administration and operation of American national governmental bureaucracy in the formulation and implementation of public policy.

Prerequisite: 200 or 270.

376/512. Health Policy and Politics. (3)

Analysis of the politics of health care in the U.S. and the development of public health policies.

377/512. Population Policy and Politics. (3)

Analysis of U.S. and multinational policies addressing issues of world population growth, including policy tools designed to control population growth.

***470. Public Policy Analysis. (3)**

Examines the allocative, distributive and regulatory problems common to all governments and provides techniques necessary to analyze the policies resulting from these problems.

Prerequisite: 200.

***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) †

{Offered upon demand}

512. Topics in Government and Politics. (3) Δ

No limits on repetitions if topics vary.

520. Pro-Seminar in Comparative Politics. [Proseminar: Comparative Government and Politics.] (3)

{Offered upon demand}

521. Research Seminar in Comparative Politics. [Research Seminar in Comparative Government and Politics.] (3) †

{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.

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.

Prerequisite: 375 or permission of instructor.

534. Policy Issues in Education. (3)

(Also offered as EdLead 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.

540. Pro-Seminar in International Relations. (3)

541. Research Seminar in International Relations. (3) †

{Offered upon demand}

551-552. Problems. (1-3, 1-3) Δ Δ

No limits on repetitions if topics vary.

560. Pro-Seminar in Political Theory. (3)

{Offered upon demand}

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 pro-

fessional 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) Δ

No limits on repetitions if topics vary. **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) Δ

Offered on a CR/NC basis only.

PSYCHOLOGY

Ronald A. Yeo, Chairperson
Gordon K. Hodge, Associate Chairperson for Undergraduate Education
Steven W. Gangestad, Associate Chairperson for Graduate Education
Michael J. Dougher, Director of Clinical Training
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Professors

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Harold D. Delaney, Ph.D., University of North Carolina
Michael J. Dougher, Ph.D., University of Illinois (Chicago)
Steven W. Gangestad, Ph.D., University of Minnesota
John P. Gluck, Jr., Ph.D., University of Wisconsin (Madison)
William R. Miller, Ph.D., University of Oregon
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

Paul C. Amrhein, Ph.D., University of Wisconsin (Madison)
Kristina T. Ciesielski, Ph.D., Polish Science Academy (Nencki Institute)
Vincent Clark, Ph.D., University of California (San Diego)
Timothy E. Goldsmith, Ph.D., New Mexico State University

Gordon K. Hodge, Ph.D., University of California (Los Angeles)
Akaysha C. Tang, Ph.D., Harvard University

Assistant Professors

Karin M. Butler, Ph.D., Michigan State University
Sarah Erickson, Ph.D., Stanford University
Geoffrey F. Miller, Ph.D., Stanford University
Bruce W. Smith, Ph.D., Arizona State University
Steven Verney, Ph.D., San Diego State University/University of California (San Diego)
David C. Witherington, Ph.D., University of California (Berkeley)
Elizabeth Yeater, Ph.D., University of Nevada (Reno)

Distinguished Professor

Mark A. McDaniel, Ph.D., University of Colorado

Professors Emeriti

Henry C. Ellis, Ph.D., Washington University
Dennis M. Feeney, Ph.D., University of California (Los Angeles)

G. Robert Grice, Ph.D., University of Iowa
Richard J. Harris, Ph.D., Stanford University
Peder J. Johnson, Ph.D., University of Colorado
Frank A. Logan, Ph.D., University of Iowa
Eligio R. Padilla, Ph.D., University of Washington
Samuel Roll, Ph.D., Pennsylvania State University
Britton Ruebush, Ph.D., Yale University

Research Faculty

Janet Brody, Research Assistant Professor
Nancy Handmaker, Research Assistant Professor
P.W. Koditwakuu, CASAA, Research Assistant Professor
Vanessa Lopez-Viets, CASAA, Research Assistant Professor
Robert Meyers, CASAA, Research Associate Professor
Teresa Moyers, CASAA, Research Assistant Professor
Natasha Slesnick, CASAA, Research Associate Professor
Scott Tonigan, CASAA, Research Professor
Miguel Villanueva, CASAA, Research Assistant Professor

Visiting Faculty

Steve Alley

Secondary Appointments

John Lauriello, M.D., The University of New Mexico, Department of Psychiatry
Roxana Moreno, Assistant Professor, The University of New Mexico, Individual Family Community Education
Daniel Savage, Professor, The University of New Mexico Department of Neuroscience

Clinical Associates

Richard Campbell, The University of New Mexico, Department of Psychiatry
Steven Chiulli, St. Joseph's Hospital
Charles Elliott, Private Practice
William Foote, Private Practice
Charlene McIver, Private Practice
Celia Michaels, Veteran's Administration Medical Center
Mark Pedrotty, Carrie Tingley Hospital
Frank Sanchez, Veteran's Administration Medical Center

Research Associates

John Moulton, Senior Research Associate

Adjunct Faculty

Cheryl Aine, Veteran's Administration Medical Center, Adjunct Associate Professor
Nancy Andreasen, Mind Institute, Adjunct Professor
Michael Weisand, Adjunct Assistant Professor
Chris Wood, Mind Institute, Adjunct Professor

Major Study Requirements

The student wanting an introduction to psychology should take Psych 105. Students should then take multiple 200-level courses before registering for more advanced courses. In

arranging their programs, students should be guided by the numbering system. The first number indicates the level at which the material will be taught as well as the level of the prerequisites or corequisites for a course. The second number indicates the area within psychology with which the course is primarily concerned. The code is as follows: 0 and 1—general and quantitative psychology; 2—developmental psychology; 3—clinical/personality psychology; 4—behavioral neuroscience/brain-behavior relations; 5—special topics in psychology; 6—psychology of learning and cognition; 7—social psychology; 9—individual research and honors seminars. The third number has no systematic meaning. Although the pre-requisites 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 complete satisfactorily (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. Other minors may be acceptable if approved in advance by the Associate Chairperson for Undergraduate Education. The 36 credit hours of Psychology should include:

1. Psych 105 (3 credits)
2. Psych 200 (3 credits)
3. Four courses (12 credits) selected from our five 200 level core courses: Psych 220, Psych 240, Psych 260, Psych 265 and Psych 271
4. Psych 302 (3 credits)
5. Four courses at the 300 level or above (12 credits)
6. One psychology elective (3 credits). Students are encouraged but not required to take an upper-division lab as an elective (2 credits).

Bachelor of Science

Same as B.A. with the following **two** exceptions:

1. The student must complete a minor in, or distributed among Biology, Chemistry, Computer Science, Mathematics, Statistics, Physics or Anthropology (Biological or Human Evolutionary Ecology Concentration).
2. The student must take an upper-division psychology lab.

For a distributed minor with a B.A. or B.S., the student must take at least one upper-division course in each of two or more areas and a total minimum of 30 hours. Distributed minors must be approved by the associate chairperson for undergraduate education. See department advisor for details.

Minor Study Requirements

Fifteen hours beyond general psychology (Psych 105). One quarter of Psychology hours must be 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 major 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 Psych 391, *Junior Honors Seminar*, must have taken Psych 200 and either Psych 260 or 265 as prerequisites and Psych 302 as a pre-requisite or corequisite.

Graduate Program

Graduate Advisor

Patricia Aragon-Mascareñas
e-mail: Advising@unm.edu

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, evolutionary, behavioral neuroscience, cognitive neuroscience and quantitative/methodology.

A graduate student who elects psychology as a major subject is 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. A candidate for a graduate minor in psychology should consult the Associate Chairperson for Graduate Education of the department before declaring this minor.

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.

GRE scores (verbal, quantitative, analytical and the psychology area 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 depends 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 Specialty Areas)**

The following core courses are required in addition to any courses required by the major area of study. The degree requires a total of 24 hours of course work plus 6 hours of thesis.

FALL TERM OF FIRST YEAR

- Psych 501 Advanced Statistics (3 hrs.)
- Psych 503L Advanced Statistics Lab (1 hr.)
- Psych 505 Research Seminar (1 hr.)
- Psych 551 Graduate Problems (1-3 hrs.)

SPRING TERM OF FIRST YEAR

- Psych 502 Design and Analysis of Experiments (3 hrs.)
- Psych 504L Design and Analysis of Experiments Lab (1 hr.)
- Psych 505 Research Seminar (1 hr.)
- Psych 551 Graduate Problems (1-3 hrs.)

Additional required course that is sometimes taken during the First Year:

- Psych 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

First year course work for clinical students. Clinical students also begin their core sequence in clinical psychology during the first year. They are required to complete each course with a grade of "B-" or better. The current course sequence is:

FALL TERM

- Psych 532 Seminar in Psychopathology (3 hrs.)
- Psych 600L Clinical Interviewing (1 hr.)
- Psych 631L Practicum in Psychotherapy with Adults I (Must be taken every Fall semester)

SPRING TERM

- Psych 600L Case Formulation (1 hr.)
- Psych 633 Systems of Psychotherapy (3 hrs.)
- Psych 650 Diversity Issues in Clinical Psychology (3 hrs.)
- Psych 650 Ethics & the Profession of Psychology (3 hrs.)
- Psych 632L Practicum in Psychotherapy with Adults II (Must be taken every Spring semester)

Second year course work for clinical students. During the second year, students in the Clinical specialty complete their major area core course work. The current sequence is:

FALL TERM

- Psych 600L Pre-Clinical Practicum (1 hr.)
- Psych 533 Psychological Evaluation: Cognitive and Neuropsychology Functions (3 hrs.)
- Psych 535 Psychological Evaluation: Personality Functions (3 hrs.)
- Psych 631L Practicum in Psychotherapy with Adults I (Must be taken every Fall semester)

SPRING TERM

- Psych 534L Practicum in Psychological Evaluation (3 hrs.)
- Psych 633 Systems of Psychotherapy (3 hrs.)
- Psych 632L Practicum in Psychotherapy with Adults II (Must be taken every Spring semester)

While students in all major areas are encouraged to take courses in major areas other than their own, nonclinical students ordinarily are not permitted to enroll in clinical practice (600L). Nonclinical 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. Please see the Director of Clinical Training for additional information.

Cognitive/Learning Concentration

Fifteen credit hours in cognitive. This will include two cognitive area core courses:
 Psych 561 Cognitive Processes I
 Psych 562 Cognitive Processes II
 Three electives.

Developmental Concentration

Beyond the departmental required courses all Developmental students are required to satisfy the following requirements: Completion of three courses which a student may elect from the following list:

- Psych 650 Seminar Development
- Psych 523 Social Development
- Psych 528 Seminar in Cognitive Development

Completion of one 3 hour course in Social or Personality area.

Evolutionary Concentration

Beyond the departmental core requirements all students specializing in evolutionary psychology will be required to complete five courses. These courses should include:

- Psych 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 (Psych 650), Evolution and Cognition (Psych 650) or Evolutionary Social Psychology (Psych 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), Special Topics in Behavioral Ecology (Biol 502), Advanced Human Evolutionary Ecology (Anth 562), Advanced Topics in Human Evolutionary Ecology (Anth 560), Seminar: Human Reproductive Ecology and Biology (Anth 561). Any other course must be approved by the Committee of Studies.

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:

- Psych 540 Biological Bases of Behavior
- Psych 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
 - Psych 650 Advanced Neuropsychological Assessment
 - Psych 650 Biological Bases of Memory
 - Psych 650 Neuropsychology of Individual Differences
 - Psych 650 Human Neuropsychology
 - Psych 650 Neural Basis of Cognitive Development

- Neurobiology
 - Psych 542 Seminar in Recovery of Function and Epilepsy
 - Biomed 531 Nervous System Organization, Plasticity and Development



266 ARTS AND SCIENCES

Biomed 532 Neurochemistry
Biomed 533 Neurophysiology and Neuroanatomy

Psychopharmacology

Psych 547 Drugs and Behavior
Psych 650 Neural Basis of Addiction

Quantitative/Methodology Concentration

Beyond the departmental core requirements all students in quantitative will be required to complete Psych 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:

Psych 506 Seminar in Mathematical Psychology
Psych 650 Quasi-Experimental Design
Psych 650 Program Evaluation Research
Psych 650 Structural Equation Modeling
Psych 650 Computer Simulation
Psych 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.

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.

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, and all students are strongly encouraged to take Multiple Measures (601) as one of the three remaining courses to satisfy the 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 (Psych)

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. {Summer, Fall, Spring}

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.

Pre- or corequisite: 105. {Summer, Fall, Spring}

220. Developmental Psychology. (3)

Overview of the physical, perceptual, motor, cognitive, emotional and social development of children from infancy through adolescence.
Prerequisite: 105. {Fall, Spring}

231. Psychology of Human Sexuality. (3)

(Also offered as Wm St 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 123/124L or 201. {Fall, Spring}

250. Special Topics in Psychology. (1-3)

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 because 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. {Fall, Spring}

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. {Fall, Spring}

271. Social Psychology. (3)

Study of social influence: perception of oneself and others, attitudes, conformity, attraction, altruism, aggression, groups.
Prerequisite: 105. {Fall, Spring}

300. Intermediate Statistics. (3)

Complex analysis of variance designs (factorial, mixed-model, Latin square, unequal-n) and nonparametric tests.
Prerequisite: 200.

301L. Quantitative Psychology Lab. (1 to a maximum of 2) Δ

Computational techniques for statistical methods covered in 300. Emphasis placed on the use of a computerized statistical package, e.g., SPSS®.
Corequisite: 300 or permission of instructor.

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.

310. Psychological Testing. (3)

Problems related to mental measurement; review of various types of tests and their practical applications. Emphasis is on the pragmatic and theoretical issues in the assessment of individual difference among humans.
Prerequisite: 200. {Offered upon demand}

322L. Developmental Psychology Lab. (2)

Research projects related to topics in 324, 328, 329.
Prerequisite: 220. Pre- or corequisite: 324, 328 or 329.

323/523. Social Development. (3)

An advanced course which presents theory and research focusing on social dynamic processes and relationship-formation within cultural settings throughout development.
Prerequisites: 105, 200.

324. Infant Development. (3)

An advanced course which presents theory and research on the physical, cognitive, social, emotional, perceptual and motor development in the first two years of life.
Prerequisites: 105, 220.

328. Cognitive Development. (3)

An advanced course which presents theory and research on the development of cognition, from memory and representation to spatial reasoning and concept formation.
Prerequisites: 105, 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: 105, 200, 220.

331. Psychology of Personality. (3)

Survey of theory, research and applications of both classical and contemporary approaches to the study of personality.
Prerequisite: 105, 200.

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 typically is 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.
Prerequisites: 105, 200, 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.
Prerequisites: 240, permission of instructor.

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.
Prerequisites: 240 and/or permission of instructor.

360./560. 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. Co- or prerequisite: 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, legal profession, consumerism and environmental systems.
Prerequisite: 265.

****367. Psychology of Language. (3)**

(Also offered as Ling 367 and 567.) Theoretical and methodological issues in psycholinguistics, including comprehension, speech perception and production, language acquisition, bilingualism, brain and language, reading.
Prerequisite: 265 or Ling 292.

374. Cross-cultural Psychology. (3)

Impact of culture on human behavior, learning, personality and selected topics is examined. Course emphasizes critical analysis, discussion and writing about the cross-cultural research and theory.
Prerequisite: 220 or 271.

375. Psychology of Women. (3)

(Also offered as Wm St 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 relevant to topics in 377 and 378 with discussion of research issues unique to social psychology.
Prerequisite: 200. Pre- or corequisite: 377 or 378. Four hrs. lab.

377./577. Attitudes and Persuasion Processes. (3)

In-depth examination of the classic and contemporary approaches to attitudes and persuasion processes. Issues relevant to defining, measuring, forming and changing attitudes will be covered. Applications of attitude research will also be discussed. Includes discussion of formal (algebraic, computer-simulation) models.
Prerequisite: 271.

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.
Prerequisites: 260 or 265, permission of instructor. Pre- or corequisites: 200, 302. {Fall}

392. Junior Honors Seminar. (3)

Continuation of 391. {Spring}

***400. History of Psychology. (3)**

An introduction to the major developments and individuals in the history of psychology.
Prerequisite: any 300-level Psychology course.

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. Prerequisites: 324, 328 or 329.

430/530. Alcoholism. (3) Causes, course, prevention and treatment of problem drinking. Prerequisite: 332 or permission of instructor.

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 or permission of instructor.

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. Corequisite: 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. Prerequisites: 324, 329, 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) Δ Study of any psychological topic not otherwise included in the curriculum upon expression of mutual interest by students and faculty. Can be used toward major as many times as needed. {Offered upon demand}

***467. The Science of Intelligent Systems. (3)** (Also offered as C S 438.) 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. Prerequisite: 265; Computer Science students: one 300-level programming class.

****468L. The Science of Intelligent Systems Laboratory. (2)** (Also offered as C S 439L.) Laboratory projects related to topics in 467. Not for credit for computer science majors (undergraduate or graduate.) Prerequisite: 200. Corequisite: 467. Four hrs. lab.

***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 a course in statistics or research methodology.

491. Senior Honors Seminar. (3) Experimental methods and laboratory techniques. Senior thesis based on independent research. Prerequisite: 392. Three hrs. lab. {Fall}

492. Senior Honors Seminar. (3) Continuation of 491. Three hrs. lab. {Spring}

499. Undergraduate Problems. (1-3 to a maximum of 6) Δ Prerequisite: 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}

502. Design and Analysis of Experiments. (3) Introduction to the logic of experimental design, and to the experimental designs commonly used in psychology and the corresponding analyses. {Spring}

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 or permission of instructor. {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 or permission of instructor. {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.

****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 which integrates theory and research focusing on social dynamic processes and relationship-formation within cultural settings throughout development.

****524. Seminar on Infant Development. (3)** An advanced course which presents theory and research on the physical, perception-action, cognitive and socioemotional development in the first two years of life. Prerequisites: 105, 220.

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. Prerequisite: 332 or permission of instructor.

531. Professional Issues in Clinical Psychology. (3) An exploration of the professional contexts which 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 implications of cognitive deficits are reviewed, along with different approaches to neuropsychological assessment.

534L. Practicum in Psychological Evaluation. (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.
Corequisite: 332.

538. Seminar in Psychoanalytic Ego Psychology. (3)

****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.
Prerequisite: 220.

540. Biological Bases of Behavior. (3)

Provides an introduction to basic aspects of neuroscience; e.g., historical perspectives, neurocology, neurophysiology, neurochemistry, neuropharmacology, neuroanatomy. In depth critical discussion of fundamental and current topics.
Prerequisite: permission of instructor.

542. Seminar in Recovery of Function and Epilepsy. (3)

Focus 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.

544. Human Neuropsychology. (3)

The analysis of brain-behavior relationships regarding affect, higher cognitive functions (language, memory, spatial reasoning) in humans.
Prerequisites: 240, permission of instructor.

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.
Prerequisites: 240 and/or permission of instructor.

551. Graduate Problems. (1-3) Δ

****560./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.

561. [568.] 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.
Prerequisite: 260 or 265.

565. Seminar in Thought and Language. (3)

(Also offered as Ling, Ed Psy 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, Psych 367.

569. Seminar in Psycholinguistics. (3) Δ

(Also offered as Ling 568.)

571. Seminar in Social Psychology. (3)

572. Theories of Personality. (3)

Review of theories of personality as they are relevant to current research and clinical applications.

573. Seminar on Cross Cultural Research. (3)

577./377. Attitudes and Persuasion Processes. (3)

In-depth examination of the classic and contemporary approaches to attitudes and persuasion processes. Issues relevant to defining, measuring, forming and changing attitudes will be covered. Applications of attitude research will also be discussed. Includes discussion of formal (algebraic, computer-simulation) models.
Prerequisite: 271.

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.
Prerequisite: 271.

599. Master's Thesis. (1-6) Δ

Offered on a CR/NC basis only.

600L. Practicum. (1-3 to a maximum of 3) Δ

Prerequisite: permission of instructor. Offered on a CR/NC basis only.

601. Multiple Measures. (3)

Analysis of studies employing multiple predictor or dependent variables. Emphasis is on the goals and properties of: Multiple regression Hotelling's T², discriminant analysis, multivariate analysis of variance, canonical correlation, principal components analysis, factor analysis, path analysis and covariance structure analysis.

630. Seminar in Psychoanalytic Psychotherapy. (3)

631L. Practicum in Psychotherapy with Adults I. (1-3) Δ
Offered on a CR/NC basis only.

632L. Practicum in Psychotherapy with Adults II. (1-3) 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. Seminar in Treatment of Children, Adolescents and Families. (3)

Integrates the study of developmental, psychoanalytic, cognitive-behavioral, and family systems theories, research and methods with individually supervised psychotherapy with children, teens and families experiencing emotional, behavioral and relationship problems.

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.
Prerequisites: 533, 535.

637. Family Psychopathology. (3)

Focuses on major theoretical perspectives of family pathology and therapeutic intervention. Examines family therapy process and outcome research with emphasis on family and therapist variables and therapeutic techniques.
Prerequisite: permission of instructor.

641. Seminar in Physiological Psychology. (2) Δ

Critical examination of recent empirical and theoretical articles on behavioral/cognitive neuroscience topics selected by students.

648. Seminar in the Biological Basis of Psychopathology. (3)

Investigate the neuropsychology, neuropathology and behavior genetics of selected disorders. Short papers on readings and paper and presentation required.
Prerequisite: permission of instructor.

650/450. Special Topics in Psychology. (1-3) Δ

Can be used toward major as many times as needed.

699. Dissertation. (3-12 hrs. per semester)

RELIGIOUS STUDIES

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Cynthia Geppert, Associate Director
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Bradley Ellingboe, Music
Cynthia Geppert, Psychiatry
Richard P. Hayes, Philosophy
Anthony Mansueto, UNM-Gallup: Philosophy, Religious Studies, History
Suzanne Oakdale, Anthropology
Patricia Ann Risso, History
John Taber, Philosophy
Richard L. Wood, Sociology

Associated Faculty

Henry Bial, Theatre
Andrew Burgess, Philosophy
John Bussanich, Philosophy
Laurence Cole, Obstetrics/Gynecology
Leslie Cunningham-Sabo, Pediatrics & Health Promotion
Edward De Santis, University Honors Program
Nick Flor, Business
Jim Gilroy, UNM-Taos, Science
Timothy C. Graham, History
Linda Hall, History
M. J. Hewlett, Univ of Arizona: Molecular & Cellular Biology
Elizabeth Hutchison, History
Steven J. Loza, Music
Greg Martin, English
Sheri Metzger, University Honors College
William R. Miller, Psychology
Jennifer Moore, Law
Suzanne Oakdale, Anthropology
Shiame Okunor, Language, Literacy and Sociocultural Studies
Noel Pugach, History
Jay Rubenstein, History
Janice Schuetz, Communication and Journalism
Sally Severino, Psychiatry
Warren S. Smith, Foreign Languages
Fred Gillette Sturm, Philosophy
Ferenc Szasz, History
Bruce Williams, Internal Medicine
Reema Zeinelidin, Chemical & Nuclear Engineering (post-doc)

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, 263, 331, 438, 439, 440, 442, 448, 449, 453, 457, 481.
2. **Western Religions:** 105, 264, 306, 323, 324, 326, 327, 350, 360, 361, 365, 404, 413, 426, 450, 452, 465, 475.
3. **Sacred Texts:** 103, 104, 109, 230, 231, 232, 463, 407, 408, 440, or 449 may be used if not applied to Asian religions requirement.
4. **Religion in America:** 303, 308, 333, 387, 388, 389, 390, 392, 422, 430, 441, 482, 483, 490, 491; Law 665.

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 Relig 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 Relig 497, in which they prepare an Honors thesis under the direction of a committee.

Graduate Program

A master's degree program in Religious Studies is under consideration at the University of New Mexico. If approved, the new degree would be offered under both Plan I and Plan II, with concentrations in 1) Major World Religions; and 2) Southwestern and Latin American Religious Traditions. Contact the Religious Studies Program for further information.

Religious Studies (Relig)

101. **Introduction to Religious Studies.** (3)
Comparative study of religious beliefs, practices and institutions.
103. **Introduction to Bible.** (3)
Survey of Bible in historical context.
104. **New Testament Greek.** (1-6 to a maximum of 6) Δ
(Also offered as Greek 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.

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 M Lang 109.) Introduction to the language of the Hebrew Bible.

230. **Hebrew Scriptures.** [Old Testament History.] (3)
Pentateuch and the historical books of the Old Testament. {Fall}

231. **Hebrew Prophets.** [Old Testament Prophets.] (3)
Prophetic books and later Hebrew scriptural writings.

232. **Christian Scriptures.** [New Testament.] (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 Af Am 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./523. **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./526. **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./527. **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}

331/531. Ch'an and Zen Buddhist Philosophy. (3)

(Also offered as Phil 331.) 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: Phil 336 or 337 recommended.

333/533. Ritual Symbols and Behavior. (3)

(Also offered as Anth 333.) Comparative analysis of ritual processes, symbol systems and world views in the context of social structure.

347. Topics in Religious Studies. (3, unlimited repetition) 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}

360/560. Christian Classics. (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 previous course in Religious Studies or Philosophy or permission of instructor.

361/561. Modern Christian Thought. (3)

(Also offered as Phil 361.) Background of the intellectual issues facing Roman Catholic and Protestant traditions today.

Prerequisite: one previous course in Religious Studies or Philosophy or permission of instructor.

365/565. Philosophy of Religion. (3)

(Also offered as Phil 365.) Philosophic analysis of some major concepts and problems in religion.

Prerequisite: one previous course in Religious Studies or Philosophy or permission of instructor.

***387. Latin American Liberation Theology. (3)**

Religious currents in Latin American thought, concentrating on the contemporary period, with special attention to the movement called *liberation theology*.

Prerequisite: one previous course in Religious Studies or Philosophy or permission of instructor.

388. Topics in Brazilian Thought. (3)

(Also offered as Phil 388.) A philosophical analysis of selected topics from Brazilian intellectual history and contemporary Brazilian thought in the areas of art, economics, literature, philosophy, politics, religion, theatre and society.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

389. Latin American Thought I. (3)

(Also offered as Hist, Phil, Soc 389.) Pre-Columbian thought through independence ideologies.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

390. Latin American Thought II. (3)

(Also offered as Hist, Phil, Soc 390.) Positivism through contemporary thought.

Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

392. Black Liberation and Religion. (3) Okunor

(Also offered as Af Am 392.) Introduction to some traditional western religious schools of thought as a basis for intensive examination of the works of prominent Black liberation theologians.

404/504. Augustine. (3)

(Also offered as Phil 404.)

Prerequisite: one course in Philosophy or Religious Studies. Phil 201 or Relig 360 strongly recommended.

***407. Sanskrit I. (3)**

(Also offered as Ling, M Lang 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, M Lang 408.) The continuation of Sanskrit I: the completion of the study of Sanskrit grammar and an introduction to the reading of Sanskrit texts.

413/513. Kierkegaard. (3)

(Also offered as Phil 413.)

***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: 263 or 264, Soc 101 or permission of instructor. {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 C & J 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.

438/538. Buddhist Philosophy—India. (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.

439/539. Buddhist Philosophy—China. (3)

(Also offered as Phil 439.) Development of Buddhist thought in China and East Asia from T'ang dynasty to the present.

440/540. Buddhist Sutras Seminar. (3) 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. Course may be repeated up to three times provided the topics vary.

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.

***442. Religions of China. (3)**

Shen-tao, "Way of the Spirits" (popular folk religious beliefs and practices); the religious dimension of the Confucian tradition; religious Taoism; Buddhist religion in China; Islam in China; Catholicism and Protestantism in China.

***447. Seminar in Religious Studies. (1-3, unlimited repetition) Δ**

Major religious figures or movements. Topic varies.

***448. Seminar in Hindu Tradition. (1-3)**

The origins and development of the traditional religion of India.

449/549. The Bhagavad Gita and Yoga. (3)

(Also offered as Phil 449.) A study of this very important text of Hindu thought and the philosophies of Samkhya and Yoga, which serve as its background.

***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 L 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 Senior Thesis. (3)

(Also offered as Hist, Phil, Pol Sci 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) Δ**

Topics in classical and contemporary Islamic thought and life. Course may be repeated up to three times provided the topics vary.

***463. Seminar in Biblical Studies. (1-3) Δ**

Topics in the literary and historical analysis of Biblical texts. Course may be repeated up to three times provided the topics vary.

465. C. S. Lewis. (3)

Treats of the literary and theological writings of this 20th-century thinker.

***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 Af Am 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 Af Am 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 to a maximum of 9) †

Prerequisite: permission of program chairperson.

500. Methods in Religious Studies. (3)

This seminar or its equivalent is required for the master's concentration in Religious Studies.

501. Theories of Religion. (3)

Major theories about the nature and function of religion.

504./404. Augustine. (3)

(Also offered as Phil 504.) Prerequisite: one course in Philosophy or Religious Studies. Phil 201 or Relig 360 strongly recommended.

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. Prerequisite: permission of instructor.

513./413. Kierkegaard. (3)

(Also offered as Phil 513.)

523./323. History of the Jewish People to 1492. (3)

(Also offered as Hist 523.) 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}

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}

526./326. History of Christianity to 1517. (3)

(Also offered as Hist 526.) 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)

(Also offered as Hist 527.) 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}

532. Sociology of Religion. (3)

(Also offered as Soc 532.) 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.

531./331. Ch'an and Zen Buddhist Philosophy. (3)

(Also offered as Phil 531.) 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: Phil 336 or 337 recommended.

533./333. Ritual Symbols and Behavior. (3)

(Also offered as Anth 533.) Comparative analysis of ritual processes, symbol systems and world views in the context of social structure.

538./438. Buddhist Philosophy—India. (3)

(Also offered as Phil 538.) A survey of Hinayana and Mahayana philosophical thought as it developed in South Asia, together with its religious, historical and social context.

539./439. Buddhist Philosophy—China. (3)

(Also offered as Phil 539.) Development of Buddhist thought in China and East Asia from T'ang dynasty to the present.

540./440. Buddhist Sutras Seminar. (3) Δ

(Also offered as Phil 540.) 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. Course may be repeated up to three times provided the topics vary.

547. Advanced Seminar in Religious Studies. (1-3, unlimited repetition) Δ**549./449. The Bhagavad Gita and Yoga. (3)**

(Also offered as Phil 549.) A study of this very important text of Hindu thought and the philosophies of Samkhya and Yoga, which serve as its background.

274 ARTS AND SCIENCES

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 previous course in Religious Studies or Philosophy or permission of instructor.

561/361. Modern Christian Thought. (3)
(Also offered as Phil 561.) Background of the intellectual issues facing Roman Catholic and Protestant traditions today.
Prerequisite: one previous course in Religious Studies or Philosophy or permission of instructor.

565/365. Philosophy of Religion. (3)
(Also offered as Phil 565.) Philosophic analysis of some major concepts and problems in religion.
Prerequisite: one previous course in Religious Studies or Philosophy or permission of instructor.

599. Master's Thesis. (1-6 to a maximum of 12) Δ
Offered on a CR/NC basis only.

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.

RUSSIAN STUDIES

See *International Studies*.

SCIENCE, TECHNOLOGY AND SOCIETY MINOR PROGRAM

Ronald Reichel, Richard Mead, Co-Directors
University Honors Program
University Honors Center
Room 19D, University College
MSC06 3890
Albuquerque, NM 87131-0001
(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 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.

SOCIOLOGY

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<http://www.unm.edu/~socdept>

Professors

Beverly H. Burris, 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
 Susan B. Tian, Ph.D., Brown University
 Bert Useem, Ph.D., Brandeis University
 Nelson P. Valdes, Ph.D., The University of New Mexico

Associate Professors

Dodd H. Bogart, Ph.D., University of Michigan
 Robert A. Fiala, Ph.D., Stanford University
 Jane C. Hood, Ph.D., University of Michigan
 John M. Roberts, Ph.D., Cornell University
 Arthur W. St. George, Ph.D., University of California (Davis)
 Paul D. Steele, Ph.D., University of Texas
 Richard L. Wood, Ph.D., University of California (Berkeley)

Assistant Professors

Lisa Brody, Ph.D., Washington State University
 Nancy Lopez, Ph.D., City University of New York
 Andrew Schrank, Ph.D., University of Wisconsin (Madison)
 Tim Wadsworth, Ph.D., University of Washington

Emeritus

Gary D. LaFree, Ph.D., Indiana University
 Gilbert W. Merckx, Ph.D., Yale University
 Charles Woodhouse, Ph.D., University of California (Berkeley)

Joint Appointment

Howard Waldzkin, Ph.D., M.D., Harvard University

Adjunct

Gene Levine, Ph.D., University of California (Los Angeles)
 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. **Deviance/Criminology.** Provides background for careers or further training in police, correctional or legal institutions.
2. **Comparative/Latin America.** Provides courses helpful to persons interested in business, educational or diplomatic activities in Latin American and other countries.
3. **Social Welfare.** 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.
4. **General Sociology.** Especially recommended as preparation for graduate study in sociology and for a broadly balanced understanding of the discipline.

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

A minor in social welfare consists of courses in the social welfare curriculum, exclusive of introductory courses in sociology and related disciplines. This minor is designed to accompany a major in sociology, criminology, economics, political science or psychology but may be pursued by students majoring in other fields.

A social welfare minor requires 21 hours (seven courses). The core courses are 101, 200, 300 and 400. Electives: students must choose electives from an approved list available from the Department of Sociology. Substitution of a course not on the elective list is possible **only** with the approval of a sociology undergraduate advisor. If Sociology 481L is chosen as an elective, the total number of elective hours will be 10, and the total in the minor will be 22.

Prerequisite requirements attached to the electives listed above must be strictly adhered to by students minoring in social welfare. Finally, courses which are applied toward a 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

Students may graduate with departmental honors by completing a specified two-course sequence. The first course, Sociology 399 (*Advanced Undergraduate Workshop in Sociology*) is open to all students and seeks to provide an atmosphere for motivated students to pursue more independent and focused attention to a variety of sociological topics. The second course can be Sociology 490 (*Directed Study*), Sociology 499 (*Senior Honors Thesis*) or any graduate course in Sociology (500 level). See the Departmental Undergraduate Advisor for additional details regarding the honors program.

Graduate Program

Graduate Advisor
John Roberts

Review of Applications

Fall Admission: For best consideration all materials must be received by February 1. Application files that are completed between February 1 and April 1 will be considered pending space availability. Spring Admission: These dates are September 30 and November 1.

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.

Entering graduate students are expected to have had at least 12 semester hours of advanced undergraduate work in sociology, especially including satisfactory performance in sociological research methods and theory. A graduate student admitted with deficiencies in any of these prerequisites must remove the deficiencies by satisfactorily completing (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 master's 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 student seeking a master's degree in sociology consist of (i) 6 hours of graduate sociological theory from two of the following three courses: Sociology 500 *Classical Sociological Theory*, Sociology 513 *Constructing and Analyzing Contemporary Sociological Theory* (Contemporary Social Thought I) and Sociology 514 *20th Century European Theory* (Contemporary Social Thought II); (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 9 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 in 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.

Concentrations: criminology, comparative sociology, gender studies, sociology of Latin America, political sociology, race/ethnic relations, stratifications and work and organizations.

The Ph.D. Program

The Ph.D. program is highly selective. All formal requirements for admission to the M.A. program are necessary but not sufficient for admission to the Ph.D. program. Ph.D. students must first obtain a master's degree at the University of New Mexico or at another institution. Successful completion of the M.A. program does not ensure admission to the Ph.D. program.

Concentrations: criminology, comparative sociology, gender studies, sociology of Latin America, political sociology, race/ethnic relations, stratification and work and organizations.

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: Sociology 500 *Classical Social Theory*; Sociology 513 *Constructing and Analyzing Contemporary Sociological Theory* (Contemporary Social Theory I); Sociology 514 *20th Century European Theory* (Contemporary Social Theory II); Sociology 523 *Proseminar* (students should take this course as early in their careers as possible); Sociology 580 *Methods of Social Research*; Sociology 581 *Advanced Social Statistics I*; Sociology 582 *Advanced Social Statistics II*; and another methods or statistics course approved by the Graduate Advisor; 18 units of Sociology 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. Prerequisite for more advanced courses in sociology. (Summer, Fall, Spring)

150. Introduction to Latin America. (3)
(Also offered as Pol Sc 150.) An interdisciplinary introduction to the geography, culture, literature, society, politics, history and international relations of the region. A two-hour lecture by faculty members from different departments will be followed by a one-hour discussion section each week. (Offered upon demand)

200. Foundations of Social Welfare. (3) Coughlin
Historical development of social welfare institutions and the welfare state; social indicators and the quality of life. Prerequisite: 101. (Fall, Spring)

205. Crime, Public Policy and the Criminal Justice System. (3) Broidy, Steele
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
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. (Fall, Spring)

213. Deviance. (3) Bogart, Broidy, Steele, Tiano, Wadsworth
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. (Fall, Spring)

216. The Dynamics of Prejudice. (3) Gonzales, 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. (Fall, Spring)

221. Global Issues. (3) Tiano, Schrank, Valdes
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. Prerequisite: 101. (Fall, Spring)

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. Prerequisite: 101. (Spring)

230. Society and Personality. (3) Bogart
The social psychology of personalities, relationships, small groups and organizations. Prerequisite: 101. (Offered upon demand)

250. Latin America Through Film. (3) Valdes
(Also offered as Pol Sc 250.) Interdisciplinary introduction to Latin American studies through documentary films, lectures, reading and discussion. Prerequisite: 101. (Offered upon demand)

280. Introduction to Research Methods. (3) Hood, Roberts, St. George
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. (Fall, Spring)

300. Social Welfare: Policies and Programs. (3) Coughlin
Examination of the American social welfare system at federal, state and local levels; the social programs of developed and developing societies. Prerequisite: 200. (Fall)

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)

ARTS AND SCIENCES

305. Environmental Sociology. [Environmental Society.] (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.

308. Sociology of Gender. (3) Burriss, Hood, Lopez
(Also offered as Wm St 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. {Fall, Spring}

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, Steele, Useem, Wadsworth, 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.
Prerequisites: 101 and 205. {Fall, Spring}

313. Social Control. (3) Broidy, Steele, Useem, Wadsworth, 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.
Prerequisites: 101 and 205. {Fall, Spring}

321. Sociology of Medical Practice. (3)
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. {Offered upon demand}

322. 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}

326. Sociology of New Mexico. (3) Valdés
New Mexico as a social system; the infrastructure of communities and ethnic groups, stratification, major social institutions, deviance and inter-group relations.
Prerequisite: 101. {Fall}

331. Collective Behavior. (3) Gonzales, Steele, Useem
The study of riots, disturbances, social movements and other forms of contentious collective behavior. Strategies of conflict and conflict resolution are considered.
Prerequisite: 101. {Offered upon demand}

335. Sociology of Mass Communication. (3)
(Also offered as C & J 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}

338. City Life. (3)
(Also offered as Hist 418.) 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.
Prerequisite: 101. {Spring}

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.

350. Rural Society in Latin America. (3) Valdés
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 or 6 hrs. in courses related to Latin America. {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, Valdés
The study of 19th century sociological theory, with particular emphasis on Marx, Durkheim and Weber.
Prerequisite: 101 or permission of instructor. {Fall, Spring}

381. Sociological Data Analysis. (3) Fiala, Roberts, St. George
An introduction to the basic statistics (both descriptive and inferential) employed in the analysis of quantitative sociological data.
Prerequisites: 101, 280. {Fall, Spring}

389. Latin American Thought I. (3)
(Also offered as Hist, Relig, Phil 389.) Pre-Columbian thought through independence ideologies. {Offered upon demand}

390. Latin American Thought II. (3)
(Also offered as Hist, Relig, Phil 390.) Positivism through contemporary thought. {Offered upon demand}

398. Special Topics in Sociology. (3) Δ
May be repeated for credit as subject matter varies, no limits.
Prerequisite: 101. {Offered upon demand}

399. Advanced Undergraduate Workshop in Sociology. (3) Hood, Coughlin
An undergraduate seminar reviewing selected issues in sociology. This is the first of two courses in the sociology honors program. The course focuses on sharpening analytical skills and developing research papers and proposals.

400. [*400.] The Welfare State. (3) Coughlin
A historical and cross-national comparative study of the welfare state. How it functions and its present problems.
Prerequisite: 200. {Spring}

412. [*412.] Sociology of Police and Social Control. (3) Steele, Useem, 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.
Prerequisites: 312, 313. {Fall, Spring}

***414. Sociology of Corrections.** (3) Steele, Useem
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.
Prerequisites: 312, 313. {Fall, Spring}

***415. Social Stratification.** (3) Burriss, Liedka
Structure and dynamics of class, status and power in society; social consequences of stratification.
Prerequisite: 101. {Offered upon demand}

416. [*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.
Prerequisites: 205, 312, and 313 or 414. {Offered upon demand}

***418. Selected Topics in Criminology. (3 to a maximum of 6)** Δ Broidy, Steele, Useem, Wadsworth, 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.
Prerequisites: 312, 313. {Offered upon demand}

***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. {Offered upon demand}

421. Sociology of Education. (3) Fiala, Lopez
Structure and functioning of educational institutions in the United States and other societies.
Prerequisite: 101. {Offered upon demand}

422. [*422.] Sociology of Religion. (3) Wood
(Also offered as Relig 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, Relig 263 or 264, or permission of instructor. {Spring}

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.

424. Race, Class and Crime. (3) Lopez, Wadsworth
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.

425. From Youthful Misbehavior to Adult Crime. (3)
Broidy, Wadsworth
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.

426. Drugs, Crime and Social Control. (3) Steele, Wadsworth
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.
Prerequisites: 312, 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}

430. Ideology and High Culture. (3) Huaco
Theory of ideology (Marx, Lukacs, Mannheim). Sociology of literature, art, philosophy. {Offered upon demand}

***435. Small Groups. (3)** Bogart
Behavioral dynamics and emergent social structures in small groups and interpersonal networks; the interplay of informal and institutionalized patterns of social relationships.
Prerequisite: 101. {Offered upon demand}

***441. Complex Organizations. (3)** Bogart, Burreis
Structure and functional dynamics of formal organizations; the role of bureaucracy in modern social organization.
Prerequisite: 101. {Offered upon demand}

***445. Occupations and Professions. (3)** Burreis, Hood
Comparative studies of occupational subcultures; patterns of interaction and social norms in relations among colleagues and with clients; recruitment, mobility and the process of professionalization.
Prerequisite: 101. {Offered upon demand}

***450. Urban Society in Latin America. (3)** Valdes
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}

***451. Population. (3)**
The composition of populations; fertility, mortality, migration; sources and evaluation of demographic data.
Prerequisite: 101. {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) Burreis, Huaco, Tiano
Comparative analysis of major contributions to sociological theory in the 20th century: Functionalism, Phenomenology, French Structuralism, Analytical Marxism.
Prerequisite: 101 or permission of instructor; 371 recommended. {Fall, Spring}

***478. Seminar in International Studies. (3)**
(Also offered as Econ, M Lang 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, Roberts, St. George
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: 381. Three lectures, 1 hour lab. {Fall, Spring}

***484. The Cuban Revolution, 1959 to Present. (3)** Valdes
(Also offered as Hist 475 and 655.) Background to revolution since 1898; emphasis on period since 1959. {Offered upon demand}

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.

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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.
Prerequisite: 371 or equivalent, as determined by instructor.

503. Political Sociology. (3) Coughlin, Fiala, Wood
Review of the field of political sociology. Focus is on the character of the state, state expansion, states and organized conflict and forms of state organization and ideology.

504. Deviance. (3) Broidy, Steele
Survey of major research traditions for each theory of deviance and policy implications of deviance research.
Prerequisite: 312, 313 or 414.

505. Complex Organizations. (3) Bogart
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, Valdés
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. Sociological Theory: Selected Topics. (3) Δ
May be repeated for credit as subject matter varies, no limits.

508. Latin American Development and Planning. (3) Valdes
(Also offered as CRP, Lt-Am 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.
Prerequisite: 450 or permission of instructor.

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, Useem, 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.

512. Ideology and High Culture. (3) Huaco
Theory of ideology (Marx, Lukacs, Mannheim). Sociology of literature, art, philosophy.

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
(Also offered as Phil 514.) Analytical Marxism, Nietzsche, Spengler, Sociobiology, Foucault, Sartre, Lukacs, The Frankfurt School.

516. Social Control Institutions. (3) Steele, Useem, Wood
Structure, function and philosophy of formal social institutions charged with the definition, control and treatment of norm-violating behavior.

517. Criminology and Delinquency. (3) Steele, Wadsworth
Critical examination of the nature, definition, alleged causes and some treatment strategies for illegal behavior by adults and juveniles.

518. Social Thought in Latin America. (3) Valdés
Major contributions by Latin Americans to the study of their respective societies; analysis of theories and their application.

519. Crime and Justice in the Americas. (3)
Sociological comparison of structure and historical and ideological aspects of Latin American legal systems. Cross-cultural perspectives of normative orientations, values; profile of the operation of the legal system of Latin American countries.

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.
Prerequisite: 216 or equivalent.

521. Sociology of Education. (3) Lopez
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.

522. Sociology of the Family. (3) Hood
Analysis of the modern family and its characteristics in a social and historical setting. Examination of theory used in family study, with emphasis on current research.

523. Proseminar. (1) Wood, Roberts
Introduces incoming graduate students to each of the department's regular faculty members and their work.

524. Social Stratification. (3) Burris
Critical comparative analysis of major theoretical models of social stratification.

525. Proseminar on Latin American Politics. (3)
(Also offered as Lt-Am 525.)
Previous work in the field is highly desirable and reading knowledge of Spanish is required.

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.
Prerequisite: 101. (Offered upon demand)

530. Occupations and Professions. (3) Burris, Hood
Comparative analysis of the process of professionalization among occupations. On the basis of a common theoretical framework, students do individual research on such processes in selected occupational fields.

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
(Also offered as Relig 532.) 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.

551-552. Problems. (2-3, 2-3) Δ
Tutorial arrangement with a member of the graduate faculty. May be repeated for credit as subject matter varies, no limits.

570. Sociological Research: Special Topics. (3) Δ
May be repeated for credit as subject matter varies, no limits.

580. Methods of Social Research I. (3) Hood, Roberts, Wadsworth
Analytical examination of traditional methodological issues including measurement, experimental design, sampling, theory construction, role of statistics and nature of probability.
Prerequisites: 280, 381 or equivalent.

581. Advanced Social Statistics I. (3) Roberts
Examines theory (assumptions, properties of estimators) and application of multiple regression. Introduces matrix notation and generalized least squares.
Prerequisite: 481L or equivalent.

582. Advanced Social Statistics II. (3) 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)
△ 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. May be repeated for credit as subject matter varies, no limits.
Prerequisites: 581, 582 or equivalent

584. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3) Valdez
(Also offered as Hist 689, Econ, Pol Sc 584.)

595. Special Topics in Sociology. (3) △
May be repeated for credit as subject matter varies, no limits.

596. Professional Paper. (1-6 unlimited repetition) △
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)
Offered on a CR/NC basis only.

699. Dissertation. (3-12)
Offered on a CR/NC basis only.

SPANISH AND PORTUGUESE

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Judy Maloof, Ph.D., University of California (San Diego)—Spanish
Margo Milleret, Ph.D., University of Texas at Austin—Portuguese
Susan D. Rivera, Ph.D., The University of New Mexico—Spanish

Assistant Professors
Alejandra Balestra, Ph.D., University of Houston—Spanish Linguistics
Leila Lehnen, Ph.D., Vanderbilt University, Spanish and Portuguese
María Dolores Gonzales, Ph.D., University of New Mexico, Spanish
Miguel López, Ph.D., University of California (Berkeley)—Spanish
Kathryn McKnight, Ph.D., Stanford University—Spanish
Eleuterio Santiago-Díaz, Ph.D., Brown University—Hispanic Studies

Rena Torres Cacoullós, Ph.D., The University of New Mexico—Spanish
Catherine Travis, Ph.D., La Trobe University—Linguistics

Director Language Learning Center
Neddy Vigil, Ph.D., The University of New Mexico—Spanish

Professors Emeriti
John J. Bergen, Ph.D., University of California (Los Angeles)—Spanish
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
Angel González, M.A., Universidad de Oviedo—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

ARTS AND SCIENCES

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 grand-

parents 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.

If you have had any Spanish before (one year or more), you do not belong in Spanish 101.

Required Placement Evaluation

All University of New Mexico undergraduates 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

Spanish Undergraduate Advisor

Kathryn McKnight, (505) 277-3924, McKnight@unm.edu

Portuguese Advisor

Margo Milleret, (505) 277-8613, milleret@unm.edu

Major Study Requirements

Spanish

Thirty hours in Spanish courses numbered 300 or above. Required courses: a) 301; b) 302; c) 307; d) 352; e) one of the following: 350, 351, 353; f) one of the following: 411 or 412; g) one of the following: 431 or 432; and h) at least 9 additional hours above 300, 3 of which must be at the 400 level. Spanish 301 may be repeated for credit as topic changes; however, 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 Linguistics. In addition, work in another foreign language at the 202 or 276 level (or equivalent) must be completed. Students planning to major in Spanish should consult with the Department undergraduate advisor. All grades must be C or better. Majors also prepare a portfolio, see department for details.

Portuguese

Thirty hours in Portuguese courses numbered 200 or above. Required courses: 275–276, 311–312, 415–416, plus 6 additional hours at the 400 level. Work in another foreign language at the 202–276 level (or equivalent) must also be completed. Students planning to major in Portuguese should consult with the Department undergraduate advisor.

Second Major Study Requirements

Spanish: Students may present Spanish as a second major with 24 hours distributed as follows: no more than 6 hours numbered 301 (repetition allowed as topic changes) with the remaining classes numbered above 301 as follows: 302 *Developing Spanish Writing Skills*, 307 *Introduction to Hispanic Literature*, with the remaining classes numbered above 307, 6 hours of which must be at the 400 level. Second majors also prepare a portfolio; see Department for details.

Portuguese: Twenty-four hours in Portuguese. Any courses numbered 200 or above can be counted toward the second major.

Minor Study Requirements

Spanish: Eighteen hours in courses numbered 300 or above in Spanish distributed as follows: 301 *Topics in Hispanic Culture and Language* (no more than 9 hours), 302 *Developing Spanish Writing Skills*, 307 *Introduction to Hispanic Literature*, with the remaining classes numbered above 307.

Portuguese: Eighteen hours in courses numbered 200 or above in Portuguese.

Graduate Program

Graduate Advisor

Rena Torres Cacoulios, (505) 277-4329, rcacoull@unm.edu

Application Deadlines

Fall semester:	February 1 (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: February 1

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 of 30 semester hours in courses numbered above 300, or the equivalent. The M.A. in Spanish at The University of New Mexico has three areas of concentration: 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 of 30 semester hours in courses numbered above 300 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 course work 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. Elective course work outside the Department of Spanish and Portuguese must be pre-approved by the departmental Graduate Committee.
- 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. course work. The degree consists of a major concentration and one or more minor concentrations; a double major may be taken in lieu of minors, with 48 hours of post-M.A. course work required (total hours required, including M.A.=78). All course work in Spanish must be at the 500- or 600- level, with the exception of Mexican Literature (SPAN 438), and Cervantes' *Quijote* (SPAN 423).

1. **MAJOR CONCENTRATION:** The two major areas in Spanish are Hispanic Literature and Hispanic Linguistics. The major requires a minimum of 24 hours. The major in Hispanic Literature will consist of a concentration in a genre (narrative, poetry, theater) and a period (Medieval, Renaissance/Golden Age/Colonial, 18th and 19th Centuries, 20th Century). The major in Hispanic Linguistics will include a concentration in Descriptive, Historical, or Applied Hispanic Linguistics.
2. **NON-TRANSCRIPTED Ph.D. MINOR CONCENTRATION:** All candidates, except those pursuing double majors, must complete a minor area consisting of a minimum of 12 hours. The minor may be taken in the Department or outside, in consultation with the Committee on Studies. Suggested minor areas are Portuguese, Hispanic Southwest Studies, Literary Theory, History, Hispanic Women's Studies, Latin American Studies, or a subfield in the major areas.
3. **REQUIRED COURSES:** Either SPAN 542 (History of the Spanish Language) or PORT 561 (History of the Portuguese Language) is required of all linguistic majors; SPAN 601 (Literary Theory) is required of literature majors.

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.

Detailed information for all these graduate degrees may be obtained from the Department Web pages at <http://www.unm.edu/~spanish/>.

Portuguese (Port)

200. Introduction to Brazilian Culture. (3)

An interdisciplinary introduction to the humanities in Brazil. Focuses on aspects of history, literature, music, thought, art, architecture and popular culture that make Brazil unique in the western hemisphere. (Taught in English.)

201–202. Intermediate Portuguese. (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 multimedia course using authentic Brazilian models of speech and behavior that provide students with the opportunity to develop communicative skills in Portuguese.

276. Intensive Intermediate Portuguese. (6)

An intensive one-semester multimedia course that takes students on a journey through Brazil using realistic language situations to teach students cultural information and provide challenging opportunities to develop a full range of Portuguese language skills.

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.

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

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.

414/514. Topics in Luso-Brazilian Literature and Culture. (3) Δ

An advanced language course emphasizing interdisciplinary themes in Luso-Brazilian literature and culture. Course may be repeated for credit, no limit, with a change of topic. Prerequisite: 311 or equivalent experience.

415/515. Popular Brazilian Music I. (3)

Survey of Brazilian popular music from its origins at the end of the 19th century to 1950 concentrating on forms from the cultural centers in the south of Brazil as well as regional music.

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 II. (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.

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.

457/557. Brazilian Literature Survey I. (3)

Examines the historical and cultural movements that characterize the years 1500–1900 and the major works of Brazilian writers of those periods. Prerequisite: 311 or equivalent experience.

458/558. Brazilian Literature Survey II. (3)

Examines 20th century Brazilian literature within the context of historical and cultural movements in Brazil and Europe. Addresses the debate about the meaning of the modern and the post-modern movements. Prerequisite: 311 or equivalent experience.

*461. Topics in Brazilian Literature. (3) Δ

Individual authors, genres and periods of Brazilian Literature. May be repeated indefinitely for credit with a change of content.

497. Undergraduate Problems. (1-6 to a maximum of 6) Δ

Prerequisite: permission of instructor.

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. Prerequisite: 276.

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. Prerequisite: 276

514/414. Topics in Luso-Brazilian Literature and Culture. (3) Δ

An advanced language course emphasizing interdisciplinary themes in Luso-Brazilian literature and culture. May be repeated with a change of topic. Prerequisite: 311 or equivalent experience.

515/415. Popular Brazilian Music I. (3)

Survey of Brazilian popular music from its origins at the end of the 19th century to 1950 concentrating on forms from the cultural centers in the south of Brazil as well as regional music.

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 II. (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) Δ

May be repeated for credit, no limit. Prerequisite: permission of instructor.

557/457. Brazilian Literature Survey I. (3)

Examines the historical and cultural movements that characterize the years 1500–1900 and the major works of Brazilian writers of those periods. Prerequisite: 311 or equivalent experience.

558/458. Brazilian Literature Survey II. (3)

Examines 20th century Brazilian literature within the context of historical and cultural movements in Brazil and Europe. Addresses the debate about the meaning of the modern and the post-modern movements. Prerequisite: 311 or equivalent experience.

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) ^Δ
Examines works of literature and/or culture and the scholarship written about them from a national or comparative framework. May be repeated for credit, no limit.

599. Master's Thesis. (1-6)

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.

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

Spanish (Span)

I. Language

101. Elementary Spanish. (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. (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. (1, 1)

Supplementary courses to Spanish 101–102 for students interested in additional practice in speaking. Offered on CR/NC basis only.

111. Elementary SHL Spanish. (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 Spanish. (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.
Prerequisite: 111 or equivalent.

120. Workshop in Conversational Spanish. (1-3 to a maximum of 3) ^{1 Δ}

Conversational Spanish on the freshman and sophomore levels. For off-campus students only, through the Division of Continuing Education. May not be used to satisfy language requirements.

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.
Prerequisite: 102.

201. Intermediate Spanish. (3)

Intermediate Spanish for students who have completed 102 or equivalent. Review of grammar and further development of all four skills.

202. Intermediate Spanish. (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.

207. Conversational Spanish. (3) ¹

211. Intermediate SHL Spanish. (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.
Prerequisite: 102 or equivalent.

212. Intermediate SHL Spanish. (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.
Prerequisite: 201 or equivalent.

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.

278. Spanish for Professionals. (3) ¹

Specially designed course for professionals in the fields of medicine, law, business, office management. Attention given to specialized professional vocabularies.

301. Topics in Hispanic Culture and Language. (3) ^Δ

Taught in Spanish (required for major study). Consult current major requirements for number of times course may be repeated for credit. Emphasis on oral and written expression based on a theme or language related topics (literature, culture, civilization, translation, commercial, etc.)
Prerequisite: 202 or 276.

302. Developing Spanish Writing Skills. (3)

Taught in Spanish (required for major study). Emphasis on developing Spanish written expression.
Prerequisite: 301 or equivalent.

****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.

Footnote:

¹ Offered only through Continuing Education.

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.
Pre- or corequisite: 301 or 302.

351. Introduction to Spanish Linguistics. (3)

An introduction to the phonology, morphology, syntax and dialectology of the Spanish language.
Prerequisite: 302 or equivalent.

****352. Advanced Grammar. (3)**

Required for Spanish majors. Taught in Spanish. Analysis of morphological and syntactic structure.
Pre- or corequisites: 301 or 302.

353. Spanish as a World Language. (3)

Introduction to varieties of Spanish used in Europe, North and West Africa, Latin America, Asia, the Pacific and by isolated groups, including Judeo-Spanish. Includes comparison with U.S. varieties.

Pre- or corequisite: 301.

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: 301 or equivalent.

****443. Spanish Morphology. (3)**

Word structure, the gender system and the verb system from the viewpoint of modern linguistic theory.

540. Latin American Dialectology. (3)

Exploration of selected features (phonological, morphological, syntactic and lexical) of regional, social and stylistic variation in New World Spanish.

Prerequisite: 542.

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.

543. Spanish Syntax. (3)

Grammatical analysis from the structuralist, generative and sociolinguistic points of view.

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.

546. Seminar in Hispanic Sociolinguistics. (3) 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. May be repeated for credit, no limit.

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.

548. Old Spanish. (3)

The phonological, grammatical, and lexical properties of Mozarabic, Old Castilian and Judeo-Spanish, as well as the historical events explaining their origins and subsequent fate.

Prerequisite: 542.

549. Seminar in the Language of Spain or Spanish America. (3) 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. May be repeated for credit, no limit.

550. Language Contact. (3)

The study of linguistic contacts between speakers of Spanish and African languages, indigenous languages of North and South America, languages of Spain, and English. Includes Creoles and permanent cross-linguistic influences on Spanish.

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.

Pre- or corequisite: 302 suggested.

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 Literature I. (3)**

A survey of Spanish literature from the 11th to the 17th century.

Prerequisite: 307.

****412. Survey of Spanish Literature II. (3)**

A survey of Spanish literature from the 18th, 19th and 20th centuries.

Prerequisite: 307.

***423. Cervantes: The Quijote. (3)**

Detailed analysis of the Quijote and treatment of its place in world literature.

****429. Topics in Spanish Culture and Literature. (3) Δ**

Topics will deal with individual authors, genres or periods. May be repeated for credit, no limit.

***450. Spanish Mysticism. (3)**

(Also offered as Relig 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.

519. Medieval Literature. (3)

A survey of major Spanish masterpieces from the Jarchas to the Celestina.

520. Seminar in the Spanish Picaresque Novel. (3)

The study of Lazarillo de Tormes, Guzmán de Alfarache, El buscón and other 17th-century picaresque novels.

522. Seminar in Spanish Poetry. (3) 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. May be repeated for credit, no limit.

523. Renaissance and Baroque Poetry. (3)

A study of major Spanish poets of the 16th and 17th centuries.

525. The Spanish Comedia of the Golden Age. (3)

An exploration of the comedia and its theatrical and social context, beginning with works by Lope de Vega and ending with the school of Calderón. Includes a study of trends in literary criticism and theater theory relative to the comedia.

526. Twentieth-Century Spanish 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 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 Literature. (3) 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. May be repeated for credit, no limit.

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.

****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: 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: 307.

****433. Modern Spanish American Poetry. (3)**

A survey course covering Spanish American poetry from Modernism to the present.

****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*.

***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.

****439. Topics in Spanish American Culture and Literature. (3) Δ**

Topics will deal with individual authors, genres or periods. May be repeated for credit, no limit.

504. Seminar in Ibero-American Studies. (3) Δ

(Also offered as Lt-Am 504.) May be repeated for credit, no limit.

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) Δ

May be repeated for credit, no limit.

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-American 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) 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). May be repeated for credit, no limit.

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: 307.

375. Southwestern Hispanic Folklore. (3)

Folkways of Spanish-speaking people of American Southwest: language, customs, beliefs, music, folk sayings.

377. Southwestern Hispanic Folk Ballads and Songs. (3)

Narrative and lyric musical traditions from the *Romancero Nuevomexicano* to the contemporary *corrido* and *nueva canción*.

****479. Topics in Southwest Folklore/Literature. (3)**

Study of oral and literary genres and periods, including Chicano theater, Hispanic New Mexican literature, Chicano writers, poetry, folk music, orality in folk and Chicano narrative.

578. Topics in Southwest Hispanic Literature. (3) Δ

Study of literary genres and periods, including Chicano theater, narrative, poetry, women's writing, etc. May be repeated for credit, no limit.

579. Topics in Southwest Culture & Folklore. (3) Δ

Study of oral genres and folkways of Spanish-speaking people of the American Southwest and appropriate theoretical approaches. May be repeated for credit, no limit.

679. Seminar in SW Folklore/Literature. (3) Δ

Advanced study of folk and literary traditions with emphasis on critical approaches and theory. May be repeated for credit, no limit.

V. General**497. Undergraduate Problems. (1-6 to a maximum of 6) Δ**

Prerequisite: permission of instructor.

498. Reading and Research for Honors. (3)

Open to juniors and seniors approved by Honors Committee. Prerequisite: permission of supervising instructor.

499. Honors Essay. (3)

Open only to seniors enrolled for departmental honors. Prerequisite: permission of supervising instructor.

551. Graduate Problems. (1-6) Δ

May be repeated for credit, no limit. Prerequisite: permission of instructor.

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only.

699. Dissertation. (3-12)

Offered on CR/NC basis only.

SPEECH AND HEARING SCIENCES

Janet L. Patterson, Chairperson
Department of Speech and Hearing Sciences
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Professor

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Associate Professors

Bopanna Ballachanda, Ph.D., The University of Texas
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Assistant Professors

Cathy Binger, Ph.D., The Pennsylvania State University

Amy T. Neel, Ph.D., Indiana University

Phyllis M. Palmer, Ph.D., The University of Iowa

Barbara Rodriguez, Ph.D., The University of Washington

Clinic Director

Charlotte B. Lough, M.S., CCC-SLP, The University of
Oklahoma

Clinical Instructors

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New Mexico

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New Mexico

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Arizona

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. Practicing professionals in the fields of Audiology and Speech-Language Pathology must earn certification and/or licensure, which usually require a graduate degree in the field of specialization. Courses are open to students in other major 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. A grade of at least C must be earned in all required SHS courses and required support courses. The pass/fail (CR/NC) option may not be used. Note that the University of New Mexico program of study in Speech-Language Pathology for the Master of Science degree requires that grades earned in SHS courses completed both at the undergraduate level and at the graduate level must be B- or better.

Advisement

Undergraduate Advisors:

Cathy Binger, Ph.D.

Amy T. Neel, Ph.D.

Phyllis Palmer, 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-four hours in required courses: Speech and Hearing Sciences 302, 303, 310, 321, 330, 420, 425, 428, 430, 431, 458 and 459.
- Twenty-one hours in required support courses*:
 - Three credit hours in basic human communication processes. Required: Ling 292.
 - Three credit hours in biological sciences. Recommended: Biol 123.
 - Three credit hours in physical sciences. Recommended: Physcs 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: Psych 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: Psych 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.
3. 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 292; SHS 302, 303, 310, 321, 330, 425, 430.

Non-Degree Students

Non-degree Advisor:

Kate Blaker, M.S.

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 12 credit hours selected from the following: 506, 507, 510, 525, 528, 530, 531, 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, excluding 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 the advisor. Failure to obtain this approval can extend the program by one year.

Application Deadlines

Fall semester: February 15

Only applications received by this deadline are assured of consideration.

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. 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 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 required support courses listed under SHS Major Study Requirements. Students must also have earned at least a "C" in 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 three 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 prerequisite courses or their equivalent within the first 3 semesters of graduate enrollment, with a grade of at least B-: SHS 303, 510 (310), 541 (321),

330, 425, 528 (428), 530 (430), 431, 458 and 559 (459). 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 four enrollments to include no more than two summer sessions), 506, 507, 517, 525, 531, 533, 534, 535, 550, 558 and two 500 level electives that may be selected from department course offerings or from course offerings from a variety of departments subject to approval by the SHS department. 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 Spc Ed 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. English Phonetics. (3)

(Also offered as C & J, Ling 303.) An introduction to the physiological mechanisms underlying speech production, the linguistic classification and transcription of speech sounds, the acoustic properties of speech sounds, the 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.
Prerequisites: 321, 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. 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.

451. Undergraduate Problems. (1-3 to a maximum of 6) Δ

Prerequisite: permission of instructor.

***458. Preclinical Training. (2)**

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. (2)

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.

Prerequisites: 428, 430.

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.

Prerequisites: 458 and permission of instructor.

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.

Pre- or corequisite: Psych 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: 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.

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.

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: 550.

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.

Prerequisites: 428, 431.

533. Assessing Language in Children. (3)

Principles and procedures of assessment for language disorders in children.

Prerequisite: 431.

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.

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: 550.

538. Stuttering. (3)

A critical examination of past and present approaches to stuttering assessment and management with an emphasis on treatment outcome evaluation.

539. Topics. (1-3 to a maximum of 6) Δ

Prerequisite: 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.

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.

Prerequisites: 321, 330.

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 or permission of instructor.

551-552. Problems. (1-3 to a maximum of 6) Δ**558. Clinical Internship. (6-9 to a maximum of 18)**

Prerequisite: permission of instructor. (Fall, Spring, Summer)

559/459. Multicultural Considerations in Communication. (2)

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.

Prerequisites: 428, 430.

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only.

WOMEN STUDIES

Gail Houston, Director
 Women Studies Program
 Mesa Vista Hall 2132
 MSC06 3900
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 277-3854

Affiliated Faculty

Professors

Lynn Beene, English
 Judith Chazen-Bennahum, Theater and Dance
 Laura Crossey, Earth and Planetary Sciences
 Helen Damico, English
 David Farber, History
 Karen Foss, Communication and Journalism
 Linda Hall, History
 Jacqueline Hood, Anderson Schools of Management
 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
 Vonda Long, Counselor Education
 Antoinette Sedillo Lopez, Law
 Diane Marshall, Biology
 Deborah R. McFarlane, Political Science
 Hellen Muller, Anderson Schools of Management
 Susan Ressler, Professor Emerita, Visual and Performing Arts, Purdue University
 Tey Diana Rebolledo, Spanish and Portuguese
 Jane Slaughter, History
 Susan Tiano, Sociology
 Carolyn Wood, Educational Administration
 Joni Young, Anderson Schools of Management
 M. Jane Young, American Studies

Associate Professors

Jesse Alemán, English
 Lonna Rae Atkeson, Political Science
 Melissa Axelrod, Linguistics
 Susanne Baackman, Foreign Languages and Literatures
 Dorothy Baca, Theatre and Dance
 Melissa Binder, Economics
 Lisa Chavez, English
 Pamela Cheek, Foreign Languages and Literatures
 Monica S. Cyrino, Foreign Languages and Literatures
 Susan Dever, Media Arts
 Bonnie Duran, Public Health
 Kimberly Gauderman, History
 Jane Hood, Sociology
 Gail Houston, English
 Elizabeth Hutchison, History
 Claudia Isaac, Community and Regional Planning
 Laurel Lampela, Art Education
 Kimberlie Lopez, Spanish and Portuguese
 Celia Lopez-Chavez, University Honors Program
 Judy Maloof, Spanish & Portuguese
 Teresa Marquez, General Library, Cntr for SW Research,
 Ann Nihlen, Language, Literature and Sociocultural Studies
 Elizabeth Noll, Language, Literature and Sociocultural Studies
 Anita Obermeier, English
 Patrice Repar, Music and Arts-in-Medicine
 Susan Romano, English
 Virginia Seiser, University Libraries
 Virginia Scharff, History
 Julie Shigekuni, English
 Diane Thiel, English
 Hector Torres, English
 Sharon Oard Warner, English
 Carolyn Woodward, English

Assistant Professors

Laura M. Andre, Art and Art History
 Elizabeth Archuleta, English
 Glenda R. Balas, Communication and Journalism
 Elaine Borrelli, Director Women in Science & Engineering Researcher
 Kirsten Buick, Art History
 Janet Cramer, Communication and Journalism
 Jennifer Denetdale, History
 Ruth Trinidad Galvan, Language, Literature and Sociocultural Studies
 Michelle Kells, English
 Nancy Lopez, Sociology
 Nancy Lough, Physical Performance and Development
 Alex Lubin, American Studies
 Daniel Mueller, English
 Iliia Rodriguez, Communication and Journalism
 Carmen Nocentelli-Truett, English
 Denise R. Wheeler, Senior Research Scientist I, CASAA, A&S Researcher,

Lecturers

Marisa Clark, English, Lecturer III
 Christine Rack, Lecturer II

Introduction

Women Studies is an interdisciplinary program that provides equal education for both women and men by making the study of the history and culture of women, as well as the social structures of gender, the central focus of concentrated scholarship and learning. The program supports the development and application of current theories in feminist thinking throughout the University and works towards an atmosphere in which women and their achievements receive serious attention and public recognition. Women Studies offers an undergraduate major, second major and an undergraduate minor and incorporates insights from history, literature, social and life sciences, law, education, the humanities and fine arts. Curricular changes are in progress. Please check with the program for latest updates.

Major Study Requirements

Thirty-six hours as follows:

1. Twelve hours of required courses:
 Wm St 200 Women in Contemporary Society
 Wm St 322 Race, Class, and the Feminist Movement
 Wm St 324 Contemporary Feminist Theory
 Wm St 492 Senior Seminar
2. At least two of the following: (6 hours of foundational courses)
 Wm St 233, 234, 250, 331, 332, 335, 339, 353, 357
 Other courses may be used upon petition to the Director.
3. At least one of the following: (3 hours History elective)
 Hist 320, 321, 322, 427, 428, 462, 471, 472 or other courses upon petition to the Director.
4. Fifteen hours of general electives (12 hours must be 300-level or above) from the following list:
 Any Women Studies course, or choose from the following:
 Am St 183, 330, 332, 333; Anth 361; C & J 413, 469; Dance 464; Econ 239; Hist 320, 321, 322, 427, 428, 462, 471, 472; Pol Sc 374; Psych 231, 375; Soc 225, 308.

Other courses that address women or gender may be approved as electives upon petition to the Director of Women Studies.

Second Major Study Requirements

Students may present Women Studies as a second major with 27 hours as follows:

(Twelve hours of required courses), 200, 322, 324, 492; 6 hours from 233, 234, 250, 331, 332, 335, 339, 353, 357; 3 hours from Hist 320, 321, 322, 427, 428, 462, 471, 472; 6 hours of electives from list for majors.

Minor Study Requirements

The Women Studies minor consists of 21 hours as follows: 9 hours from 200, 322 or 324 and 492; 3 hours from 233, 234, 250, 331, 332, 335, 339, 353, 357; 9 hours of electives from list for majors.

Women Studies (Wm St)

181. Seminar for Returning Women Students. (3)

Designed for women who are entering or returning to school after an interruption; identifies problems associated with re-entry; reviews academic skills; provides an opportunity to begin to define educational needs and issues.

200. Women in Contemporary Society. (3)

Focuses on women's status in society—the myths and realities. Examines women's socialization by sex, class, race and culture; the economics of discrimination, and role of education and family. (Fall, Spring)

231. Psychology of Human Sexuality. (3)

(Also offered as Psych 231.) Exploration of the physiological, cultural, social and individual factors that influence sexual behavior, sex roles and sex identity. Prerequisite: Psych 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 Af Am 250.) A comprehensive survey of the role Black Women has played in the society of the United States. Emphasis will be placed on achievements and contributions.

279. Interdisciplinary Topics. (1-3) Δ

Can be repeated for credit three times by students earning a major or minor in Women Studies.

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 Pol Sc 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: Pol Sc 303.

314. Women's Contemporary Legal Issues. (3)

(Also offered as Pol Sc 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: Pol Sc 303.

315. History of Women from Ancient Times to the Enlightenment. (3) Slaughter

(Also offered as Hist 320.) Study of sex roles in primitive societies, classical views of women, the Judeo-Christian treat-

ment 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.

316. Women in the Modern World. (3) Hutchinson, Scharrf, Schibeci, Slaughter

(Also offered as Hist 321.) 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. 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.

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.

326. Gender and Communication. (3)

(Also offered as C & J 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)

Slaughter (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. Third World Women. (3)

A survey of women in various Third World regions in turn: Asia, Africa, North and Latin America, the Middle East. Titles of individual sections may vary as regions vary.

332. Introduction to Chicana Studies. (3)

(Also offered as Ch St 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.

Prerequisite: upper division standing or consent of instructor. (HEE) (Fall 1999 and alternate years)

375. Psychology of Women. (3)

(Also offered as Psych 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: Psych 105.

379. Interdisciplinary Topics. (1-3) 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.

***410. Introduction to Feminist Theory. (3)**

Study of major themes in contemporary feminist thought.

***412. Introduction to Feminist Research Methodology. (3)**

Study of feminist research methodologies, covering interdisciplinary feminist approaches to research and applications of feminist scholarship.

415. History of Sexuality. (3)

Slaughter (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.

416. Women, War and Revolution. (3)

Slaughter (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.

418. Women in Early Latin America. (3)

Hall, Gauderman (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.

419. Women in Modern Latin America. (3)

Bieber, Hall, Hutchison (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.

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. Prerequisites: Mgt 306, Mgt 307 or permission of instructor.

469. Multiculturalism, Gender and Media. (3)

(Also offered as C & J 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.

479. Interdisciplinary Topics. (1-3) Δ

Can be repeated for credit three times.

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.

Prerequisites: 200, LLSS 290 or permission of instructor.

492. Senior Seminar. (3)

An advanced course for seniors in Women Studies, emphasizing synthesis and development of research skills.

Prerequisites: 200, senior standing, permission of instructor. (Spring)

498. Field Experience. (3)

Planned and supervised work experience in a community agency serving women.

499. Independent Study. (1-3) Δ

Student is expected to present a topic for study. May be repeated for credit three times.

Prerequisite: permission of instructor required before registering.

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.

Related Courses

Am St 183. Introduction to Gender Studies. (3)

Am St 330. Topics in Gender Studies. (3)

Am St 332. Sexuality and Culture. (3)

Am St 333. Gender and Tradition. (3)

Anth *340. Topics in Cultural Anthropology. (3)

Ciscs 345. T/Greek Literature in Translation. (3)

C & J 413. Studies in Intercultural Communication. (3)

C & J 469. Multiculturalism, Gender and Media. (3)

Dance 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)

German 336. German Literature and Culture in Translation. (3)

Hist 320./520. History of Women from Ancient Times to the Enlightenment. (3)

Hist 321./521. Women in the Modern World. (3)

Hist 322./522. History of the Women's Rights Movement. (3)

Hist 427./627. History of Sexuality. (3)

Hist 428./628. Women, War, and Revolution. (3)

Hist 471./651. Women in Early Latin America. (3)

Hist 462./608. Women in the U.S. West. (3)

Ling 295. Language-Current Issues. (3)

Mgt 457. Diversity in Organizations. (3)

Pol Sc 374. Women in American Politics. (3)

Psych 231. Psychology of Human Sexuality. (3)

Psych 375. Psychology of Women. (3)

Soc 225. Marriage, Family and Their Alternatives. (3)

Soc 308. Sociology of Gender. (3)



COLLEGE OF EDUCATION

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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
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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
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Additional Information
Enrollment Limitations
Probation and Suspension
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GRADUATE STUDY

GRADUATE PROGRAMS AND PROCEDURES OVERVIEW
Masters 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, 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 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.

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.

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 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 Physical Performance and Development, Johnson Center

Physical Education (B.S.Ed. K–12th grades license)—Department of Physical Performance and Development, 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

Please note that initial teacher preparation programs in Elementary Education, Secondary Education and Special Education are also available at 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 Division Office listed.

Athletic Training (B.S.): Department of Physical Performance and Development, 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 Physical Performance and Development, Johnson Center

Nutrition/Dietetics (B.S.): Department of Individual, Family and Community Education, Simpson Hall

Technology and Training (B.S.): Department of Educational Leadership and Organizational Learning, Education Office Building

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 College Advisement Center (505-277-3190) 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 fields of:

Art (for Art Education license), Mathematics or Science 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 Physical Performance and Development, 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.

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.

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.
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.
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 endorsements in previous part of this section)
3. A planned professional teacher preparation program.

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.

General Education Requirements 57–60 hours minimum

1. Communication Arts

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 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. earned 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 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 7
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 trans-



fer 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.

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 Teacher Education Student Records (Hokona Hall, Room 138); 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, at the Center for Teacher Education, 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, Education Office Building

Educational Psychology (M.A.)—Department of Individual, Family and Community Education, Simpson Hall

Elementary Education (M.A.)

Early Childhood Education Emphasis: Department of Individual, Family and Community Education, Simpson Hall

With Licensure: Department of Teacher Education, Hokona Hall

Mathematics, Science, and Educational Technology Education Concentration: Department of Educational Specialties, Hokona Hall

Family Studies (M.A.)—Department of Individual, Family and Community Education, Simpson Hall

Health Education (M.S.)—Department of Physical Performance and Development, 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 Sociocultural Studies, Hokona Hall

Bilingual Education Concentration (English/Spanish): Department of Language, Literacy Sociocultural Studies, Hokona Hall

TESOL Concentration: Department of Language, Literacy Sociocultural Studies, Hokona Hall

Education Thought Concentration: Department of Language, Literacy 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 Technologies (M.A.)—Department of Educational Leadership and Organizational Learning, Hokona Hall

Physical Education (M.S.)

Curriculum and Instruction Concentration: Department of Physical Performance and Development, Johnson Center

General Physical Education Concentration: Department of Physical Performance and Development, Johnson Center

Exercise Science Concentration: Department of Physical Performance and Development, Johnson Center

Sports Administration Concentration: Department of Physical Performance and Development, Johnson Center

Recreation (M.A.)—Department of Physical Performance and Development, Johnson Center

Secondary Education (M.A.)

General Secondary Education Concentration: Department of Teacher Education, Hokona Hall

Mathematics, Science, and Educational Technology Education Concentration: Department of Educational Specialties, 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 gradu-

ate 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**:

Counseling (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.

Health, Physical Education and Recreation (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 Mathematics, Science, Environmental and Technology Education.

Organizational Learning and Instructional Technologies (Ph.D.)—See description for Organizational Learning and Instructional Technologies.

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 emphasis 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 Technologies and Special Education. Persons interested in the certificate program should contact the appropriate program division 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. Such work may not be necessarily applied to a graduate degree. Such offerings are often designed in conjunction with a school district and are approved through the College of Education Professional Development Credit Council.

Plans and projects designed for professional development credit are presented and reviewed according to criteria set by the Council. The Council authorizes the College to offer professional development courses for those projects 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 in the field (including school district 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
MSC05 3040
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 277-6510 FAX (505) 277-6929

Associate Professors

Laurel Lampela, Ph.D., Ohio State University, Program Coordinator
Linney Wix, Ph.D., The University of New Mexico

Assistant Professor

Nancy Pauly, Ph.D., University of Wisconsin at Madison

Professor Emeritus

Howard McConeghey, Ed.D., Michigan State University
Peter Smith, Ed.D., Arizona State University
James Srubek, Ph.D., Pennsylvania State University

Part-time Faculty

Gregory Cajete, Ph.D., William Lyon University
Kathy Cyman, M.A., The University of New Mexico
Lisa Domenici, M.A., The University of New Mexico
Linda Johnson, M.A., The University of New Mexico
Marilen Morales, M.A., The University of New Mexico
Gustav Ntiforo, Ph.D., The University of New Mexico
Patty Savignac, M.A., The University of New Mexico
Alice Webb, M.A., The University of New Mexico

The Art Education Program offers course work leading to a B.A. in Art Education for 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 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, Art Ed 310, and, in some cases, Art Ed 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), C & J 130 (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 121L/131L (4), Chem 122L/132L (4), E&PS 101 (3), E&PS 105L, E&PS 201L (4), Env Sc 101 (3), 102L (1), Geog 101 (3), Geog 105L (1), Nat Sc 261L (4), Nat Sc 262L (4), Nat Sc 263L (4)

- Physcs 102 (3), Physcs 102L (1), Physcs 151L (3)
- Physcs 151L (1), Physcs 152 (3), Physcs 152L (1), Physcs 160 (1), Physcs 161 (1)
- 4. Social and Behavioral Sciences (6 credit hours)
Two courses from the following:
Am St 182 (3), Am St 185 (3), Anth 101 (3)
Anth 130 (3), Econ 105 (3), Econ 106 (3), Geog 102 (3)
Pol Sc 110 (3), Pol Sc 200 (3), Pol Sc 220 (3)
Pol Sc 240 (3), Psych 105 (3), Soc 101 (3)
- 5. Humanities and History (12 credit hours)
Hist 101L or 102L (3)
Hist 161L or 162L (3)
Art Hi 251 (3)
Select one 300 level course from the following: (3)
Philosophy, African American Studies, American Studies, Chicana/o Studies, Native American Studies, Women's Studies, Religious Studies.
- 6. Second Language (3 credit hours)
Select one course from non-English language offerings including signed language.
- 7. Fine Arts (6 credit hours)
Art Hi 201 (3)
Art Hi 202 (3)

II. Professional Education and Art Education—33 hours.

Ed Psy 303 Human Growth and Development	3
Art Ed 310 Teaching Art in Elementary School	3
Art Ed 320 Teaching Art in Secondary School	3
Art Ed 400 Elementary Student Teaching in Art	3
Art Ed 461 Student Teach in the Senior High School	6
Art Ed 430 Studio Art in the Schools	9
Art Ed 410 Curriculum Development	3
Art Ed 465 Art and the Exceptional Child	3
—or—	
Art Ed 466 Art w/At-Risk Students	3
LLSS 438 Teaching Reading 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.)
 - Art St 121 Two-dimensional Design 3
 - Art St 122 Three-dimensional Design 3
 - Art St 106 Drawing I 3
 - Art St 205 Drawing II 3
 - Art St 130 Intro to Electronic Arts 3
 - Art Hi elective: non-Western 3
- 2. Studio Concentration I (9 hours) A concentration 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.) A concentration of 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)

Art St 121, Art St 122, Art Hi 101 (9 hours)	9
Art Elective (200 level, 3 hrs.)	3
Art Ed 214, Art Ed 310	6
and Art Ed 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: Art St 121 (3), Art St 122 (3), Art St elective (200 level, 3 hrs.); additional 9 hours to be determined with an art education advisor.

Graduate Program

Student Information Contact

Art Education Program, 113 Masley Hall, (505) 277-4112, arted@unm.edu

Application Deadlines

Fall semester	March 30
Spring semester	October 30

Degree Offered

M.A.: 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, submits for approval a planned program of graduate study (course work), 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 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. Plan II without thesis: minimum 33 hours plus Master's exam.

Core Courses for all M.A. Students:

Art Ed 500 <i>History & Philosophies of Art Education</i>	3
Art Ed 585 <i>Research Applications to Art Education</i>	3
Art Ed 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 concentration (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:

***Ed Psy 503: Principles of Human Development (3)**

Art Ed 310: Teaching Art in the Elementary School (3)

Art Ed 320: Teaching Art in Secondary School (3)

Art Ed 400: Elementary Student Teaching in Art (3)

Art Ed 461: Student Teaching in the Senior High School (3)

***Art Ed 530: Studio Art in the School: _____ (3)**

***Art Ed 530: Studio Art in the School: _____ (3)**

LLSS 438: Teaching Reading and Writing in the Content Field (3)

***Art Ed 572: Art Criticism/Aesthetics for Teachers (3)**

***Art Ed 510: Curriculum Development (3)**

***Art Ed 565: Art with the Exceptional Child**

—or—

***Art Ed 566: Art with At-Risk Students (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)

Art Ed 500: History & Philosophies in Art Education (3)

Art Ed 585: Research Applied to Art Education (3)

Art Ed 590: Current Trends and Issues in Art Education (3)

Art Ed 5xx: elective (3)

Students pursuing the MA level 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 more specific information about the Master's program in art education and/or applying, request the pamphlet *Graduate Study in Art Education* and a *Self-Managed Application* packet from the following address:

Dolores Mendoza
Art Education Program
Graduate Application
113 Masley Hall—College of Education
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001

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

Applying to the Master's degree program is a joint application 1) to the Art Education Program and 2) to the Office of Graduate Studies. Two sets of application materials are required, one set is sent directly to the Office of Graduate Studies and one is sent directly to the Art Education Program.

Office of Graduate Studies Application Materials. The Office of Graduate Studies uses an application process called **Self-Managed Application (SMA)**, which is a collection of forms and instructions contained in a packet the art education program will send to you upon request. The SMA packet contains the following: 1) Self-Managed Application (SMA) Instructions; 2) Admission—Readmission Guidelines Instructions; 3) Application for Admission form; 4) Registration Information form; 5) three Letter of Recommendation forms and envelopes to be used by the professionals from whom you request a recommendation for graduate study in art education; and 6) a return address postcard and an 8.5 x 11 return envelope (with a check list) for the applicant to send all the necessary materials back to the Office of Graduate Studies.

Instructions in the SMA also request that you include a letter of intent outlining your specific objectives for graduate study in art education and a brief statement about your concept (or philosophical outlook) about art education.

Art Education Program Application Materials. In addition to the materials included in the SMA packet which are sent directly to the Office of Graduate Studies, the Art Education Program requires that you send the following additional materials directly to the Art Education Program.

1. A resume including a) relevant personal information (name, address, phone, etc.); b) education (colleges and universities attended, dates enrolled, degree(s), graduation date, major and minor fields); c) (optional) teaching licensure (including subject matter, grade levels, state(s), current status); d) professional experience (teaching experience, positions held, institution, location, dates of teaching, brief description of responsibilities); e) art exhibitions and/or published research or writing; f) scholarships, awards, honors; and g) any other information you feel is important.
2. A selection of 10 color slides (or photographs) of your most recent art work. The slides should be sent in a plastic viewing sheet, which we will return to you. Also each slide should be labeled with your name, the medium and approximate size of the piece.

Art Education (Art Ed)

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.
Prerequisite: 310.

368. Porcelain Vessels. (1-3 to a maximum of 3) †

(Also offered as Art St 368.) Oriental-Japanese method of wheel-thrown porcelain vessels and its place in art teaching. May be repeated for credit with permission of instructor. Special fee required.

391./591. Problems. (1-3) †

Individual problems are studied and researched under the supervision of a faculty member. Permission of faculty member involved is required.

400. Elementary Student Teaching in Art. (3) †

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.

Prerequisites: 310, 320, approval of the Art Education faculty.

410./510. [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.

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) 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. (6) †

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.

Prerequisites: 310, 320, 400, approval of Art Education faculty.

465./565. Art and the Exceptional Child. (3)

(Also offered as Spc Ed 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.

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. Lab fee.

474./574. Art for the Gifted. (3)

Identification and characteristics of the gifted student in general and in art. Theory, methods, curriculum and practical art experiences for the gifted. 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) Δ

Courses on a wide variety of topics about art education are offered according to interest and need. Different sections indicate different topics. May be repeated for credit, no limit. Prerequisite: varies with course topic.

500. History & Philosophies of Art Education. [Seminar in Art Education.] (3) [1-3 to a maximum of 3] Δ

An introduction to major historical beliefs, values, philosophies and practices that inform contemporary art and art education programs and practices.

510./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.

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. Lab fee.

530./430. Studio Art in the School: _____. (1-3 to a maximum of 18) 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.

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. Lab fee.

565./465. Art and the Exceptional Child. (3)

(Also offered as Spc Ed 565.) Study of the special use of art activities with exceptional children along with practicum experience in field situations. Lab fee.

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. Lab fee.

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.

574./474. Art for the Gifted. (3)

Identification and characteristics of the gifted student in general and in art. Theory, methods, curriculum and practical art experiences for the gifted. Lab fee.

585. Research Applied to Art Education. (3)

Examination of the assumptions, methods, results and applications of research in art education.

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.

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.

593./493. Topics. (1-3) 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. May be repeated for credit, no limit.

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. Prerequisite: permission of instructor.

598. Directed Readings in Art Education. (1-3 to a maximum of 6) Δ

599. Master's Thesis. (1-6) Δ
Offered on a CR/NC basis only.

Footnote:

¹ A maximum of 15 hours of student teaching combined (all levels) is allowed.**ATHLETIC TRAINING**

Mary Jo Campbell, Department Chairperson
 Department of Physical Performance and Development
 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 Riftenbary, 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

Professor

David Scherer, Ph.D., University of Virginia

Associate Professor

Deborah Riftenbary, Ed.D., University of Virginia

Assistant Professors

Markus Bidell, Ph.D., University of California—Santa Barbara
 David Olguin, Ph.D., University of New Orleans

Lecturer

Rhonda Neswald-Poher, Ph.D., University of New Mexico

Affiliated Faculty

Lydia Coffield, Ph.D., University of New Mexico

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, 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 who 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 does not offer a baccalaureate degree. Course work at the graduate level only is available.

Counselor Education offers a Master of Arts degree in Counseling with specialties in either Community/Agency Counseling or School Counseling. These specialties 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). Counselor Education offers a CACREP accredited doctoral degree with a concentration in Counseling. 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.

Student Information Contact

Cynthia Salas, Simpson Hall, (505) 277-4535

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 Counseling)
 Fall semester: March 15 (Master's in Counseling)
 Spring semester: September 30 (Master's in Counseling)

Degrees Offered

M.A.: Counseling
 Ph.D.: Counseling

The Master's Degree in Counseling

Counselor Education offers a 51 hour Master's degree in Counseling with specialties in School Counseling or Community/Agency Counseling. These specialties 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, 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 Core Required Courses

Couns 520 Foundations of Counseling
 Couns 530 Dynamics of Human Behavior
 Couns 517 Theories of Counseling
 Couns 518 Group Counseling
 Couns 522 Communication Skills in Counseling
 Couns 540¹ Counseling in the Elementary School
 Couns 584 Multicultural Issues in the Helping Professions

Couns 590 Practicum in Counseling
 Couns 519 Practicum in Group Counseling
 Couns 595 Field Practicum
 Couns 513 Career Counseling
 Couns 515 Testing and Assessment in Counseling
 Couns 610 Professional Issues and Ethics
 Ed Psy 503 Principles of Human Development/
 FS 503 Seminar in Human Growth and Development
 Ed Psy 500 Survey of Research Methods in Education –or–
 Ed Psy 505 Conducting Quantitative Educational Research
 Ed Psy 502 Survey of Statistics in Education –or–
 Ed Psy 511 Introductory Educational Statistics

NOTE: A curricular change is in process to seek approval for a change to Couns 545, School Counseling. Please check with the program on the status of this change.

NOTE: A curricular change is in process to seek approval for adding Couns 521, Community Agency Counseling, to the core requirements. Please check with the program on the status of this change.

The Doctorate in Counseling

The Doctor of Philosophy degree in Counseling 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 or the Miller Analogies Test. 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.

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.

Minor (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 Technologies, 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 (Couns)

492/592. Workshop in Counseling. (1-4)

(Offered upon demand)

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, lifestyle choices, occupational and educational information, decision making processes and career exploration techniques.

Prerequisite: graduate student status in Counselor Education or permission of the instructor.

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.

Prerequisite: doctoral student status in counselor education or permission of instructor.

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.

Prerequisites: graduate student status in counselor education or permission of the instructor. 584, Ed Psy 500 or 505.

516. Clinical Case Study. (3)

The use of the case study approach in understanding an individual. Utilize data from a biopsychosocial basis including psychological assessments to psychosocial history.

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.

Prerequisites: 520, 530, graduate student status in counselor education or permission of the instructor.

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.

Prerequisites: 520, 530, graduate student status in counselor education or permission of the instructor.

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.

Prerequisites: 520, 530, 517, 518, 584 or permission of instructor. 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.

Prerequisite: graduate student status in counseling or permission of the instructor.

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, 518, 520, 530 or permission of the instructor.

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.

Prerequisites: 520, 530, 517, 518 or permission of the instructor.

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.

Prerequisite: permission of instructor.

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.

Prerequisite: graduate student status in counselor education or permission of the instructor.

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.

Prerequisites: 517, 518, 520, 530, FS 503 or Ed Psy 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.

Prerequisites: 517, 518, 520, 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.

Prerequisites: 517, 520, 530, FS 517.

576. Medical Aspects in Counseling. (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.

Prerequisites: 520, 530, 517, 518, graduate student status in counselor education or permission of instructor.

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.

Prerequisite: permission of instructor.

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.

Prerequisites: 520, 530, 517, 518, graduate student status in counselor education or permission of instructor.

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.

Prerequisites: 517, 518, 520, 522, 530, permission of instructor. **Offered on a CR/NC basis only.**

591. Problems. (1-3 to a maximum of 6) Δ

Prerequisite: permission of instructor.

592/492. Workshop in Counseling. (1-4) Δ

For degree restrictions, consult the *Graduate Programs* section of this catalog. 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. [593./493.] Topics. (1-3) 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. May be repeated for credit, no limit.

595. 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.

Prerequisites: 590, permission of instructor. **Offered on a CR/NC basis only.**

596. Internship in Counseling. (2-6 to a maximum of 12) † Δ

† Δ

Prerequisites: 590, permission of instructor.

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.

Prerequisites: 520, 530, 517, 518, graduate student status in counselor education or permission of instructor.

613. Seminar in Personality Assessment. (3)

This course is designed to train students in the administration, scoring and interpretation of personality tests used by counseling psychologists. Multicultural assessment and skills required for consultation and report writing are also addressed.

Prerequisite: permission of instructor.

620. Seminar in Counseling. (3)

Doctoral seminars in topics such as professional issues, teaching and consultation are offered for advanced graduate students.

Prerequisite: permission of instructor.

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.

Prerequisite: permission of instructor.

622. Advanced Group Counseling and Psychotherapy. (3)

Review and analysis of major theories of group dynamics. Considers the interaction of emotional, cognitive and interpersonal aspects of group counseling.

Prerequisite: permission of instructor.

630. Advanced Practicum in Counseling. (3-6 to a maximum of 6)

Prerequisite: permission of instructor. 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)
Offered on a CR/NC basis only.**

**CURRICULUM AND INSTRUCTION
IN MULTICULTURAL TEACHER
EDUCATION**

Anne Madsen, Chairperson
Department of Teacher Education
Hokona Hall, Room 128
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-6640

NOTE: Courses listed under the Curriculum and Instruction in Multicultural Teacher Education (CIMTE) prefix are coordinated by the Department of Teacher Education. Many of these courses are part of Elementary or Secondary licensure and undergraduate and graduate degree programs.

**Curriculum and Instruction in
Multicultural Teacher Education
(CIMTE)**

291. Problems. (1-3)

Prerequisite: permission of instructor.

296. Internship. (3-6 to a maximum of 12)

319. Physical Education in the Elementary School. (3)
Introduction to all methods of teaching elementary physical education. Four class meetings a week.

391/591. Problems. (1-3)
(Also offered as MSET 391.)

492. Workshop. (Taller Pedagógico.) (1-4 to a maximum of 9) Δ
(Also offered as MSET 492.)

493/593. Topics. (1-3) Δ
(Also offered as MSET 493.) May be repeated for credit, no limit.

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.
Prerequisite: permission of instructor.

497. Reading and Research in Honors. (3-6 to a maximum of 6) Δ
Prerequisites: for degree restrictions, see the section in Education entitled *Requirements for Graduation*.

500. Advanced Instructional Strategies. (3)
(Also offered as MSET 500.) 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.
Prerequisite: permission of instructor.

501. High School Curriculum. (3)

(Also offered as MSET 501.) Inquiry into high school curriculum with a focus on organization, models, goals setting, planning and evaluation.

511. Curriculum in the Elementary School. (3-12 to a maximum of 12) Δ

(Also offered as MSET 511.) 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. Arranging Learning Environments. (3)

(Also offered as MSET 512.) 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. The Process of Teaching and Learning. (3)

(Also offered as MSET 513.) 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.

Prerequisite: permission of instructor.

516. Integrating Curriculum in the Classroom. (3)

(Also offered as MSET 516.) 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.
Pre- or corequisites: 500, 542 or equivalent.

542. Principles of Curriculum Development. (3)

(Also offered as MSET 542.) Focuses on issues of curriculum (K-12) from formal aspects of goals setting and planning to implicit issues of politics, culture and ideology.

560. Instructional Leadership and Development.

[Supervision of Instruction (Elementary and Secondary).] (3)
(Also offered as MSET, EdLead 560.) 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. Practicum in the Supervision of Instruction. (3 to a maximum of 12) Δ

(Also offered as MSET 562.) 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. Seminar. (3)

(Also offered as MSET 590.) 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 6) Δ

(Also offered as MSET 591.) A problems course, CIMTE 591, is an acceptable substitute for CIMTE 500 for all students in a teaching field endorsement program.

592. Workshop. (1-4) 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.

593/493. Topics. (1-3) Δ

(Also offered as MSET 593.) May be repeated for credit, no limit.

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. Internship. (3-6 to a maximum of 12) Δ
(Also offered as MSET 596.)

597. Directed Readings in Secondary and Adult Teacher Education. (3-6 to a maximum of 6) Δ
(Also offered as MSET 597.)

598. Directed Reading in Elementary Education. (3-6 to a maximum of 6) Δ
(Also offered as MSET 598.)

599. Master's Thesis. (1-6) Δ
(Also offered as MSET 599.) Offered on a CR/NC basis only.

690. Dissertation Seminar. (3)
(Also offered as MSET 690.)

694. Practicum in the Supervision of Instruction. (3 to a maximum of 12) Δ

696. Internship. (3-6 to a maximum of 12) Δ
(Also offered as MSET 696.)

698. Directed Readings in Elementary/Secondary Teacher Education. (3-6 to a maximum of 12) Δ

699. Dissertation. (3-12) Δ
(Also offered as MSET 699.) Offered on a CR/NC basis only.

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

Professor

Guillermina Engelbrecht, Ph.D., Arizona State University

Assistant Professors

David Atencio, Ph.D., Stanford University
Cathy Gutierrez-Gomez, Ed.D., University of North Texas

Affiliated Faculty

Virginia Shipman, Ph.D., University of Pittsburgh

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 emphasis 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 74 hours of professional early childhood education that includes 42 hours of course work, 6 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.

Admission to the Early Childhood Multicultural Education program requires a cumulative grade point average of 2.50 and basic computer skills and a minimum of 26 credit hours.

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.

Student Information Contact

Contact program office at Simpson Hall, (505) 277-4535.

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 and financial assistance. 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. Students completing this concentration must take the following Early Childhood Education graduate courses:

ECME 514	Young Children Moving into Literacy
ECME 574	Curriculum for Early Childhood
ECME 575	Early Childhood Language Development/ Curriculum
ECME 579	Seminar in Early Childhood Education
CIMTE 593	Topics

Application for admission to the Master of Arts Program in Elementary Education needs to specify a concentration in Early Childhood Education.

Early Childhood Multicultural Education (ECME)

203. Introduction to the Early Childhood Professions. (4)
A survey course of both theoretical and practical aspects of the early childhood profession. Includes practicum experiences in sites serving children birth to three, three to five and five to eight.

205. Individual and Family Diversity. (3)

This course focuses on diversity in individuals and families, including development and learning in early childhood settings.

207. Diversity in Early Childhood Programs and Assessment. (2)

This course focuses on how to teach to a diverse population in early childhood settings.

305. Research and Evaluation in Early Childhood. (2)

A course focusing on research and evaluation in early childhood settings.

315. Public Policy, Leadership, Ethics and Reform in ECE. (3)

A course focusing on policy issues, advocacy and leadership in early childhood education.

325. The Social, Political and Cultural Contexts of Children and Families. (7)

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.

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.

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.

434. Student Teaching I. (Birth to 3). (6)

Teaching in programs for children birth to three years; 8 weeks from 8:00 a.m.–4:00 p.m., Monday-Friday, plus seminar.
Prerequisites: 404, 404L, advisor approval. **Offered on a CR/NC basis only.**

435. Student Teaching II. (Age 3–5). (6)

Teaching in programs for children aged three to five; 8 weeks from 8:00 a.m.–4:00 p.m., Monday-Friday, plus seminar.
Prerequisites: 414, 414L, advisor approval. **Offered on a CR/NC basis only.**

436. Student Teaching III. (Age 5–8). (6)

Teaching in programs for children aged five to eight; 8 weeks from 8:00 a.m.–4:00 p.m., Monday-Friday, plus seminar.

Prerequisites: 424, 424L, advisor approval. **Offered on a CR/NC basis only.**

493. Topics in Early Childhood Education. (1-6)**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.
Prerequisites: LLSS 331L, LLSS 333L.

574. [CIMTE 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.

575. [CIMTE 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.

579. [CIMTE 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.
Prerequisites: 501, permission of instructor.

EDUCATION

Anne Madsen, Chairperson
Department of Teacher Education
Hokona Hall, Room 128
MSC05 3040
1 University of New Mexico
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(505) 277-6640

EDUC is the designated prefix for courses within the undergraduate and graduate Elementary and Secondary Education programs. These courses focus on teaching and learning in educational settings. Professional teacher education programs in Elementary and Secondary Education require a set of core courses for the major. In order to provide identity and to clarify these majors for students and the State of New Mexico Public Education Department, the College of Education has designated courses within the Elementary and Secondary undergraduate and graduate degree programs under one prefix: Educ.

Information on program requirements, completion, and admissions is available in this catalog under Elementary and/or Secondary Education. Students wanting licensure in Secondary or Elementary Education should seek initial advisement through the College of Education's Advisement Center (in Hokona Hall). Inservice teachers holding a teaching license who want to continue their education will find advanced courses and program in Secondary and Elementary Education related specifically to teaching and education.

In addition, EDUC is a special prefix utilized by the college to facilitate the development of interdisciplinary courses through the use of 293, 493, and 593 Topic numbers. These are courses that cross disciplines and may be applicable to more than one degree program. They often involve faculty teams from different program areas. Some of these courses have been developed as regular courses listed under the EDUC prefix housed in the Department of Teacher Education.

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.

293. Topics in Education. (1-3) Δ

Various topics related to education from an interdisciplinary perspective. May be repeated for credit, no limit.

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. [LLSS] Teaching of Social Studies in the Elementary School. (1-3 to a maximum of 3) Δ

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. [LLSS] 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. [LLSS] Teaching of Reading in the Elementary School. (1-3 to a maximum of 3) Δ

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. [LLSS] Teaching Oral and Written Language in the Elementary School. (1-3 to a maximum of 3) Δ

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. [MSET] Teaching of Science in the Elementary School. (1-3 to a maximum of 3) Δ

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. [MSET] Teaching of Mathematics in the Elementary School. (1-3 to a maximum of 3) Δ

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.

Prerequisite: see Department of Mathematics. Three lectures, 1 hr. lab.

362. [CIMTE] Teaching Experience I. (3)

Three hrs. seminar, 6 hrs. field work weekly.

400. [CIMTE] Student Teaching in the Elementary School. (1-2-3-6-9-12-15) [3-6-9-12-15 to a maximum of 15] Δ

Pre- or corequisites: 321L, 331L, 333L; MSET 353L, 361L. Additional requirements are listed in previous section entitled "Student Teaching." Special fee of \$10.00 is charged. Offered on a CR/NC basis only.

*421. [LLSS] The Social Studies Program in the Elementary School. (Estudios Sociales en las Escuela Primaria.) (3)

Overview and development of the social studies curriculum within the contexts of the elementary school program and multicultural community settings. Prerequisite: 321L.

*433. [LLSS] 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. [LLSS] Teaching Reading and Writing in the Content Field. (3)

Prerequisite: classroom teaching experience or permission of the department.

*453. [MSET] The Science Program in the Elementary School. (3)

Prerequisite: 353L.

*461. [MSET] The Mathematics Program in the Elementary School. (3)

462. [CIMTE] 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. Prerequisites listed in previous section entitled "Student Teaching." Offered on a CR/NC basis only.

464. [CIMTE] Student Teaching Seminar. (3)

A second student teaching experience. Prerequisite: seminar to be taken concurrently with 462.

493/593. Topics in Education. (1-6) Δ

Various topics related to education from an interdisciplinary perspective. May be repeated for credit, no limit.

500. Research Applications to Education. (3)

531. [LLSS] 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.

593/493. Topics in Education. (1-3) Δ

May be repeated for credit, no limit.

EDUCATIONAL LEADERSHIP

Carolyn J. Wood, Department Chair
Dept. of Educational Leadership and Organizational Learning
Educational Leadership Program
Hokona Hall 392
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-3925

Professors

Breda M. Bova, Ph.D., University of New Mexico
Stephen Preskill, Ph.D., University of Illinois (Champaign-Urbana)
Carolyn J. Wood, Ph.D., Washington University (St. Louis)

Assistant Professor

Karen DeMoss, Ph.D., University of Chicago

Lecturers

John Mondragón, Ed.D., University of New Mexico
Susanna Murphy, Ph.D., New Mexico State University
Bruce Noll, Ed.D., University of South Dakota
Vita Saavedra, Ph.D., University of New Mexico

Associated Faculty in Other Departments
Richard Howell, Ph.D., University of New Mexico

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
Fall semester	June 1
Summer session	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 composed 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

Applicants must hold a valid Level II or Level III New Mexico teaching license. Intended for future school building leaders, this concentration provides a set of standards-based core courses aligned with state administrative competencies. Students holding a Level III teaching license complete a 6-hour fall-spring internship as part of their study; students with a Level II teaching license must successfully complete the M.A. concentration and subsequently enroll in a post-masters internship option to complete state licensure requirements.

Required Core Domain Courses

EdLead 501: Educational Leadership in a Democratic Society	3
EdLead 521: School Finance & Resource Management	3
EdLead 560: Instructional Leadership & Development	3
EdLead 561: Legal Issues for School Leaders	3
EdLead 503: Data Driven Decision-Making	3

Additional Required EdLead Courses

9
EdLead electives, including either 6 hours of EdLead 596 for those holding a Level III teaching license

–or–

3 hours of EdLead 594 for those holding a Level II teaching license

Support Area Electives

Selected in consultation with advisor	12
Total Credit Hours	36

Instructional Leadership Concentration

This option 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

EdLead 501: Educational Leadership in a Democratic Society	3
EdLead 509: Schools as Organizations	3
EdLead 519: Curriculum Planning for School Leaders	3
EdLead 510: School-Community Relations	3
EdLead 503: Data Driven Decision-Making (or approved alternate research course)	3

Additional Required EdLead Courses

9
EdLead electives, including 6 hours of EdLead 594

Support Area Electives

Selected in consultation with advisor	12
Total Credit Hours	36

Leadership for Community and Organizational Learning Concentration

Educators 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 option, designed to prepare individuals for visionary leadership that transforms educationally-oriented organizations into dynamic learning environments for all.

Required Core Domain Courses

EdLead 505: Visionary Leadership for Learning	3
EdLead 509: Schools as Organizations	3
EdLead 529: The Adult Learner	3
EdLead 517: Communication for Educational Leaders	3
EdLead 503: Data Driven Decision-Making (or approved alternate research course)	3

Additional Required EdLead Courses

9
EdLead electives, including 6 hours of EdLead 594

Support Area Electives

Selected in consultation with advisor	12
Total Credit Hours	36

Post-Master's Education Specialist Certificate in Educational Leadership

The Educational Leadership Program offers a post-master's Education Specialist certificate with five concentrations ranging from 12 to 30 hours. The concentrations include Advanced Study Concentrations 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

Applicants must hold a valid Level III New Mexico teaching license.

Required Core Domain Courses

EdLead 501: Educational Leadership in a Democratic Society	3
EdLead 521: School Finance & Resource Management	3
EdLead 560: Instructional Leadership & Development	3
EdLead 561: Legal Issues for School Leaders	3
EdLead 503: Data Driven Decision-Making	3

Additional Required EdLead Courses

EdLead electives, including 6 hours of EdLead 596	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

EdLead 501: Educational Leadership in a Democratic Society	3
EdLead 509: Schools as Organizations	3
EdLead 519: Curriculum Planning for School Leaders	3
EdLead 510: School-Community Relations	3
EdLead 503: Data Driven Decision-Making (or approved alternate research course)	3

Additional Required EdLead Courses

EdLead electives, including 6 hours of EdLead 594	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

EdLead 505: Visionary Leadership for Learning	3
EdLead 509: Schools as Organizations	3
EdLead 529: The Adult Learner	3
EdLead 517: Communication for Educational Leaders	3
EdLead 503: Data Driven Decision-Making (or approved alternate research course)	3

Additional Required EdLead Courses

EdLead electives, including 6 hours of EdLead 594	9
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Support Area Electives

Selected in consultation with advisor	6
Total Credit Hours	30

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 Level III New Mexico teaching license.

Required Core Domain Courses

EdLead 501: Educational Leadership in a Democratic Society	3
EdLead 521: School Finance & Resource Management	3
EdLead 560: Instructional Leadership & Development	3
EdLead 561: Legal Issues for School Leaders	3
EdLead 503: Data Driven Decision-Making	3

Additional Required EdLead Courses

EdLead electives, including 6 hours of EdLead 596	9
Total Credit Hours	24

Internship Experience

The Internship Experience Certificate 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. Applicants must hold a Level III New Mexico teaching license.

Required Courses

EdLead 596: Internship	6
EdLead 595: Advanced Field Experience	3

Additional Required EdLead Courses

EdLead electives, including	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 supervisory authorization for summer and academic year study. In addition, applicants must hold a master's degree in Educational Leadership, or a complementary field, and submit GRE general 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 rotating cohort model, with new cohorts joining each summer. Members take the same prescribed course work together, and are able to contribute to and benefit from an emergent community of learners. Cohorts meet five intensive Friday-Sunday weekends each fall-spring term for two academic years and commit to three summers of full-time study.

Course work in the doctoral program may vary slightly from year to year, according to cohort needs and faculty expertise. All cohorts engage in significant strands of research inquiry throughout the program, whether integrated into content courses or as complementary inquiry courses designed to further leadership inquiry. Requirements for graduation include successfully completing the 48 hours of 600-level EdLead course work offered during a cohort's tenure. 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

Cohort specific EdLead course work at 600 level	48
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Support Area

Applied/transfer credit of complementary earned graduate credit	24
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Dissertation

EdLead 699: Dissertation	18
Total Credit Hours	90

Minors in Educational Leadership

If a student's degree program permits, 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 individual class, the 15 hours of Core Domain courses associated with the minor, as set out in the corresponding concentration in the *M.A. in Educational Leadership* section above.

Educational Leadership (EdLead)

501. Educational Leadership in a Democratic Society.

[Foundations of Educational Administration.] (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.

[Problem Solving in Educational Organizations.] (4)
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.

[Organizational Analysis.] (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 Principalship. (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.

[Public School Finance.] (3)
This course is designed to provide future school leaders with basic understanding of the workings of the educational fund-

ing 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. Creating High Achieving Learning Communities in Diverse Settings. (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.

531. Administration of Staff Personnel and Student Services.

[Administration of Staff Personnel.] (3)
The course addresses issues pertaining to individuals and groups in school organizations and attendant management functions. Such functions include task-specialization, staff appraisal and development, collective bargaining and student services.

532. Current Educational Problems. (3)

Current and/or controversial issues in education reform and leadership.

534. Policy Issues in Education. (3)

(Also offered as Pol Sc 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. Leadership for Equity & 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.

[Supervision of Instruction (Elementary and Secondary).] (3)
(Also offered as MSET, CIMTE 560.) 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.

[School Law.] (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) 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. May be repeated for credit, no limit.
Prerequisite: 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.
Prerequisite: permission of instructor.

592. Workshop in Educational Leadership. (1-4) 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. (1-4) Δ

May be repeated for credit, no limit.

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

Prerequisite: permission of instructor.

596. Administrative Internship. [Internship.] (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 apply to the internship through the Program office.

598. Directed Readings in Educational Leadership. (3-6 to a maximum of 6) Δ

Prerequisite: permission of instructor.

599. Master's Thesis. (1-6)

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 502 or LLSS 523, or Ed Psy 511 or equivalent, or permission of instructor.

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/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. (1-3 to a maximum of 3) 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.

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.

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.

695. Advanced Field Experiences in Educational Leadership. (1-6 to a maximum of 6)

Prerequisite: permission of instructor.

696. Doctoral Internship. (3-6 to a maximum of 12)

Doctoral students only.

Prerequisite: permission of instructor.

698. Directed Readings in Educational Leadership. (3-6 to a maximum of 12) Δ

Doctoral students only.

Prerequisite: permission of instructor.

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

EDUCATIONAL LINGUISTICS

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 Department of Language, Literacy and Sociocultural Studies
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 MSC05 3040
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 277-0437

Linguistics Faculty:
 (See listing under Linguistics in the Arts and Sciences section of this catalog.)

Educational Linguistics Faculty:
Professors
 Guillermina Engelbrecht, Ph.D., Arizona State University
 Vera John-Steiner, Ph.D., University of Chicago

Associate Professors
 Melissa Axelrod, Ph.D., University of Colorado, Boulder
 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
 Lois Meyer, Ph.D., University of California
 Jill Morford, Ph.D., University of Chicago
 Leroy Ortiz, Ph.D., University of New Mexico
 Janet Patterson, Ph.D., University of New Mexico
 Lucretia Pence, Ph.D., University of Pittsburgh
 Carolyn Smith, Ph.D., Yale University
 Phyllis Perrin Wilcox, Ph.D., University of New Mexico
 Sherman Wilcox, Ph.D., University of New Mexico

Assistant Professors
 J. Anne Calhoun, Ph.D., Marquette University
 Julia Scherba de Valenzuela, Ph.D., University of Colorado at Boulder

Graduate Program

Graduate Advisor Contact: Vera John-Steiner
 Student Information Contact: Hokona Hall, Room 140, (505) 277-5282
 Graduate Application link for domestic applicants:
<http://www.unm.edu/~edling>
 Contact this office for application materials and degree program information.

Degree Offered

Ph.D.: Educational Linguistics

Application Deadline
 Fall semester: February 1

Educational Linguistics is an interdisciplinary doctoral program sponsored jointly by 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. The Educational Linguistics Faculty participates in this program, which has particular strengths in the following:

- 1) Child Language and Language Acquisition
- 2) Language shift and Language Maintenance
- 3) Language Policy and Planning Issues
- 4) Educational Sociolinguistics
- 5) Bilingualism
- 6) Language Teaching and Tesol
- 7) The Linguistics of Signed Languages
- 8) Language Assessment

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 9 hrs. of LING seminar hrs. from specified list.
 24 hours in COE selected with advisor
 24 hours from LING, ED & related fields selected with advisor
 18 dissertation hours

**EDUCATIONAL MEDIA/
 LIBRARY SCIENCE**

Rebecca Blum-Martinez, Department Chairperson
 Department of Language, Literacy and Sociocultural Studies, Educational Media/Library Science
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 MSC05 3040
 1 University of New Mexico
 Albuquerque, New Mexico 87131-0001
 (505) 277-0437

Instructor
 Leslie Chamberlin, M.L.S., Rutgers University
 (505) 277-7260

**Minor
 (Teaching Field Endorsement)**

The College of Education offers a 24-hour planned program 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. In addition, a student may complete 30 hours or course work to be eligible to apply for the certification by the New Mexico State Library at 1209 Camino Carlos Rey, Santa Fe, NM 87505 (505-476-9700). 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 Tireman Library for information.

Educational Media/Library Science (EM/LS)

391. Problems. (1-3 to a maximum of 9) Δ
 Prerequisite: permission of instructor.

424./524. Fundamentals of Library Science. (3)
 This basic course in library media is to give students knowledge, skills and motivation to integrate people, materials, equipment and facilities into the school curriculum.

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.

EDUCATION

437/537. Selection of Materials for Libraries and Media Centers. (3)

Study of the principles of selection and evaluation for developing collections of print and nonprint materials; includes acquisition policies, criteria and tools for selection.

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. (1-3 to a maximum of 3) Δ

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, of facility design and services related to the production and distribution of materials and equipment.

470/570. Automation in Libraries. (3)

To instruct library media specialists in the basics of computer technology, its application to school library media centers and how to program a typical library problem.

524/424. Fundamentals of Library Science. (3)

A survey of the history of libraries; social forces affecting the objectives and functions of modern libraries; types of library service, the library profession; its philosophy, publications and organizations; major trends and problems.

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. Selection of Materials for Libraries and Media Centers. (3)

A study of all aspects of collection development, including principles, evaluation and maintenance of print and non-print materials with an emphasis on policy development. Includes sources, criteria and tools for selection of materials.

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. (1-3 to a maximum of 3) Δ

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 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 relations.

570/470. Automation in Libraries. (3)

Survey of current information technologies and application of automation technology in library settings.

EDUCATIONAL PSYCHOLOGY

Deborah Riftenbary, Department Chairperson
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Professors

Christine McCormick, Ph.D., University of Wisconsin
Joseph Stevens, Ph.D., University of Arizona
Peter Winograd, Ph.D., University of Illinois

Associate Professors

Jan Armstrong, Ph.D., University of Minnesota
Jay Parkes, Ph.D., Pennsylvania State University

Assistant Professors

Terri Flowerday, Ph.D., University of Nebraska—Lincoln
Roxana Moreno, Ph.D., University of California—
Santa Barbara

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

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.

Student Information Contact

Program Secretary, Simpson Hall, (505) 277-4535.

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.: Educational Psychology
Ph.D.: 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 Master 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: Ed Psy 503, 505, 510, 511 and 603.

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 Ed Psy.

Ph.D. Required Core Courses

Ed Psy 503	Principles of Human Development
Ed Psy 505	Conducting Quantitative Educational Research
Ed Psy 510	Principles of Classroom Learning
Ed Psy 511	Introductory Educational Statistics
Ed Psy 574	Introduction to Educational & Psychological Measurement
Ed Psy 603	Applied Statistical Design and Analysis
Ed Psy 604	Multiple Regression Techniques as Applied to Education
–or–	
Ed Psy 606	Applied Multivariate Statistics
Ed Psy 610	Seminar in Classroom Learning
Ed Psy 613	Seminar in Human Growth and Development
Ed Psy 696	Internship
–and–	6 hours of electives in Ed Psy

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. 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

Ed Psy 503	Principles of Human Development
Ed Psy 510	Principles of Classroom Learning
Ed Psy 610	Seminar in Classroom Learning
Ed Psy 613	Seminar in Human Growth and Development

Quantitative Methods

Ed Psy 505	Conducting Quantitative Educational Research
Ed Psy 511	Introductory Educational Statistics
Ed Psy 574	Introduction to Educational & Psychological Measurement
Ed Psy 603	Applied Statistical Design and Analysis
Ed Psy 604	Multiple Regression Techniques as Applied to Education
–or–	
Ed Psy 606	Applied Multivariate Statistics

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 (Ed Psy)

193. Topics. (1-3) Δ

May be repeated for credit, no limit.

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) Δ

May be repeated for credit, no limit.

393./593. Topics. (1-6) Δ

May be repeated for credit, no limit.

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.

493. Topics. (1-3) Δ

May be repeated for credit, no limit.

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 or equivalent.

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 or 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 or equivalent.

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 or equivalent.

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. Prerequisite: permission of instructor.

533. Behavior Modification in Education. (3)
Research-oriented seminar studying techniques, methodological issues and applications of behavior modification to a variety of problem behaviors.

565. Seminar in Thought and Language. (3)
(Also offered as Ling, Psych 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)
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 or equivalent.

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.

591/391. Problems. (1-3) 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.

592. Workshop. (1-4) Δ
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.

593/393. Topics. (1-3) Δ
May be repeated for credit, no limit.

595. Advanced Field Experiences. (3-6 to a maximum of 12) Δ
Prerequisites: 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)
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 or equivalent.

604. Multiple Regression Techniques as Applied to Education. (3)
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)
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. Prerequisites: 603, 604 is recommended. 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 or equivalent.

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) 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. Prerequisites: 603, permission of instructor.

674. Advanced Educational and Psychological Measurement. (3)
Current topics and issues in measurement, assessment and testing including test development, analysis, bias and fairness, equating, using assessments for decisions and policy making. Prerequisite: 574 or equivalent.

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)
Offered on a CR/NC basis only.

ELEMENTARY EDUCATION

Anne Madsen, Department Chairperson
Department of Teacher Education
Hokona Hall, Room 128
MSC05 3040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-6640

Professor
Viola E. Florez, Ed.D., Texas A&M University (Kingsville)
Joseph G.R. Martinez, Ph.D., The University of New Mexico
Peter N. Winograd, Ph.D., University of Illinois

Associate Professors
Leila Flores-Dueñas, Ph.D., University of Texas at Austin
Anne L. Madsen, Ph.D., Michigan State University
Rosalita Mitchell, Ph.D., University of New Mexico
Elizabeth Saavedra, Ph.D., University of Arizona
Quincy Spurlin, Ph.D., University of Texas at Austin
Kathryn M. Watkins, Ph.D., Texas A&M University

Lecturers
Jean Casey, Ph.D., University of New Mexico
Ann Claunch, Ph.D., University of New Mexico
Deborah Haury, M.A., University of New Mexico

Tom Keyes, Ph.D., University of New Mexico
 Janet Lear, M.A., University of California, Berkeley
 Sharon Olguin, M.A., University of New Mexico
 Susan Payne, Ph.D., University of New Mexico
 Linda Schaffer, Ph.D., University of New Mexico
 Kaia Tollefson, Ph.D., University of New Mexico

Faculty from disciplines, professional programs and specialty areas across all departments in the College participate in Elementary Education. Faculty are identified by endorsement (see introduction section of the College of Education in this catalog) or specialty area in this alphabetized section of program descriptions.

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

Information on program requirements, advisement and application materials are available from the College Advisement Center in Hokona Hall.

Major and Degree

Elementary Education (K–8th grade): B.S. Ed.

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. The professional study program connects with the competencies for entry level teachers set by the State of New Mexico which include:

1. Professionalism
2. Instructional Planning and Implementation
3. Classroom Management
4. Assessment
5. Technology
6. Diversity
7. Family and Community
8. Inclusion
9. Development of Student
10. Knowledge of Content
 - Mathematics
 - Reading and Language Arts
 - Science
 - Social Studies
 - Arts
11. Communication

Successful completion of all degree requirements (undergraduates) including professional studies (undergraduate and post-baccalaureate candidates) leads to eligibility to apply to the State of New Mexico for licensure.

All students (undergraduate and post-baccalaureate) must complete the application process and be admitted far in advance of projected entry into the program. Admission is competitive; it is limited by capacity to offer a quality program. See preceding sections on: 1) Application and Admissions Process for Teacher Preparation and 2) Minimum Criteria for Undergraduate Application to the Teacher Preparation Program. Changes in school district needs, state requirements and state reform initiatives in education will require revisions and changes in the curriculum in the next few years. These efforts will be guided by College task forces, state and national reports and the college's commitment to professional development sites.

NOTE: It is critical to keep abreast of changes in State Licensure Standards. Some revisions are currently in process due to State Regulations. Contact the College Advisement Center to anticipate changes in programs of study.

Programs of study for Elementary Education Major with licensure must include:

General Education	63 hours
Communication Arts	12
Engl 101	3
Engl 102	3
Ling 101	3
C & J 220	3
Mathematics	9
Math 111	3
Math 112	3
Math 215	3
Science (strongly recommend)	12
Nat SC 261L	4
Nat SC 262L	4
Nat SC 263L	4
However, will accept course from Chem 111L, 121L or 131L, 122L or 132L or Biol 110/112L, 123/124L or Physcs 102/102L, 151–151L, 152–152L, 160–160L, 161–161L or E&PS 101/105L, 201L, Env Sc 101 or Astr 101. One course must be a Lab designated by L.	
Second Language	3
History	12
Hist 101L or 102L	3
Hist 161L or 162L	3
Hist 260 or 463	3
Elective	3
Social Science	6
Select 6 hours from Soc 101, Psych 105, Pol Sc 110 or 200, Anth 101 or 130, Econ 105 or 106 or Geog 102.	
Fine Arts	6
Art Hi 101 or 251	3
Mus Ed 293 or 298	3
Teaching and Learning Support	9
Ed Psy 303	3
MSET 365	3
LLSS 443	3

NOTE: Pre-Professional Education is under revision.

Teaching Field 24–36

See information on teaching fields in this section and in preceding parts of the College section in this catalog. Teaching fields include: Bilingual Education, Fine Arts, Language Arts, Mathematics, Science, Social Studies and Teaching English to Speakers of Other Languages (TESOL/ESL). Information on these teaching fields are available in the College Advisement Center, the specialty area programs listed in this section of the catalog and division offices listed for endorsement areas in preceding parts of the College section of this catalog. The 24 hours or more minor (teaching field endorsement) in a subject matter area should be planned with a faculty advisor. Some general education courses may be counted toward the completion of a teaching field. With careful planning, students may complete more than one teaching field.

Professional Education	36
EDUC 321L	3
EDUC 330L	3
EDUC 331L	3
EDUC 333L	3
EDUC 353L	3
EDUC 361L	3
CIMTE 400	9
Spc Ed 493	3
LLSS 315	3
Ed Psy 310L	3

A Special Education/Elementary Education Double Major/Dual Licensure option is also offered. Additional requirements in a program of studies are required. Prior to

application, applicants must have completed with a "B" or enrolled in Spc Ed 201 and 204. Specific information is available on a program description sheet available in the College Advisement Center or in the Special Education Program (see Special Education in this program description section).

Teaching Fields

Bilingual Education (see Bilingual/English/Spanish or English/Navajo/Tesol Education)

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.

Language Arts is designed for students wishing to pursue a broad field study in language arts. Disciplines include English, Linguistics, Theatre, Communication and Journalism and Speech and Hearing Sciences.

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.

Science is designed for students wishing to pursue a broad fields study in science. The program includes course work in astronomy, biology, chemistry, earth and planetary sciences, physical science and physics.

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.

Graduate Study

Graduate Advisor Contact and Student Information Contact

For program information and application materials contact:

Mary Francis
College of Education
Hokona Hall, Room 242 (505) 277-9439

For program information and application materials for a Master's degree in school/university partnership programs, contact:

Monica Price
Hokona Hall, Room 104, (505) 277-0587

Note these partnership programs include: Elementary Resident Teacher Program, Elementary Career Development Program and Elementary/Secondary Teacher Enhancement Program.

Application Deadlines

Initial Screening of applications will begin:

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 and financial assistance. 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

Professional Prerequisites for Graduate Study

The College of Education offers two pathways to the M.A. in elementary education. The first pathway is for individuals who already hold an elementary teaching license. The second pathway is for those individuals who wish to obtain an elementary teaching license and a master's degree.

M.A.: Elementary Education

Many applicants already have an elementary teaching license and teaching experiences. These individuals are interested in furthering their 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. These are programs in the Elementary Master's degree. Partnership programs such as Resident Teacher Program and Teacher Enhancement Program are included in this advanced study. All of these individuals should follow the curriculum plan outlined in this section.

Those individuals who possess an elementary teaching license and elementary experience and are seeking further professional growth by completing a Master's degree that incorporates advanced study in the specific areas of bilingual education, multicultural education, reading/language arts education or TESOL/ESL education should apply to the Master's degree in Language, Literacy and Sociocultural Studies (LLSS), described in another part of the College section of this catalog. The program of studies, advisement and degree completion for these specific areas are outlined in the LLSS Master's degree.

The applicants for the Elementary Master's degree who possess an elementary teaching license and elementary teaching experience work under the supervision of an assigned advisor and complete a master's degree using Plan I (with thesis) or Plan II (without thesis) as detailed in the following section.

Students working under Plan I 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. Ed Psy 511 or other approved research course (excluding EDUC 500).
4. One curriculum course: MSET 507, CIMTE 511, CIMTE 542, CIMTE 574 or LLSS 582.
5. At least 6 hours of 500-level courses in the major and minor fields combined (exclusive of thesis).
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. CIMTE 500—or one 3-hour problems course (CIMTE 591).
3. EDUC 500 or Ed Psy 511.
4. One curriculum course: MSET 507, CIMTE 511, CIMTE 542, CIMTE 574 or LLSS 582.
5. LLSS 583.
6. CIMTE 590 or CIMTE 579.
7. A minimum of 3–9 hours in a minor content field.
8. At least 12 hours of 500-level courses in the major and minor fields combined.
9. Not more than 8 hours of workshop credit.
10. Written comprehensive examination.

M. A. + Elementary Licensure: Elementary Education

The M.A. program is for individuals interested in obtaining a K–8 elementary license and completing their Master's degree in elementary education. The College offers this pathway through the post-baccalaureate elementary licensure with a master's degree program.

Post-baccalaureate students are those who have a bachelor's, Master's or doctoral degree and who are interested in obtaining a K–8 Elementary teaching license. This is a three stage program leading to a Standard Licensure, and a Master's Degree in Elementary Education.

Students who complete the first 21 hours, are eligible for K–8 Elementary Teaching license. This license is a full license and students may elect to begin their elementary teaching career at this point.

Students who take an additional 9 hours of course work will make them eligible for a Standard K–8 Elementary License. The standard license is also a full license. Please note that New Mexico law requires schools to treat both alternative and standard licenses the same. Both licenses enable individuals to be hired as full-time K–8 elementary teachers.

Students completing all requirements of the Alternative License (21 hours) and the Standard License (9 hours) may take an additional 12 hours, as specified below, and complete a Master's degree program in Elementary Education.

Application to the Post-Baccalaureate licensure plus M.A. program is through the University's Office of Graduate Studies and follows the same application deadlines as other graduate programs in elementary education. All licensure and M.A. candidates are required to work under the supervision of an assigned advisor to develop and follow a planned program of studies approved by the faculty advisor. Courses taken without the approval of the advisor may not be accepted toward completion of the license or the Master's degree. Students must have earned a minimum of a 3.0 GPA as specified by the Office of Graduate Studies.

Post-Baccalaureate Licensure with Optional MA in Elementary Education (Plan II without Thesis)

Licensure Required Course Work	21 hours
CIMTE 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
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Standard License 30 hours
21 hours from Alternative Licensure requirements plus:
Spc Ed 507 Collaboration for Inclusive Education 3
LLSS 593 1st & 2nd Language Development 3

—and—
Choose 1:
Ed Psy 503 Principles of Human Development 3
Ed Psy 510 Principles of Classroom Learning 3

M.A. Program (without thesis) 36 hours
24 graduate credit hours from the Alternative/Standard Licensure requirements plus:

LLSS 583 Education Across Cultures in the Southwest 3
CIMTE 590 Seminar 3

—and—
Curriculum Core (choose 1) 3

ART ED 510 Curriculum Development in Art Education
MSET 507 Developing Curriculum for Middle Schools
CIMTE 511 Curriculum in the Elementary School
CIMTE 542 Principles of Curriculum Development
CIMTE 574 Curriculum for Early Childhood
LLSS 582 Curriculum Development in Multicultural Education

Research Core (choose 1) 3

EDUC 500 Research Applications to Education
Ed Psy 500 Survey of Research Methods in Education
Ed Psy 502 Survey of Statistics in Education
Ed Psy 572 Classroom Assessment
LLSS 501 Practitioner Research
LLSS 502 Naturalistic Inquiry

Education Specialist Certificate

The Education Specialist certificate in Curriculum and Instruction is also offered for general teacher education and specialty areas for students. This is a planned program of studies of 30 semester hours beyond the Master's degree. Applicants are referred to the preceding part of the College section of this catalog which describes the certificate. Students must be formally admitted to graduate study in order to pursue the certificate. Contact the appropriate department office for information about admission requirements, processes, and program requirements.

Exercise Science

Mary Jo Campbell, Department Chairperson
Department of Physical Performance and Development
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 Rifenbary, 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

Professors
Virginia C. Shipman, Ph.D., University of Pittsburgh

Associate Professors
Estella A. Martinez, Ph.D., Michigan State University
Pamela Olson, Ph.D., Oregon State University

Assistant Professor

Jeffrey Stueve, Ph.D., University of Illinois

Professors Emeritae

Mary Smith, Ph.D., Colorado State University

Pauline Turner, Ph.D., University of Texas

The mission of the Family Studies program is to prepare professionals 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 an environment for life long learning. 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 reflective 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. The scholarly work of the program extends to the community through collaboration with families, schools, social services agencies, businesses, public policy agendas and government entities. Faculty and students strive to be responsive to the evolving needs of external constituencies.

Family Studies programs (undergraduate through doctoral levels) have focused on learning, relationships and roles across the developmental stages—from conception to death. Consistent with the mission of the College of Education, Family Studies addresses critical education issues within the contexts of homes, families and communities in both the educational and social services environments. 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 largest providers of human services. Thus, Family Studies occupies a unique position and critical role in the College of Education.

Undergraduate Program

Undergraduate Student Information: College of Education Advisement Center, Hokona Hall

Program information and application for admission: Family Studies Program, Simpson Hall, 277-4535

Majors and Degrees

Family Studies: Human Development and Family Relations, B.S.

Family Studies: General Family Studies, B.S.

*Family Studies: Human Services, B.S.

* A moratorium has been placed on admission of new students for the Human Services major.

* Students wishing to apply for the Certified Family Life Educator designation of the National Council on Family Relations please refer to the NCFR web site. For details on requirements and application www.ncfr.org.

Minors

Human Development and Family Relations (for College of Education students only)

General Family Studies

*Human Services

* A moratorium has been placed on accepting Human Services minors.

Contact the Family Studies Program, Simpson Hall, for more information and specific requirements.

Major: General Family Studies

Curriculum for Students Preparing for General Family Studies

General Education Requirements (46 hours)

Engl 101	3
Engl 102	3
C & J 130	3
Psych 105	3
Soc 101	3
—or— Anth 130	
Biol 110 and 112L	4
Core: Physical or Natural Science	3
Econ 105	3
Stat 145	3
Nutr	3
Multicultural Elective	3
Core: Humanities (two courses)	6
Core: Fine Arts	3
Core: Second Language	3
Core:	

Physical or Natural Science: Anth 150 and 151L; Astr 101; Chem 111L, 121L or 131L, 122L or 132L; E&PS 101 and 105L, 201L; Env Sc 101; Geog 101 and 105L; Nat Sc 261L, 262L, 263L; Physcs 102–102L, 151–151L, 152–152L, 160–160L, 161–161L.

Humanities: Am St 186, Clscs 107, 204, 205; Comp L 223, 224; Engl 150, 292, 293; Hist 101L, 102L, 161L, 162L, Phil 101, 201, 202; Relig 107; U Hon 121; 122.

Fine Arts: Art Hi 101, 201, 202; Dance 105; M A 210; Music 139, 140; Thea 122.

Second Language: M Lang 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.

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 284 Familias de Nuevo México	3
FS 411 Marriage and Family Life Education	3

Family Resource Management (9 credits)

FS 443 Application of Family Management Theories	3
Plus 6 credits from the following:	
FS 244 Consumer Decisions	3
FS 341 Ecological Aspects of Housing	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 415 Aging and the Family	3
FS 416 Adult Development in the Family	3

Additional Family Studies Courses (3 credits)

A course on Human Sexuality.

Suggested Minor (18–21)

Suggested minors are: Anthropology, Economics, English, Communication and Journalism, Management, Psychology, Sociology.

Curriculum for General Family Studies Minor

A minor in General Family Studies consists of a total of 21 hours, 12 of which are core courses for majors. These courses are FS 213 (3), FS 312 (3), FS 343 (3) and FS 484 (3). A minimum of 9 additional hours distributed among the following is required:

1. Human Development/Family Relations (3), for example: 202, 313, 403, 411, 416
2. Family Resource Management (6), for example: 244, 341, 443

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.

Major: Human Development and Family Relations

Curriculum for Students Preparing for Human Development and Family Relations

General Education Requirements (61–62 hours)

Engl 101	3
Engl 102	3
Writing and Speaking Core Curriculum courses (see below)	3
Psych 105	3
Soc 101	3
Anth 130	3
Biol 110 and 112L	4
Physical or Natural Science (see below)	3/4
Econ 105	3
Stat 145	3
Psych (300 or above)	3
Nutr 120	3
Multicultural Elective	3
Humanities (see below)	6
Fine Arts (see below)	3
Second Language (see below)	3
Additional 9 hours from Anth, Psych, Soc	9

Writing and Speaking: Engl 220; C & J 130; Phil 156.; Physical and Natural Sciences: Anth 150 and 151L, Astr 101; Chem 111L, 121L or 131L, 122L or 132L; E&PS 101 and 105L, 201L; Env Sc 101; Geog 101 and 105L; Nat Sc 261L, 262L, 263L; Physcs 102–102L, 151–151L, 152–152L, 160–160L, 161–161L; Humanities: Am St 186, Clscs 107, 204, 205; Comp L 223, 224; Engl 150, 292, 293; Hist 101L, 102L, 161L, 162L, Phil 101, 201, 202; Relig 107; Fine Arts: Art Hi 101, 201, 202; Dance 105; M A 210; Music 139, 140; Thea 122; Foreign Languages: M Lang 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.

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

Required Family Relations Courses (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

Required Human Development Courses (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 415 Aging and Family	3
FS 416 Adult Development in the Family	3

Required Family Resource Management (3 credits)

(Choose from the following courses)

FS 244 Consumer Decisions	3
FS 341 Ecological Aspects of Housing	3
FS 443 Application of Family Management Theories	3
FS 444 Family Finance	3

Suggested Minor (18–21)

Minor may be obtained in one of the following:

- Anthropology
- **Human Services
- Psychology
- Sociology
- Special Education
- or a 54-hour major

In addition, the student must complete unrestricted electives for a minimum of 128 credit hours. Consult the program faculty for specific courses. The student must complete 40 hours above 300.

** A moratorium has been placed on accepting Human Services minors.

Curriculum for Family Studies Minor in Human Development and Family Relations

Twenty-one hours including FS 213 and FS 312 are required. Select 9 hours in Human Development (FS 202/207L, 304, 315, 403/407L, 415, 416) and 6 hours in Family Relations (FS 310, 313, 411, 484).

This minor is available for majors in all departments with approval from major advisors.

*****Major: Human Services**

*** A moratorium has been placed on admission of new students for the Human Services major.

Curriculum for Students Preparing for the Human Services Major in Family Studies

General Education Requirements (55 credit hours)

Engl 101	3
Engl 102	3
Writing and Speaking Core Curriculum course (see below)	3
Psych 105	3
Soc 101	3
Soc 200	3
Biol 110, 112L	4
Physical or Natural Science (see below)	3/4
Econ 105	3
Stat 145	3
Psych (see advisor for specific course)	3
Psych 332	3
Nutr 120	3
Multicultural Elective	3
Humanities (see below)	6
Fine Arts (see below)	3
Second Language (see below)	3

Writing and Speaking: Engl 220; C & J 130; Phil 156; Physical and Natural Sciences: Anth 150 and 151L; Astr 101; Chem 111L, 121L or 131L, 122L or 132L; E&PS 101 and 105L, 201L; Env Sc 101; Geog 101 and 105L; Nat Sc 261L, 262L, 263L; Physcs 102–102L, 151–151L, 152–152L, 160–160L, 161–161L; Humanities: Am St 186, Clscs 107, 204, 205; Comp L 223, 224; Engl 150, 292, 293; Hist 101L, 102L, 161L, 162L; Phil 101, 201, 202; Relig 107; Fine Arts: Art Hi 101, 201, 202; Dance 105; M A 210; Music 139, 140; Thea 122; Foreign Languages: M Lang 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.

Family Studies Core (15)

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 481 Families and Public Policy	3

Human Development and Family Relations (6)

FS 202/	
207L Infant Growth and Development	3/1
FS 304 Growth and Development in Middle Childhood	3
FS 310 Friends and Intimate Relationships	3
FS 313 Family Theories and Contemporary Lifestyles	3
FS 315 Adolescent Development in the Family	3
FS 403/	
407L Growth and Development of the Preschool Child/Preschool Child Laboratory	2/1–2
FS 411 Family Life Education	3
FS 415 Aging and the Family	3
FS 416 Adult Development in the Family	3
FS 484 Ethnic Minority Families	3

Family Resource Management (6)

FS 244 Consumer Decisions	3
FS 341 Ecological Aspects of Housing	3
FS 443 Application of Family Management	3
FS 444 Family Finance	3

Human Services (13)

FS 252 Principles of Interviewing	3
FS 352 Contemporary Issues in Mental Health	3
FS 355 Experiential Groups	4
FS 359 Human Services Methods	3

Additional Family Studies Courses (14)

FS 395 Field Experience I	4
FS 495 Field Experience II	4
Family Studies Electives	6

Minor

Consult department for areas eligible for minor.

In addition, the student must complete unrestricted electives for a minimum of 128 credit hours. Consult the program faculty for specific courses. The student must complete 40 hours above 300.

*****Human Services Minor**

Students must apply for admission to the program. Major advisors or the Family Studies Program can be contacted for details. Students minoring in Human Services must take FS 252, 281, 352, 355, 359, 395 and 495.

*** A moratorium has been placed on accepting Human Services minors.

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 a secretary for application materials and information about the application process.

Application Deadlines

Master's and doctoral applicants in Family Studies:		
	Priority	Final Application
	Deadline	Deadline
Fall semester:	March 15	April 20
Spring semester:	October 15	November 20
Summer session:	March 15	April 20

The Priority Deadline is encouraged for best consideration; however, all complete applications must be received by the Final Application Deadline.

Degrees Offered

M.A.: Family Studies
Ph.D.: 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.) with a concentration in Family Studies. All M.A. students must fulfill the general admission requirements and the Plan I or Plan II 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 Relations, Family Life Education, 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 please refer to the NCFR web site. For details on requirements and application www.ncfr.org.

Master's Degree and Degree Concentrations*

All M.A. students must fulfill the general admission requirements and the Plan I (with thesis) 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, Family Life Education, will be eligible to apply for 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	1/2
	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	3
FS 543	Managing Family Resources	3
FS 570	Research Methods in Family Studies	3
FS 571	Application of Family Research	1
FS 585	Multicultural Issues: Working with Families	3
FS 581	Seminar: Legal, Ethical and Policy Issues in Family Studies	3
Ed Psy 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

In order for a student to be eligible for CLFE they must also complete H Ed 212 or Psych 231.

Concentration: Family Relations

Students completing the Master's degree, 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	1/2
	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	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 585	Multicultural Issues: Working with Families	3
Ed Psy 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
	Human Development	6

Other Required Courses: (3)

Couns 517	Theories of Counseling	3
Total Required Hours		42

Concentration: Human Development in Families

Program Core: (24)

FS 500	Professional Seminar in Family Studies	1/2
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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	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 585	Multicultural Issues: Working with Families	3
Ed Psy 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: (9)

FS Electives	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 45

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 585 (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 doctoral concentration 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 has a major emphasis in 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 a 24-hour minor 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.

Doctoral Curriculum in Family Studies:

Family Studies Master's Core		Credits
FS 503	Seminar in Human Growth and Development	3
FS 517	Family Interaction	3
FS 543	Managing Family Resources	3
FS 570	Research Methods in Family Studies	3
FS 585	Multicultural Issues: Working with Families	3
Ed Psy 511	Introductory Educational Statistics	3
		18

Family Studies Doctoral Core

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 581	Seminar: Legal, Ethical, and Policy Issues in Family Studies	3
FS 696	Internship	3
Total		12

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 credits
Inquiry Skills	15 credits
Ed Psy 603	Applied Statistical Design and Analysis 3
Ed Psy 604	Multiple Regression Techniques as Applied to Education 3
Ed Psy 606	Applied Multivariate Statistics 1-3
Additional credits to be determined by the student's Committee on Studies 6	
Dissertation	18 credits minimum

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.

244. Consumer Decisions. (3)
 Role of the family member as a consumer and exploration of the resources available for purchase decisions.

252. Principles of Interviewing. (3)
 Basic knowledge of the interviewing process with emphasis on developing interviewing skills. Awareness of ways in which the student's background and behavior influence the interview. Videotaped class interviews provide material for discussion and critique.

281. Introduction to Family Studies. (3)
 An introduction to the profession of Family Studies including content areas, community agencies and career opportunities.

284. Familias de Nuevo México. (3)
 (Also offered as Ch St 284.) 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.

293. Topics. (1-3) Δ
 May be repeated for credit, no limit.

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.
 Prerequisite: 3 hrs. in child development in FS or Psych 105 or Ed Psy 303.

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.
 Prerequisite: 3 hrs. in FS or Psych 105 or Ed Psy 303.

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: FS 213 for majors; Psych 105 or Soc 101 for others.

315. Adolescent Development in the Family. (3)
 Developmental interaction and communication patterns of adolescents within a family setting.
 Prerequisite: 3 hrs. in child development in FS or Psych 105 or Ed Psy 303.

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.
 Prerequisite: FS 213 for majors; Soc 101 or permission of instructor for non-majors.

352. Contemporary Issues in Mental Health. (3)
 Current social, ethical, legal, medical issues and trends will be explored including the community mental health movement, patient's rights, functions and side effects of psychopharmacology.

355. Experiential Groups: Theory and Practice. (4)
 Theory and techniques of working with groups in community service settings; emphasis on development of ability to apply concepts to practice.
 Prerequisite: 252.

359. Human Service Methods: Theory and Practice. (3)
 Introduces student to concepts and applications of multidimensional assessments and problem-solving models of intervention used with diverse populations.
 Prerequisite: 252.

391./591. Problems. (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.
 Prerequisites: Major in program or minor in FS/HS, upper division standing and 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.
 Prerequisite: 202 or permission of instructor; junior standing; corequisite: 407L.

407L. Preschool Child Laboratory. (1)
 Laboratory experience in child care center; must be taken concurrently with 403. Includes participation or observation/participation. Hours arranged.
 Prerequisites: 202, 207L or permission of instructor.

***411. Marriage and Family Life Education. (3)**
Philosophies and processes of family life education programs (FLE).
Prerequisite: 3 hrs. in FS or human development.

***415. Aging and the Family. (3)**
Examination of the developing person from adulthood through aging within the context of family origin and current family structure.
Prerequisite: 3 hrs. in human growth and development.

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.
Prerequisites: 3 hours in Human Growth and Development, at least 3 hours in FS and junior standing.

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.
Prerequisite: a basic course in economics.

481. Families and Public Policy. (3)
Synthesis of issues in Family Studies with emphasis on the formulation and impact of public policies.
Prerequisite: 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.

492. Workshop in Family Studies. (1-3 to a maximum of 3) Δ
Various topics related to Family Studies offered with accompanying "hands-on" experiences.

493/593. Topics. (1-3) Δ
May be repeated for credit, no limit.

***494. Practicum. (3-6 to a maximum of 6) Δ**
Designed to give the student practical experience on campus working.
Prerequisites: major in program, upper division standing and permission of instructor.

495. Field Experience II. (1-6 to a maximum of 6) Δ
Continuation of 395 with increased responsibilities/expectations for students.
Prerequisites: major in program or minor in FSHS, upper division standing, 395 or 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.
Prerequisites: graduate standing with a minimum of 6 credit hours in child development, early childhood education, family relationships and/or developmental psychology.

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.
Prerequisite: permission of instructor.

513. Seminar-Current Issues in Family Studies. (3) 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. May be repeated for credit not limit.

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. (3)
Review of salient theories and dynamics involved in understanding interaction patterns within contemporary families. The ability to analyze relationships is emphasized.
Prerequisite: 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.
Prerequisite: graduate standing.

560. Family Counseling. (3)
(Also offered as Couns 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.
Prerequisites: 517, a course in the study of the family; Couns 517, 520, 530 are required of Counseling students.

570. Research Methods in Family Studies. (3)
Research design and methods used in research with families. Includes individual projects.
Prerequisite: required of FS graduate majors.

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. Prerequisites: Master's level course work or admission to the doctoral program in FS.

585. 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)

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.

592. Workshop. (1-4) Δ

Directed toward a particular aspect of family studies. Different sections indicate different content. 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.

593/493. Topics. (1-3) 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. May be repeated for credit, no limit.

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 hrs. Prerequisite: FS major and advanced standing; 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)

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. Prerequisite: Master's level core courses; 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: admission to the doctoral program in FS and completion of 670.

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)

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

Mary Jo Campbell, Department Chairperson
Department of Physical Performance and Development
Health Education, Johnson Center
MSC04 2610

1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-5151

Professors

Elias Duryea, Ph.D., University of Nebraska
William Kane, Ph.D., C.H.E.S., University of Oregon

Associate Professors

Michael J. Hammes, Ph.D., University of Utah
Paul Miko, Ph.D., University of Maryland
Liza Nagel, Ph.D., Washington State University

Adjunct Faculty

Terrence Jones, Ph.D., University of New Mexico
Elba Saavedra, Ph.D., University of New Mexico
David Sleet, Ph.D., University of Toledo
Elaine Stone, Ph.D., The University of New Mexico

Lecturer

Magdalena Avila, Dr.P.H., University of California (Berkeley)

Undergraduate Program**Undergraduate Advising Contact**

Any Health Education Faculty Member, Johnson Center,
(505) 277-5151

Student Information Contact and Application for Admissions

Sally Renfro, Johnson Center, (505) 277-5151

Major and Degree

Health Education: Bachelor of Science in Education (B.S.Ed.)

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 is 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.

School Health Education—Concentration 1

State Board of Education licensure regulations are subject to periodic change. Please 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

H Ed 164L	Standard First Aid/Lab	3
H Ed 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

H Ed 212	Fundamentals Human Sexuality	3
H Ed 247	Consumer Health	1
H Ed 209	Education for AIDS Prevention	1
H Ed 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	
-or- 162L	History of the United States Since 1877	3
Engl	Any English Course	3
		33

Third Year

H Ed 306	Conflict Mediation	1
H Ed 310	Injury Prevention	1
H Ed 345	Professional Applications in Health Education	3
H Ed 321	Violence Prevention	1
H Ed 333	Emotional Health and Interpersonal Relationships	3
H Ed 362	Theory and Skills for the Development of a Healthy Adolescent	2
H Ed 445	Strategies for Prevention of Substance Use	1
Ed Psy 303	Human Growth and Development	3
Ed Psy 310	Learn and Classroom	3
OLIT 421	Production and Utilization of Instructional Materials	3
Hist 260	History of New Mexico	
-or- 463	Hispanic Frontiers	3
Stat 145	Introduction to Statistics	3
	General Ed Elective	3
		30

Fourth Year

LLSS 438	Teaching Reading and Writing in the Content Field	3
H Ed 451	Teaching Strategies & Curriculum for Health Education	2
H Ed 471	Introduction to Community Health	3
H Ed 481	Pre-student Teaching	2
H Ed 482	Health Promotion in Multicultural Settings	3
H Ed 489	Student Teaching in Sec Sch	8
H Ed	Electives	7
Hist	Any History Course	3
		31

**Community Health Education--
Concentration 2****First Year**

H Ed 164L	Standard First Aid/Lab	3
H Ed 171	Personal Health Management	3
Anth 130	Cultures of the World	3
C & J 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
		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

H Ed 209	Education for AIDS Prevention	1
H Ed 247	Consumer Health	1
H Ed 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	4
		30

Third Year

H Ed 310	Injury Prevention	1
H Ed 306	Conflict Mediation	1
H Ed 321	Violence Prevention	1
H Ed 333	Emotional Health and Interpersonal Relationships	3
H Ed 345	Professional Applications in Health Education	3
Ed Psy 303	Human Growth and Development	3
C & J	Upper Division Elective	3
Psych 331	Psychology of Personality	3
Psych	Contact Advisor for Approved Psych Courses	6
Soc 322	Social Epidemiology	3
	General Education Elective	3
		30

Fourth Year

H Ed 451	Teaching Strategies & Curriculum for Health Education	2
H ED 471	Introduction to Community Health	3
H ED 482	Health Promotion in Multicultural Settings	3
H Ed 495	Field Experience	6
H Ed	Electives	6
OLIT 421	Production and Utilization of Instructional Materials	3
OLIT 483	Instructional Applications: Computer Technology	3
	General Electives	7
		33

Minor Study Requirements

A minor in School Health 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:

H Ed 164L	Standard First Aid	3
H Ed 171	Personal Health Management	3
H Ed 212	Fundamentals of Human Sexuality	3
H Ed 260	Foundations of Health Promotion	3
H Ed 333	Emotional Health and Interpersonal Relationships	3
H Ed 345	Professional Applications in Health Education	3
H Ed 362	Theory and Skills for the Development of a Healthy Adolescent	2
H Ed 445	Strategies for Prevention of Substance Use	1
H Ed 451	Teaching Strategies and Curriculum for Health Education	2
H Ed 482	Health Promotion in Multicultural Setting	3

Graduate Programs

Graduate Advisors

Magdalena Avila, Elias Duryea, Mike Hammes, Bill Kane, Paul Miko, Liza Nagel

Student Information Contact

Sally Renfro, Johnson Center, (505) 277-5151

Contact this office for student information and application materials for graduate study.

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.

Degrees Offered

M.S.: Health Education

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

Ed Psyc 511	Introduction to Educational Statistics	3
H Ed 506	Health Behavior Theory	3
H Ed 507	Research Design	3
H Ed 572	Program Planning in Health Education	3
H Ed 574	Epidemiology	3
H Ed 582	Health Promotion in Multicultural Settings	3

H Ed 511	Administration Aspects of Sch/Com Health	3
H Ed 595	Field Experience	3
Total		24

Students will complete the 36 hour program with approved electives.

Plan 1: Thesis

Required course work, 24 hours; approved elective course work, 6 hours; thesis, 6 hours (defense of thesis required).

Total program: 36 hours

Plan 2: No Thesis (Passing Comprehensive Examination Required)

Required course work, 24 hours, approved elective course work, 12 hours.

Total program: 36 hours

School Health Education Concentration

Ed Psyc 511	Introduction to Educational Statistics	3
H Ed 506	Health Behavior Theory	3
H Ed 507	Research Design	3
H Ed 545	Strat. For Prevention of Sub Abuse	1
H Ed 551	Teaching Strategies & Curriculum Dev.	2
H Ed 572	Program Planning in Health Education	3
H Ed 582	Health Promotion in Multicultural Settings	3
H Ed 511	Administration Aspects of Sch/Com Health	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

Health Education (H Ed)

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.

Prerequisite: 171.

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.

Prerequisite: 171.

293. Topics. (1-3) Δ

May be repeated for credit, no limit.

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.

Prerequisite: H Ed Majors Only.

362. Theory and Skills for the Development of a Healthy Adolescent. (2)

The course will provide an understanding of theoretical principles of various health behavioral theories that explain the health decision-making of adolescence.

391./591. Problems. (1-3)

Prerequisite: permission of health education faculty member.

445./545. 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.

Prerequisites: permission of instructor following evaluation of course work completed.

482./582. Health Promotion in Multicultural Settings. (3)

An overview of the health beliefs of people in New Mexico with a proportional emphasis towards the Hispanic population and Native Americans. The implications of these beliefs will be addressed by various learning experiences.

Prerequisites: permission of instructor, upper division or graduate status.

487./587. Physical Activity and Aging. (3)

(Also offered as Recrea, P E-P 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)

Prerequisites: H Ed 481.

492./592. Workshop. (1-4) Δ

493./593. Topics. (1-3) Δ

May be repeated for credit, no limit.

495. Field Experience. (3-6 to a maximum of 12) Δ

Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Prerequisites: permission of instructor following evaluation of course work completed.

497. Readings and Research in Honors. (3-6)

Prerequisite: see College of Education departmental honors section.

505. Foundations for a Philosophy in HPER. (3)

(Also offered as P E-P, Recrea 505.) Designed to prepare graduates to formulate a professional philosophy in their respective fields.

Prerequisite: at least 3 hours in history, principles or methods of physical education.

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 P E-P, Recrea 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. [Public Relations In HPER.] (3)

(Also offered as PE-P, Recrea 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.

545./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.

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 Health Education. (3)

Multidimensional nature of health-related behavior and the field of health education are examined using social, organizational, psychological and behavioral perspectives. Health behavior change, philosophical antecedents and ethical-moral dilemmas are explored using exemplary health promotion and Health Education programs.
Prerequisites: graduate status and 171.

571. Introduction to Community Health. (3)

This course provides an overview of community and public health. The history of the public health systems and current public health approaches and community-based health agencies and personnel are explored.

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 PRE-CEDE 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/J482. Health Promotion in Multicultural Settings. (3)

This course explores the health beliefs and practices of multiple cultures and considers those from the view of the knowledge, skills and understanding that professionals need to work within multiple cultures.

587/J487. Physical Activity and Aging. (3)

(Also offered as P E-P, Recrea 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)

Prerequisite: permission of Health Education faculty member.

592/J492. Workshop. (1-4)**593/J493. Topics. (1-3)****595. Advanced Field Experiences. (3-6 to a maximum of 12)**

Prerequisites: 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)

Prerequisite: permission of instructor.

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only.

604. Research Seminar. (3)

(Also offered as P E-P, Recrea 604.)

Prerequisite: departmental required research skills sequence.

696. Internship. (3-6 to a maximum of 12)

Prerequisite: permission of instructor.

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

LANGUAGE, LITERACY AND SOCIOCULTURAL STUDIES

Rebecca Blum-Martinez, 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

Vera John-Steiner, Ph.D., University of Chicago
Richard van Dongen, Ed.D., University of New Mexico

Associate Professors

Rebecca Blum-Martinez, Ph.D., University of California (Berkeley)
Greg Cajete, Ph.D., International College, William Lyon University
Mary Jiron (Belgarde), Ph.D., Stanford University
Holbrook Mahn, Ph.D., University of New Mexico
Lois Meyer, Ph.D., University of California (Los Angeles)
Richard Meyer, Ph.D., University of Arizona
Rosalita Mitchell, Ph.D., University of New Mexico
Ann Nihlen, Ph.D., University of New Mexico
Elizabeth Noll, Ph.D., University of Arizona
Leroy Ortiz, Ph.D., University of New Mexico
Lucretia (Penny) Pence, Ph.D., University of Pittsburgh
Anita Pfeiffer, M.A., University of Arizona
Eliseo Torres, Ph.D., Texas A&M University, Kingsville
Don Zancanella, Ph.D., University of Missouri-Columbia

Assistant Professors

Ricky Lee Allen, Ph.D., University of California (Los Angeles)
J. Anne Calhoun, Ph.D., Marquette University
Sylvia Celedon-Pattichis, Ph.D., University of Texas at Austin
Glenabath Martinez, Ph.D., University of Wisconsin
Shiame Okunor, Ph.D., University of New Mexico
Lynette Oshima, Ph.D., Indiana University
Chris Sims, Ph.D., University of California, Berkeley
Ruth Trinidad Galván, Ph.D., University of Utah

Lecturers

Leslie Chamberlin, M.L.S., Rutgers University

Adjunct

Edward DeSantis, Ph.D., Brown University
Denise Wallen, Ph.D., University of New Mexico

Emeriti and Emerita

Luisa Duran, Ed.D., University of New Mexico
William Kline, Ph.D., Stanford University

Student Information Contact

Contact Debra Schaffer, Hokona Hall 140, 505/277-0437, for information about application procedures.

Application Deadlines

M.A.: Summer session and Fall semester: March 30
Spring semester: October 15
Ph.D.: Fall semester: February 1
Ed.S.: Summer session and Fall semester: March 30
Spring semester: October 15

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 prac-

tices. 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.

Applicants to the M.A. are reviewed on March 30th and October 15th. Applicants to the doctoral program are reviewed after each February 1st, the application deadline for the Fall semester. 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 studies at the University of New Mexico. The Masters 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. 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	Naturalistic Inquiry	
Ed Psy 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	
Art Ed 570	Art in Multicultural Education	

Finally, in consultation with a Native American 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

Literacy/Language Arts Concentration

Program Core Requirements		
LLSS 500	Issues in Language/Literacy/Sociocultural Studies	3
CIMTE 590	Seminar	3
Research. Choose two from:		6
Educ 500	Research Applications to Education	
LLSS 501	Practitioner Research	
LLSS 502	Naturalistic Inquiry	
Ed Psy 502	Survey of Statistics in Education	
Concentration		
LLSS 595	Advanced Field Experiences	3
LLSS 532	The Reading Process	3
	Two 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		9
Total	Plan I	33 (27 + 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	
Chose remaining course from:		
EDUC 500	Research Applications to Education	
LLSS 501	Practitioner Research	
LLSS 502	Naturalistic Inquiry	
Ed Psy 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.	
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	

Suggested Electives:
 LLSS 446* Hispanic Folklore for the Classroom (Folklore en el Aula)
 LLSS 566 Issues in Hispanic Education

Educational Thought

LLSS 580 Seminar in the Education of Bilingual Students (Required)

Suggested Electives:
 LLSS 453* Theoretical and Cultural Foundations of Bilingual Education
 LLSS 566 Issues in Hispanic Education

Curriculum Development and Pedagogy

Suggested Electives:
 LLSS 557 Language, Culture and Mathematics
 LLSS 582 Curriculum Development in Multicultural Education
 LLSS 579 The Teaching of Reading in the Bilingual Classroom: La Enseñanza de la Lectura
 LLSS 482* Teaching English as a Second Language Literacy Across Cultures
 LLSS 558 Alternative Assessment Practices for Second Language Learners

Total 36

* Indicates course is available for graduate credit.

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
 LLSS 590 Seminar

Research 6
 LLSS 503 Research in Bilingual Classrooms and Communities

Chose remaining course from:
 EDUC 500 Research Applications to Education
 LLSS 501 Practitioner Research
 LLSS 502 Naturalistic Inquiry
 Ed Psy 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

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)

Suggested Electives:
 LLSS 566 Issues in Hispanic Education

Educational Thought

LLSS 580 Seminar in the Education of Bilingual Students (Required)

Suggested Electives:
 LLSS 453* Theoretical and Cultural Foundations of Bilingual 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.

Educational Thought & Sociocultural Studies Concentration (ETSS)

I. Core Requirement – Take During First Semester: 3
 LLSS 500 Issues in Language/Literacy/Sociocultural Studies

II. Research. Choose two from: 6
 EDUC 500 Research Applications to Education
 LLSS 501 Practitioner Research
 LLSS 502 Naturalistic Inquiry
 Ed Psy 502 Survey of Statistics in Education

III. ETSS Concentration. Choose three from: 9
 LLSS 511 History of U.S. Education
 LLSS 512 History of Education
 LLSS 515 Philosophies of Education
 LLSS 516 Educational Classics
 LLSS 518 Comparative Education
 LLSS 521 Sociology of Education
 LLSS 523 Education and Anthropology
 LLSS 530 Whiteness Seminar
 LLSS 581 Seminar in the Sociology of Education
 LLSS 587 Perspectives on Sex and Gender in Education

IV. Support Area Electives. Choose four from: 12
 Should consist of graduate level courses offered by LLSS (e.g., LLSS 593: Topics) or any other UNM department. Consult advisor.

V. Degree Completion Activity. Choose one from: 3-6
 (Consult advisor)
 Plan I – Master's Thesis
 LLSS 599: Master's Thesis (6 or more as needed)
 Completion of a Master's thesis
 Plan II – Literature Review Option
 LLSS 590: Seminar (3)
 Completion of a literature review
 Plan III – Comprehensive Exam Option
 LLSS 598: Directed Readings (3-6)
 Completion of comprehensive exam

Total Credit Hours (I-V):
Plan I – Master's Thesis 36
Plan II – Literature Review Option 33
Plan III – Comprehensive Exam Option 33-36

Footnote:

¹ "Plan I" and "Plan II" are university-wide designations. Plan I M.A. programs are ones that culminate with a Master's thesis. Plan II programs are any Master's programs that do not end with a thesis.

Social Studies

Program Core Requirements

LLSS 500	Issues in Language/Literacy/Sociocultural Studies	3
LLSS 590	Seminar	3

Research. Choose two from:

Educ 500	Research Applications to Education	6
Ed Psy 511	Introductory Educational Statistics	
LLSS 501	Practitioner Research	
LLSS 502	Naturalistic Inquiry	

Sociocultural Concentration

Choose two from:		
LLSS 511	History of U.S. Education	
LLSS 515	Philosophies of Education	
LLSS 516	Educational Classics	
LLSS 521	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:		
LLSS 520	Seminar in Social Studies	3
LLSS 540	Instructional Trends in the Social Studies	
LLSS 549	History Education	
LLSS 550	Seminar in History Education	

Supporting Curriculum/Instruction

Choose one from:		
CIMTE 516	Integrating Curriculum in the Classroom	3
LLSS 517	Reading Informational Books, an Instructional Strategy	
LLSS 538	Teaching Reading through the Content Field	
CIMTE 542	Principles of Curriculum Development	
LLSS 544	Children's Literature	
EM/LS 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

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.

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.

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; a concentration constructed by the student in consultation with their Committee; and a 24 hour minor or supporting area. Concentrations typically correspond to the broad areas delineated in the program's name: "language," "literacy" and "sociocultural studies," but the specific elements of concentrations are individualized to meet student needs. For example, a student interested in literacy might construct a concentration 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

LLSS 645	Advanced Seminar in Foundations of Education
LLSS 640	Seminar in Language/Literacy

Research. Choose from:

LLSS 501	Practitioner Research	12
LLSS 502	Naturalistic Inquiry	
LLSS 605	Qualitative Research in Education	
LLSS 623	Ethnographic Research in the Classroom	
Ed Psy 502	Survey of Statistics in Education	

- Ed Psy 505 Conducting Quantitative Educational Research
- Ed Psy 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 3
 LLSS 650 Dissertation Seminar

Concentration (24 credit hours) 24
 Selected from the Catalog by the candidate in consultation with their committee.

Support Area (24 credit hours) 24
 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 concentration.

Total 72-75

Dissertation (18 credit hours) 18
 (Maximum transfer/applied credit: 36)

Language, Literacy and Sociocultural Studies (LLSS)

181. Seminar for Returning Women Students. (3)
 Designed for women who are entering or returning to school after an interruption; identifies problems associated with re-entry; reviews academic skills; provides an opportunity to begin to define educational needs and issues.

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.

192. Workshop. (1-6 to a maximum of 9) Δ

193. Topics. (1-3) Δ
 May be repeated for credit, no limit.

290. Foundations of Education. (3)
 An introduction to the philosophical, social, historical and comparative foundations of education.

292. Workshop. (1-6 to a maximum of 9) Δ

293. Topics. (1-3) Δ
 May be repeated for credit, no limit.

296. Internship. (3-6 to a maximum of 12) Δ

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.
 Prerequisites: academic proficiency in the language of instruction (i.e., Span 301/302 or equivalent when taught in Spanish); 453.

315. Educating Linguistically Diverse Students. (3)
 This course familiarizes prospective teacher candidates with history, theory, practice, culture and politics of second language pedagogy. The students will gain an understanding of effective teaching methods for second language learners.

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./591. Problems. (1-3 to a maximum of 9) Δ

393./493./593. Topics. (1-6) Δ
 May be repeated for credit, no limit.

415. Philosophies of Education. (3)
 A survey of philosophical systems and their application to education.
 Prerequisite: 290 or equivalent.

424. Culture and Education. (3)
 (Also offered as Af Am 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)
 Prerequisites: to be taken concurrently with CIMTE 362 and permission of instructor.

***435. Remedial 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 hrs. supervised laboratory each week.
 Prerequisite: permission of instructor.

436. Teaching of English. (3)
 Prerequisites: Ling 292; to be taken concurrently with CIMTE 362 and permission of instructor.

***440. Teaching of French. (3)**
 Prerequisites: to be taken concurrently with 362 and permission of instructor.

***441. Teaching of Spanish. (3)**
 Applies linguistics basis acquired in Spanish 352 to problems of teaching. Required for teaching certificate. Does not count for Spanish major or minor. Students are advised to take 441 prior to student teaching.
 Prerequisites: to be taken concurrently with 362 and permission of instructor.

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.
 Pre- or corequisite: 331L.

445. Spanish-English Bilingualism. (3) Hernández Chávez
 (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 (Folklore 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.
 Prerequisite: 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 to the native-speaking in secondary schools.

Prerequisites: to be taken concurrently with CIMTE 362 and permission of instructor.

***450. Teaching in Bilingual Programs in Secondary Schools. (3)**

Bilingual education philosophy and programs will be examined with specific implications for applying theory to practice in teaching in interdisciplinary bilingual programs in secondary schools.

Prerequisites: to be taken concurrently with CIMTE 362 and 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.)

***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 sociocultural foundations of effective programs and instructional practices. Prerequisite: an introductory linguistics course.

***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.

456./556. First and Second Language Development within Cultural Contexts. (3)

This course addresses first and second language development as a life-long process within a cultural context, 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.

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. {once every academic year}

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. {every semester}

460./560. Language and Education in Southwest Native American Communities. (3)

(Also offered as Ling 436/536 and Nat Am *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. 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. {every other Spring}

479./579. The Teaching of Reading in the Bilingual Classroom. (La Enseñanza de la Lectura.) (3)

The teaching of reading in Spanish bilingual classroom includes various reading methods and assessment of children's reading skills. The focus of this class is on a balanced approach to reading. Taught in Spanish.

Prerequisites: 300 and proficiency in the language in which the course is taught.

***480. Second Language Pedagogy. (3)**

481./583. Education Across Cultures in the Southwest. (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.

Prerequisites: an introductory linguistics course; 453.

493./393./593. Topics. (1-3) Δ

May be repeated for credit, no limit.

495. Field Experience. (3-6 to a maximum of 12) Δ

Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Prerequisite: 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. Naturalistic Inquiry. (3)

Designed to give students an introduction to qualitative research methods relevant to education. Also, students will engage in the practice of qualitative methods through a field research experience.

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 master's and doctoral degree students with an interest in research.

Prerequisite: 581.

511. History of U.S. Education. [History of American 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.

512. History of Education. (3)

Focuses on the development of educational systems in western and non-western societies. Emphasis on the history of educational ideas and ways in which systems of education have both promoted and restricted educational opportunities. Prerequisite: a course in world history.

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.

Prerequisites: 331L, 333L.

515. Philosophies 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.

517. Reading Informational Books, an Instructional Strategy. (3)

Explores the role of nonfiction in children's literary/literacy development. By improving critical assessment and knowledge of nonfiction, experienced teachers can make curricular decisions to impact children's learning.
Prerequisites: 500, 542 or equivalent.

518. Comparative Education. (3) [1-3]

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.

519. Educational Ideas in Literature. (3)

Explores how literature furthers the constitution of educational discourse. Literature, including drama, fiction, poetry, biographies and narratives, will provide opportunities to study educational experiences as ways of defining meaning and constructing knowledge in education.

520. Seminar in Social Studies. (3-12)

Prerequisite: 421.

521. 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.

527. Studies in Rhetoric for Teachers. (3) Δ

An advanced course in the teaching of writing focusing on recent research and theory in composition studies. May be repeated for credit, no limit.

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.

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, multiracial 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.
Prerequisites: 531, permission of instructor.

533. Seminar in the Language Arts. (3-12 to a maximum of 12)

Exploration of current themes, debates, research and practices in the teaching and learning in the area of language arts (K-12).

Prerequisite: 433.

534. Seminar in Teaching Reading. (3-12 to a maximum of 12)

Advanced study focused on the research, debates, practices and themes in the teaching of reading with attention to implications for multicultural/multilingual settings.

Prerequisite: 531. (Offered upon demand)

537. Practicum in Learning Disabilities (Reading). (3)

Includes 3 hrs. supervised laboratory each week.

Prerequisites: 435, 534. Three lectures, 1 hr. lab.

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.

Prerequisite: classroom teaching experience or permission of the department.

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.

Prerequisite: 331L.

545. Spanish-English Bilingualism. (3) Hernández, Chávez

(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.

549. History Education. (3)

Inquiry into the teaching of history in the schools from the perspective of the historian and the classroom teacher.

550. Seminar in History Education. (3)

This course combines the study of history with methods of teaching history in K-12 schools.

Prerequisite: 549.

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.)

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.

555. Seminar in Educational Linguistics. (1-3) Δ
(Also offered as C & J, Ling 555.) May be repeated for credit, no limit.

556./456. First and Second Language Development within Cultural Contexts. (3)

This course addresses first and second language development as a life-long process within a cultural context, 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. {once every academic year}

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. {every semester}

560./460. Language and Education in Southwest Native American Communities. (3)

(Also offered as Ling 436/536 and Nat Am *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.

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.

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. {every other Spring}

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)

The teaching of reading in Spanish bilingual classroom includes various reading methods and assessment of children's reading skills. The focus of this class is on a balanced approach to reading and evaluation of Literacy Programs Across Curriculum. Taught in Spanish.
Prerequisites: 300 and proficiency in the language in which the course is taught.

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. {Fall and Spring}
Prerequisite: 453.

581. Seminar in Sociology of Education. [Seminar: Sociology 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 limitation for social transformation are explored.

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./481. 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.

585. Issues in the Acquisition and Teaching of Grammar in ESL. (3)

Course will analyze and compare ESL interlanguages of learners from different first languages, and raise issues in the teaching of Standard English grammar, syntax, and morphology.
Prerequisites: acceptance to masters or doctoral program; 482, 456 or 556.

587. Perspectives on Sex and Gender in Education. (3)
(Also offered as Wm St 487; however, it does *not* carry graduate credit.)

Prerequisites: LLSS 290, Wm St 200.

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)

592. Workshop. (1-4) 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./393./493. Topics. (1-3) Δ

May be repeated for credit, no limit.

595. Advanced Field Experiences. (3-6 to a maximum of 12)

Prerequisites: 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)

599. Master's Thesis. (1-6)
Offered on a CR/NC basis only.

605. Qualitative Research in Education. (3)
(Also offered as EdLead 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 or 523 or Ed Psy 511 or equivalent or permission of instructor.

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.

623. Ethnographic Research in the Classroom. (3)
Designed to assist students in learning how to conduct an ethnography in an educational setting. Will include finding an appropriate cultural scene, conducting the actual fieldwork, analyzing the data and writing up the study.
Prerequisite: 523 or permission of instructor.

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.
Prerequisite: permission of instructor.

645. Advanced Seminar in Foundations of Education. (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. Restricted: 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 this proposal to class where their work is critiqued.
Corequisite: 699. 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 multi-inclusiveness, 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)
Offered on a CR/NC basis only.

MATHEMATICS, SCIENCE, ENVIRONMENTAL AND TECHNOLOGY EDUCATION

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Student Information Contact
Contact Jo Sanchez, Hokona Hall 273, (505) 277-5018, jsanchez@unm.edu, for information about application procedures.

Application Deadlines
Initial Screening Application Deadlines
Summer semester: March 1
Fall semester: March 1
Spring semester: October 1

Applications received by these initial screening dates will be given highest consideration for admission and financial assistance. 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
Summer semester: March 31
Fall semester: April 25
Spring semester: October 30

Degrees Offered

M.A.: Elementary Education
M.A.: Secondary Education
Ph.D.: Multicultural Teacher and Childhood Education
Certificate: Education Specialist (Ed.S.), Curriculum and Instruction

Mathematics, Science, Environmental and Technology Education offers programs leading to doctoral (Ph.D.) and master's (M.A.) degrees focusing on the contexts of learning and sociopolitical aspects of learning and teaching. Emphasis on inquiry, research, history, culture, diversity and the analysis and critique of practice are embedded throughout core program courses. 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 mathematics, science, environmental and technology education with course work in related disciplines in the College of Education and other university colleges.

Master of Arts Degree

All M.A. students must fulfill the general admission requirements and the Plan I or II requirements set forth under Elementary Education or Secondary Education in the College section of the catalog as well as the section on graduate studies at the University of New Mexico. The Masters in Elementary Education or Secondary Education may be pur-

sued in the Mathematics, Science, Environmental and Educational Technology (MSET) concentration. Core courses provide a set of foundational perspectives. Elective Content Courses provide a focus on mathematics, science or educational technology.

**Elementary Education;
MSET Concentration (Plan I) 33 hours**

Program Core Requirements	
MSET	3
MSET 512 Technology and the Learning Process	
Curriculum (choose 1)	3
MSET 511 Curriculum in the Elementary School (AOA CIMTE 511)	
MSET 542 Principles of Curriculum Development (AOA CIMTE 542)	
Instructional Strategies (choose 1)	3
MSET 500 Advanced Instructional Strategies (AOA CIMTE 500)	
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	
Ed Psy 500 Survey of Research Methods in Education	
Ed Psy 502 Survey of Statistics in Education	
Ed Psy 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, and Educational Technology and complete 12 credit hours of graduate level courses.	

**Elementary Education;
MSET Concentration (Plan II) 36 hours**

Program Core Requirements	
MSET	6
MSET 512 Technology and the Learning Process	
MSET 590 Seminar	
Curriculum (choose 1)	3
MSET 511 Curriculum in the Elementary School (AOA CIMTE 511)	
MSET 542 Principles of Curriculum Development (AOA CIMTE 542)	
LLSS 582 Curriculum Development in Multicultural Education	
Instructional Strategies (choose 1)	3
MSET 500 Advanced Instructional Strategies (AOA CIMTE 500)	
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	
Ed Psy 500 Survey of Research Methods in Education	
Ed Psy 502 Survey of Statistics in Education	
Ed Psy 511 Introductory Educational Statistics	

LLSS 501	Practitioner Research
LLSS 502	Naturalistic Inquiry

Elective Content Courses 18

With the approval of the faculty advisors, students select a support content area in Mathematics, Science, and Educational Technology and complete 18 credit hours of graduate level courses.

**Secondary Education;
MSET Concentration (Plan I) 33 hours**

Program Core Requirements	
MSET	3
MSET 512 Technology and the Learning Process	
Curriculum (choose 1)	3
MSET 511 Curriculum in the Elementary School (AOA CIMTE 511)	
MSET 542 Principles of Curriculum Development (AOA CIMTE 542)	
Instructional Strategies (choose 1)	3
MSET 500 Advanced Instructional Strategies (AOA CIMTE 500)	
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	
Ed Psy 500 Survey of Research Methods in Education	
Ed Psy 502 Survey of Statistics in Education	
Ed Psy 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 content area of support and complete 12 credit hours of graduate level courses, including one course in the history and philosophy of mathematics, science, and educational technology.	

**Secondary Education;
MSET Concentration (Plan II) 33 hours**

Program Core Requirements	
MSET	6
MSET 512 Technology and the Learning Process	
MSET 590 Seminar	
Curriculum (choose 1)	3
MSET 511 Curriculum in the Elementary School (AOA CIMTE 511)	
MSET 542 Principles of Curriculum Development (AOA CIMTE 542)	
LLSS 582 Curriculum Development in Multicultural Education	
Instructional Strategies (choose 1)	3
MSET 500 Advanced Instructional Strategies (AOA CIMTE 500)	
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	
Ed Psy 500 Survey of Research Methods in Education	

Ed Psy 502	Survey of Statistics in Education
Ed Psy 511	Introductory Educational Statistics
LLSS 501	Practitioner Research
LLSS 502	Naturalistic Inquiry

Elective Content Courses 18

With the approval of the faculty advisors, students select a content area of support and complete 18 credit hours of graduate level courses, including one course in the history and philosophy of mathematics, science, environmental and technology education.

Doctor of Philosophy in Multicultural Teacher and Childhood Education; MSET Concentration

The Ph.D. in Multicultural Teacher and Childhood Education is available in the MSET concentration. All M.A. 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 Mathematics, Science, Environmental and Technology Education; a set of scholarship courses focusing on research methodology and the relationship between research and practice; a set of foundational courses; and a field of study in education.

Scholarship (choose 5) 15

EDUC 500	Research Applications to Education
Ed Psy 505	Conducting Quantitative Educational Research
Ed Psy 511	Introductory Educational Statistics
Ed Psy 603	Applied Statistical Design and Analysis
Ed Psy 604	Multiple Regression Techniques as Applied to Education
Ed Psy 606	Applied Multivariate Statistics
Ed Psy 607	Structural Equation Modeling
LLSS 501	Practitioner Research
LLSS 502	Naturalistic Inquiry
LLSS 623	Ethnographic Research in the Classroom

Foundations of Teacher Education (choose 6) 18

MSET 513	The Process of Teaching and Learning (AOA CIMTE 513)
MSET 516	Integrating Curriculum in the Classroom (AOA CIMTE 516)
MSET 500	Advanced Instructional Strategies (AOA CIMTE 500)
MSET 511	Curriculum in the Elementary School (AOA CIMTE 511)
MSET 542	Principles of Curriculum Development (AOA CIMTE 542)
MSET 593	Topics (Technology and Learning, Foundations of Pedagogy, Technology in Society and Culture)
MSET 643	Curriculum Theory Seminar (AOA LLSS 643)
LLSS 681	Seminar in Multicultural Teacher Education

Field of Study (choose 4 in one area): 12**Mathematics**

MSET 561	Seminar in Teaching Mathematics
MSET 565	Diagnostic and Corrective Techniques in Mathematics Teaching
MSET 593	Topics (History and Philosophy of Mathematics, Science and Educational Technology)

Science

MSET 515	Teaching Environmental Education
MSET 530	Seminar in Science Teaching
MSET 542	Principles of Curriculum Development
MSET 553	Seminar in Teaching Elementary Science

MSET 593	Topics (History and Philosophy of Mathematics, Science and Educational Technology)
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Environmental

MSET 515	Teaching Environmental Education
MSET 525	Multicultural Environmental Education
MSET 593	Topics (History and Philosophy of Mathematics, Science and Educational Technology)

Technology

MSET 566	Logo in the Classroom
MSET 593	Topics (History and Philosophy of Mathematics, Science and Educational Technology; Education Technology and Culture; Hyperstudio for Teachers; Media Literacy for Education; Website Development for Education; Desktop Publishing for Educators)
Ed Psy 524	Computers in the Educational Process

Support Area 24

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 the MSET program. One course must be in the history and philosophy of mathematics, science, environmental and technology education.

Dissertation 21

MSET 690	Dissertation Seminar (3 hours)
MSET 699	Dissertation (18 hours)

Education Specialist Certificate

This advanced 30-hour certificate is available with an MSET concentration. Following the guidelines described in previous section of the catalog, students work individually with an MSET faculty advisor to plan a program that emphasizes a content area of mathematics, science, environmental and technology education. This certificate is designed for individuals who do not wish to pursue a doctorate but is interested in continued graduate work in a specific area.

Mathematics, Science, Environmental and Technology Education (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 CIMTE 391.)

***429. Teaching of Secondary Mathematics. (3)**

Prerequisites: to be taken concurrently with 362 and permission of instructor.

431. Teaching of 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 CIMTE 492.)

493./593. Topics. (1-3) Δ

(Also offered as CIMTE 493.) May be repeated for credit, no limit.

495. Field Experience. (3-6 to a maximum of 12) Δ

(Also offered as CIMTE 495.) Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Prerequisite: permission of instructor.

500. Advanced Instructional Strategies. (3)

(Also offered as CIMTE 500.) 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.

Prerequisite: permission of instructor.

501. High School Curriculum. (3)

(Also offered as CIMTE 501.) Inquiry into high school curriculum with a focus on organization, models, goals setting, planning and evaluation.

506. The Middle School. (3)

Introduction to the middle school as a unique educational institution and early adolescence as a unique developmental period; emphasis on developmental appropriateness of middle school organization and structure.

507. Developing Curriculum for Middle Schools. (3)

Selection and organization of learning in the middle school designed to meet the specific needs and characteristics of young adolescents; emphasis on interdisciplinary and integrative curricula.

508. Instructional Strategies for Middle Schools. (3)

Construction of educational experiences designed to meet the specific needs and characteristics of young adolescents; emphasis on variety of presentation and active student involvement.

511. Curriculum in the Elementary School. (3-12 to a maximum of 12) Δ

(Also offered as CIMTE 511.) 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. Arranging Learning Environments. (3)

(Also offered as CIMTE 512.) 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. The Process of Teaching and Learning. (3)

(Also offered as CIMTE 513.) 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.

Prerequisite: permission of instructor.

515. Teaching Environmental Education. (3)

(Also offered as Recrea 515.) An exploration of specific teaching and learning methodologies for facilitating environmental literacy within a variety of education settings.

516. Integrating Curriculum in the Classroom. (3)

(Also offered as CIMTE 516.) 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.

Pre- or corequisites: CIMTE 500, CIMTE 542 or equivalent.

525. Multicultural Environmental Education. (3)

(Also offered as Recrea 520.) 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.

542. Principles of Curriculum Development. (3)

(Also offered as CIMTE 542.) Focuses on issues of curriculum (K–12) from formal aspects of goals setting and planning to implicit issues of politics, culture and ideology.

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.

Prerequisite: 453.

560. Instructional Leadership and Development.

[Supervision of Instruction (Elementary and Secondary).]

(3)

(Also offered as CIMTE, EdLead 560.) 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. 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.

Prerequisite: 461.

562. Practicum in the Supervision of Instruction. (3 to a maximum of 12) Δ

(Also offered as CIMTE 562.) 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.

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.

Prerequisite: 461.

566. Logo in the Classroom. (3)

This course focuses on the uses of the LOGO programming language in K–12 classrooms. Meaningful uses of programming, theories of cognitive psychology, integration of technology, curriculum development and opportunities/limitations of microworlds are emphasized.

590. Seminar. (3)

(Also offered as CIMTE 590.) 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 6) Δ

(Also offered as CIMTE 591.)

593./493. Topics. (1-3) Δ

(Also offered as CIMTE 593.) May be repeated for credit, no limit.

595. Advanced Field Experiences. (3-6 to a maximum of 12) Δ

(Also offered as CIMTE 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 CIMTE 596.)

597. Directed Readings in Secondary and Adult Teacher Education. (3-6 to a maximum of 6) Δ
(Also offered as CIMTE 597.)

598. Directed Reading in Elementary Education. (3-6 to a maximum of 6) Δ
(Also offered as CIMTE 598.)

599. Master's Thesis. (1-6) Δ
(Also offered as CIMTE 599.) **Offered on a CR/NC basis only.**

643. Curriculum Theory Seminar. (3)
(Also offered as LLSS 643.) Doctoral level seminar examining curriculum theory.
Prerequisite: permission of instructor.

690. Dissertation Seminar. (3)
(Also offered as CIMTE 690.)

696. Internship. (3-6 to a maximum of 12) Δ
(Also offered as CIMTE 696.)

699. Dissertation. (3-12) Δ
(Also offered as CIMTE 699.) **Offered on a CR/NC basis only.**

NUTRITION/DIETETICS

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Undergraduate Program

Undergraduate Advisor Contact and Student Information Contact
Donna Lockner, (505) 277-4535

For student program information and application for admissions:
Contact Program Office at Simpson Hall, (505) 277-4535

Major and Degree

Nutrition/Dietetics: Bachelor of Science in Nutrition/Dietetics

The curriculum leading to a Bachelor of Science in Nutrition/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, (312) 899-4876. The curriculum meets academic requirements of the Didactic Program in Dietetics (DPD) for qualification as a registered dietitian (R.D.). 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.

To be admitted to the Nutrition/Dietetics Program, students must have a minimum grade point average of 3.0. For other admission requirements contact program faculty. Contact the Nutrition program for the most current information.

Nutrition-Dietetics

First Year		
C & J 130	Public Speaking	3
Biol 123/124L	Biology for Health Related Sciences and Non-Majors/Lab	4
Chem 121L	General Chemistry/Lab	4
Math 121	College Algebra	3
Stat 145	Introduction to Statistics	3
Psych 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
		32

Second Year		
Nutr 211	Professional Development Seminar	1
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 122L	General Chemistry/Lab	4
Chem 212	Integrated Organic Chemistry and Biochemistry	
—or—	Chem 301, 303L Organic Chemistry	4
Engl 219	Technical and Professional Writing	3
	Elective	3
	Humanities Course*	3
	Second Language Course*	3
		32

Third Year		
Nutr 320	Methods in Nutrition Education	3
Nutr 321L	Quantity Food Production	3
Nutr 322	Management in Dietetics	4
Nutr 344	Energy Nutrients in Human Nutrition	3
Nutr 345	Vitamins and Minerals in Human Nutrition	3
Nutr 330L	Principles of Food Science	4
C & J 314	Intercultural Communication	3
Biol 239L	Microbiology for Health Sciences	4
	Elective	3
	Restricted Communication Elective+	3
		33

Fourth Year		
Nutr 411	Research Seminar in Nutrition	1
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
P E-P 326L	Fund of Exercise Physiology	3
	Humanities Course*	3
	Electives	6
	Restricted Multicultural Elective+	3
		31

* Course chosen from Core Curriculum list

+ Restricted Elective List

Multicultural Emphasis—Choose one:

H Ed 471 Introduction to Community Health

H Ed 482 Health Promotion in Multicultural Settings

Communication Emphasis—Choose one:

C & J 221 Interpersonal Communication

C & J 225 Small Group Communication

C & J 323 Nonverbal Communication

C & J 327 Persuasive Communication

C & J 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).

Graduate Programs

Graduate Advisor and Student Information Contact
 Karen Heller, (505) 277-6434

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. 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.** Contact the Nutrition faculty for more information on applying to the DI and on additional requirements for completion of the M.S. degree.

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 from the Nutrition program office. 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:

Ed Psy 505	Conducting Quantitative Educational Research	
—or— H Ed 507	Research Design in HPER	3
Ed Psy 511	Introductory Educational Statistics	3

Required for Plan I:

Ed Psy 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. (Credit not allowed for both 120 and 244.)

211. Professional Development Seminar. (1)

Description of career options and opportunities in nutrition/dietetics. Conceptual framework for knowledge and skills needed for professional practice.

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. Prerequisites: Biol 123 or 201, or Chem 121L or the equivalent.

292. Workshop. (1-4)

293. Topics. (1-3 to a maximum 6) Δ

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.

321L. Quantity Food Production. (3)

Standard methods of food production in quantity; standardization of recipes; menu planning; and food service. Prerequisites: 211, 244. Space restrictions limit enrollment to admitted Nutrition majors only or by permission of instructor.

322. Management in Dietetics. (4)

Principles of organization and management applied to dietetics practice including food service, medical nutrition therapy and community nutrition. Prerequisite: 321L.

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. Prerequisites: 211, 244, 321L, Chem 212 or 301. Pre- or corequisite: Biol 239L. Space restrictions limit enrollment to admitted Nutrition majors only or by permission of instructor.

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.

Prerequisites: 244, Chem 212 or equivalent.

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.

Prerequisites: 244, 344, Chem 212 or equivalent.

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.

Prerequisites: 211, 344. Pre- or corequisite: 345. Space restrictions limit enrollment to admitted Nutrition majors only or by permission of instructor.

411. Research Seminar in Nutrition. (1)

Students and faculty review and discuss current research, both published and in progress.

Prerequisite: 344. {Spring}

***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.

Prerequisites: 244, 344, 345, a course in anatomy and physiology, junior standing or higher. {Offered alternate years}

427. Medical Nutrition Therapy I. (3)

The application of diets in the treatment of impaired digestive and metabolic conditions using the case study approach.

Prerequisites: 244, 344, 345, Chem 212. Space restrictions limit enrollment to admitted Nutrition majors only or by permission of instructor.

428. Medical Nutrition Therapy II. (3)

Continuation of Medical Nutrition Therapy I.

Prerequisite: 427.

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.

Prerequisites: 244, 344, 345, Chem 212, P E-P 326L or permission of instructor.

492./592. Workshop. (1-4)

For degree restriction, see college graduation requirements.

493. Topics. (1-3 to a maximum of 9) Δ**495. Field Experience. (1-3 to a maximum of 12)**

Planned and supervised professional laboratory or field experiences in an agency or institutional setting.

Prerequisite: 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, 345 or permission of instructor.

528. Advanced Medical Nutrition Therapy. (3)

Application of nutritional sciences, energetics, physiology, biochemistry and metabolism to current topics in clinical nutri-

tion. Evaluation of nutritional assessment of critically ill patients and modifications of diets to meet individual needs. Prerequisite: 428 or permission of instructor.

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)

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.

Prerequisite: 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.

Prerequisite: admission to the Dietetic Internship program.

591./391. Problems. (1-3 to a maximum of 6) Δ**592./492. Workshop. (1-4 to a maximum of 4) Δ****593. Topics. (1-3 to a maximum of 12) Δ****595. Advanced Field Experience.**

(1-3 to a maximum of 6) Δ

Prerequisites: acceptance into a graduate program and permission of instructor.

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only.

ORGANIZATIONAL LEARNING AND INSTRUCTIONAL TECHNOLOGIES

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(Champaign-Urbana) (Program Coordinator)

Associate Professor

Mark Salisbury, Ph.D., University of Oregon

Lecturer and Technology 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

The mission of the Organizational Learning and Instructional Technologies (OLIT) Program is to provide quality education for individuals interested in improving the learning experiences of

adults in school, business, government, military, healthcare and non-profit organizations through the application of instructional practices, multimedia and distance learning technologies that advance individual, group and organizational learning.

Program Philosophy

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, 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 response to the massive changes organizations have undergone in the last 10 years, 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, distance education and instructional technology systems, methods and strategies with the intent of improving human performance. The Program can best be described as one that is theory-based and practitioner oriented.

Upon graduation from the OLIT Program, students will be able to:

- Design and develop effective instructional experiences based on a systems model of design and evaluation.
- Integrate adult learning principles throughout their course and program designs.
- Understand and use appropriate instructional practices, multimedia and distance learning technologies in the design, delivery and evaluation of instruction.
- Conduct research and evaluation studies.
- Facilitate individual, group and organizational learning and change.
- Administer and manage a variety of learning systems.
- Facilitate individual and group process communications.
- Understand and address the multicultural issues that affect the design, delivery and evaluation of instruction.
- Think critically and be effective problem solvers.
- 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 activities, discussions, lectures, exercises, readings, simulations and collaborative projects with other institutions in the U.S. and overseas, incorporating new and emerging technologies.

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 Council of Distance Education (ICDE) 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 the most accurate and additional information on the OLIT program and our courses, please visit our Web site at <http://www.unm.edu/~olit>.

Undergraduate Program

Technology and Training (2+2 Program) Major and Degree

Technology and Training: Bachelor of Science B.S.

Student contact information:

Bruce Noll, 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 C & J 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
Psych 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)

1. Management (12 hours)
Mgt 113 Management: An Introduction
Mgt 306 Organizational Behavior & Diversity
Mgt 307 Organization Change and Innovation
C & J 340 Communication in Organizations
2. Communication and Journalism (9 hours)
C & J 314 Intercultural Communication (required)
—and— Select 6 additional hours from the following:
C & J 321 Interpersonal Analysis
C & J 323 Nonverbal Communication
C & J 327 Persuasive Communication
C & J 344 Interviewing
C & J 425 Theory of Small Group Communication
C & J 441 Advanced Organization Communication
C & J 446 Organizational Analysis and Training
C & J 443 Current Developments in Organizational Communication

Technical Concentration

(30 hours of community college technical concentration)*

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

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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 Office of Graduate Studies by the first of each of these months, 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 Offered

M.A.: Organizational Learning and Instructional Technologies
Ph.D.: Organizational Learning and Instructional Technologies
Certificate: Education Specialist, Organizational Learning and Instructional Technologies

Admission

To enter the Education Specialist Certificate program or 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, please contact the Program Coordinator or the Program Specialist. 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. Please consult the program for current course titles, numbers and descriptions.

Doctoral Degree

Ph.D.: Doctor of Philosophy

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 the area of 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), major emphasis

courses (15 credit hours), interdisciplinary minor 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.

Ph.D. concentration in Organizational Learning and Instructional Technologies minimum 78 course work hours plus 18 dissertation hours.

Doctoral Core (18 hours)

Prerequisites: 501, 561 and Educ 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 Organization Development and Consulting
OLIT 608	Advanced Seminar in Organizational and Program Evaluation
OLIT 635	Research in Distance Education
OLIT 639	Advanced Technology Seminar

Doctoral Concentration (15 hours)

These hours are chosen from the OLIT 500 level courses. With the approval of the student's Committee on Studies, the student may take courses from more than one of the three OLIT concentrations: Organizational Learning and Training, Multimedia Technologies and Distance Education.

Research Requirement (15 hours)

Ed Psy 511	Introductory Educational Statistics
Ed Psy 505	Conducting Quantitative Educational Research
Ed Psy 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., EdLead/LLSS 605).

For a Quantitative Dissertation, take one additional quantitative course (e.g., Ed Psy 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
Communications
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 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 Committee on Studies. 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 (Thirty-nine credits for those doing a Master's thesis)

Required Courses

(15 credits without thesis, 18 credits with thesis):

OLIT 501	Instructional Design (revised title)
OLIT 508	Program Evaluation <i>or</i> an advisor approved research course for those planning to do a thesis
OLIT 540	Foundations of HRD and Instructional Technology (revised title)
OLIT 561	The Adult Learner
OLIT 596	Internship/Professional Portfolio (Plan 1-3 credits) <i>or</i> OLIT 599 Thesis (Plan 2 - 6 credits)

OLIT Electives (18 credits)

Students may take any OLIT course. The courses selected will be chosen in concert with the student's advisor and will reflect the students' 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 18 credits outside of OLIT.

Outside of OLIT course (3 credits)

*Very few students elect to write a Master's thesis, thus the vast majority of students will finish the program at 36 credits.

Organizational Learning and Instructional Technologies (OLIT)

391./591. Problems. (1-3)

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 hrs. 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.

422. Video Techniques: Use in Education & Training. (3)
 Research into education uses of TV, operation of portable TV equipment; graphic, audio, lighting lab and editing lab; planning and producing a Storyboard script and producing a video tape program. Lab fee required.

466. Principles of Adult Learning. (3)

470. Workplace Training. (3)

Introduction to the concepts of training in the corporate sector. Prerequisite: admission to the OLIT program or permission of instructor.

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)

493./593. Topics. (1-3) Δ

May be repeated for credit, no limit.

495. Field Experience. (3-6 to a maximum of 12) Δ

Planned and supervised professional laboratory or field experiences in agency or institutional setting. Prerequisite: permission of instructor. **Offered on a CR/NC basis only.**

501. Instructional Design. [Instructional Design and Development: A Systems Approach.] (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. Prerequisite: 501, 521, 561.

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.

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. [Video Techniques: Use in Education & Training.] (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.

Prerequisites: 501, 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.

Prerequisites: 501, 561.

526. Artificial Intelligence and Learning. [Artificial Intelligence and Learning Systems.] (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.

Prerequisites : 501, 525, 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.

Prerequisites: 501, 521, 561 and 523 or 525.

528. Management of Learning Systems. [Management of Distance Education.] (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.

538. Distance Education Course Design. (3)

Explores new paradigms based on constructivist and socio-cultural learning theories for designing distance learning. Focuses on online learning design and evaluation, and networked learning communities. Analyzes print, audio, and video for designing hybrid learning environments.

Prerequisites: 501, 535, 561.

540. Foundations of HRD and Instructional Technology. [Introduction to Organizational Learning and Instructional Technologies.] (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. [Delivering Effective Presentations.] (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.

Prerequisites: 501, 561.

545. Leadership and Management of Organizational Learning. [Administration of Training & Development Programs.] (3)

Focuses on the leadership and management issues of supporting learning in organizations. Emphasis is on leading and managing learning and training practices and relevant research on organizational learning.

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 EdLead 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. [Adult Career Development and Change.] (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.

590. Master's Seminar. (1)

Synthesizes the course work which has made up the students master's degree program by developing his or her competence in professional communication, both written and oral. It enhances the student's ability to present and defend his or her professional ideas through the use of research studies and authoritative sources; and assists him or her to prepare

for the master's comprehensive exam. Offered on a CR/NC basis only.

591/391. Problems. (1-3 to a maximum of 6)

Individual Performance Contract required between student and professor.

592/492. Workshop. (1-4)

Special offerings given on demand for terms less than a semester. 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.

593/493. Topics. (1-3) Δ

Used to test new courses. May be repeated for credit, no limit.

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) 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. [Advanced Instructional Systems 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 socio-constructivist theories for innovative learning environments. Prerequisites: 501, 508, 561.

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. Prerequisites: 501, 508, 535, 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. Prerequisites: 501, 508, 561.

641. Advanced Seminar on Organization Development & 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.

Prerequisites: at least 9 hours of Organizational Behavior, Team Development, Consulting or similar courses. Permission of the instructor is required.

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.

Prerequisite: students must complete the Comprehensive Examination before enrolling or take it concurrently. Course may be repeated once. Offered on a CR/NC basis only.

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) Δ

Individual performance contract required between student and professor, following formal approval of dissertation committee. Offered on a CR/NC basis only.

PARKS AND RECREATION

Mary Jo Campbell, Department Chairperson
Department of Physical Performance and Development
Parks and Recreation, Johnson Center
MSC04 2610
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-5151

The Parks and Recreation Program is currently not admitting students. The program's majors and concentrations are in moratorium.

Parks and Recreation (Recrea)

292. Workshop. (1-4)

293. Topics. (1-3) Δ

May be repeated for credit, no limit.

304. Adapted Aquatics. (2)

(Also offered as P E-P 304.) Theoretical and applied aspects of teaching as American Red Cross Adapted Aquatics Instructors.

Prerequisite: American Red Cross Water Safety Instructor Certification or permission of instructor.

466. Special Physical Education. (3)

(Also offered as P E-P 466.) The field of adaptive and corrective physical education and its relationship to the regular curriculum in PE.

467/529. Physical Disabilities and Causes. (3)

(Also offered as P E-P, Spc Ed 467.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.

Prerequisite: Spc Ed 201 or permission of instructor.

***485. Interpretive Services. (3)**

Principles of interpretive process including public information, relations and marketing.

487/587. Physical Activity and Aging. (3)

(Also offered as P E-P, H Ed 487.) This course is concerned with the process of aging as it affects physical activity and the potential of physical activity in adjustment to the process of aging.

505. Foundations for a Philosophy in HPER. (3)
(Also offered as P E-P 505.) Designed to prepare graduates to formulate a professional philosophy in their respective fields.
Prerequisite: at least 3 hours in history, principles or methods of physical education.

507. Research Design in HPER. (3)
(Also offered as H Ed, P E-P 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. Organization and Administration of Parks and Recreation. (3)
Basic principles of organization and administrative processes in the field of parks and recreation and the procedures through which these processes are carried to successful fruition.

509. Media/Public Relations in HPER. [Public Relations In HPER.] (3)
(Also offered as H Ed, PE-P 509.) Introduction to principles of public relations, publicity and crisis management in HPER and sports administration.

515. Teaching Environmental Education. (3)
(Also offered as MSET 515.) An exploration of specific teaching and learning methodologies for facilitating environmental literacy within a variety of education settings.

516. Seminar in Parks and Recreation. (3)
A seminar exploring the philosophical and historical events that have influenced the field of parks, recreation and environmental education.

520. Multicultural Environmental Education. (3)
(Also offered as MSET 525.) 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.

521. Motor Learning of People with Disabilities. (3)
(Also offered as P E-P, Spc Ed 521.) 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.

522. Motor Learning of the Handicapped. (3)
(Also offered as P E-P, Spc Ed 522.)

524. Evaluation of Parks and Recreation. (3)
Presentation of the principles and processes involved in planning and evaluating parks, recreation, and environmental education programs and services including promotion, utilization of resources, facilities and finances and leadership.

526. Motor Assessment of Individuals with Disabilities. [Motor Assessment of the Handicapped.] (3)
(Also offered as P E-P, Spc Ed 526.) Orientation to the necessity for, procedures involved with, and application of results pertaining to motor assessment for persons who are disabled.
Prerequisite: undergraduate major or minor in physical education, recreation, special education or permission of instructor.

529/467. Physical Disabilities and Causes. (3)
(Also offered as P E-P, Spc Ed 529.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.
Prerequisite: Spc Ed 201 or permission of instructor.

535. Research Principles in Environmental Education. (3)
A critical examination of research principles and alternative research paradigms, specific to environmental education.
Prerequisite: permission of instructor; required for Environmental Education concentration in Parks & Recreation.

555. Contemporary Issues in Parks and Recreation. (3)
An overview of the changing environment, the impact of leisure, the significance of leisure services on contemporary

life and the relationship of leisure to society in general and to specific parks, recreation and environmental issues.

587/487. Physical Activity and Aging. (3)
(Also offered as H Ed, P E-P 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. [591./391.] Problems. (1-3 to a maximum of 6)
Prerequisites: majors only and permission of the recreation coordinator.

593. [593./493.] Topics. (1-3) Δ
May be repeated for credit, no limit.

595. Advanced Field Experiences. (3-6) 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.
Prerequisites: acceptance into a graduate program and permission of instructor.

598. Directed Readings in Recreation. (3-6 to a maximum of 6) Δ
Prerequisite: permission of instructor.

604. Research Seminar. (3)
(Also offered as H Ed, P E-P 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.

698. Directed Readings in Recreation. (3-6 to a maximum of 12) Δ
Prerequisite: permission of instructor.

699. Dissertation. (3-12) Δ
Offered on a CR/NC basis only.

PROFESSIONAL PHYSICAL EDUCATION

Mary Jo Campbell, Department Chairperson
Department of Physical Performance and Development
Professional Physical Education
Johnson Center 1155
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Professor
Robert Robergs, Ph.D., Ball State University

Associate Professors
Mary J. Campbell, Ph.D., Ohio State University
Joy Griffin, Ph.D., Brigham Young University
Len Kravitz, Ph.D., The University of New Mexico
Nancy Lough, Ed.D., University of Northern Colorado
Paul Miko, Ph.D., University of Maryland
Gloria Napper-Owen, Ed.D., University of Northern Colorado
David Scott, Ed.D., University of Northern Colorado
Todd Seidler, Ph.D., The University of New Mexico

Assistant Professors
Russell Mitchell, M.S., Southern Illinois University
Dawn Sandt, Ph.D., Texas A&M University
Susanne Schneider, Ph.D., St. Louis University
David Wittenburg, Ph.D., Texas A&M University

Adjunct Faculty and Staff
Richard Baumgartner, Ph.D., University of Texas
Sharon Griffin, Ph.D., The University of New Mexico
Richard Leuker, M.D., University of Colorado, Denver
Jack Loepky, Ph.D., The University of New Mexico
Cristine Mermier, Ph.D., The University of New Mexico
Robert Scales, Ph.D., The University of New Mexico
Debra Waters, Ph.D., The University of New Mexico

Lecturers

David Binder, Lecturer M.S., ATC/L, University of Texas at El Paso
 Jesse Foster, B.S., ATC/L, The University of New Mexico
 Susan McGowen, Ph.D., ATC/L, The University of New Mexico
 David Smith, M.S., ATC/L, The University of New Mexico

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.

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

Physical Education–Teacher 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 examination required by the State of New Mexico is the New Mexico Assessment of Teacher Competency

State Board of Education licensure requirements are subject to periodic change. Please contact a College advisor for specific requirements for programs leading to educator licensure and endorsement (K–12).

A grade of C (not C-) or better is required for all course work that counts towards the 133-hour degree.

First Year

Engl 101	Composition I: Exposition	3
Engl 102	Composition II: Analysis and Argument	3
Psych 105	General Psychology	3
Math 120	Intermediate Algebra	3
Stat 145	Introduction to Statistics	3
Biol 123/124L	Biology for Health Related Sciences and Non-Majors/Lab	4
H Ed 164L	Standard First Aid/Lab	3
Chem 111L	Elements of Chemistry	4
Hist 101L	Western Civilization	
–or– 102L	Western Civilization	3
P E-P 231	Flickerball, Flag Football, Volleyball, Basketball	1
P E-P 233	Soccer, Speedaway, Swimming	1
P E-P 234	Track and Field/Cooperative Games	1
P E-P 235	Tennis, Cardio-Fitness	1
P E-NP 118	Individual Tumbling	1
P E-NP 158	Aerobic Dance I	1
–or– 159	Aerobic Dance II	1
		35

Second Year

P E-P 232	Golf, Aerobic Dance	1
P E-P 236	Secondary School Activities	1

P E-P 237	Elementary Rhythms, Team Handball, Softball	1
P E-P 238	Yoga/Weight Training	1
P E-P 239	Dance	1
P E-P 245-002	Professional Lab Exp in Phys Ed	2
P E-P 277	Kinesiology	3
P E-P 288	Motor Learning and Performance	3
P E-P 319	Physical Ed in Elementary Schools	3
Hist	General Ed Requirement	3
Hist 161L	History of the United States to 1877	
–or– 162L	History of the United States Since 1877	3
C & J 130	Public Speaking	3
UNM Core	Social and Behavioral Sciences	3
Fine Arts	General Ed Requirement	3
Biol 237/247L	Human Anatomy & Physiology I/Lab	4
P E-P 230	Archery, Badminton	1
		36

Third Year

Ed Psy 303	Human Growth and Development	3
Ed Psy 310	Learning and the Classroom	3
P E-P 289	Tests and Measurements in PE	3
P E-P 301	Teaching Team Sports	2
P E-P 308	Teaching Fitness Concepts	2
P E-P 310	Teaching of Dance in Schools	2
P E-P 326L	Fund of Exercise Physiology	3
P E-P 444	Teaching Physical Education I	3
P E-P 445	Motor Development in Children	3
P E-P 466	Special Physical Education	3
UNM Core	Second Language	3
H Ed 306	Conflict Mediation	1
H Ed 321	Violence Prevention	1
H Ed 445	Strategies for Prevention of Substance Use	1
		33

Fourth Year

P E-P 378	Principles of Physical Education	2
P E-P 400	Student Teaching-Elementary	5
P E-P 461	Student Teaching-Secondary	7
P E-P 479	Organization and Administration of PE	3
C & J 314	Intercultural Communication	3
UNM Core	Fine Arts	3
History	General Ed Requirement	3
LLSS 438	Teaching Reading and Writing in the Content Field	3
		29

TOTAL HOURS 133

Physical Education Teacher Education—The University of New Mexico Core Requirements

- Writing and Speaking
 Engl 101
 Engl 102
 - Mathematics
 Stat 145*
 - Physical and Natural Sciences
 Biol 123/124L*—4 hrs.
 Chem 111L—4 hrs.
 - Social and Behavioral Sciences
 Psych 105*
 Elective—3 hrs.
 - Humanities
 Hist 101L or 102L**
 Hist 161L or 162L**
 - Second Language
 Elective—3 hrs.
 - Fine Arts
 Elective—3 hrs.
- * Program course requirement
 ** Senate Bill 106 requirement

Special Requirements for Physical Education Student Teaching

The student must have:

1. Submitted signatures on the student teaching application from three faculty members, including the student's advisor, indicating that the student is believed ready for student teaching.
2. Successfully completed a major portion of the theory course work as determined by the advisor in consultation with the student teaching personnel.
3. Completed all of the prerequisites.
4. Attained a C or above in all courses that count toward the degree.
5. Attained at least a 2.50 GPA in the major field and at least a 2.50 GPA overall.
6. Students enrolled in physical education student teaching may be required to comply with a modified academic calendar dependent upon the school placement and should plan to be in the school for a full day.

Post Baccalaureate programs in Physical Education-Teacher Education are also available.

Athletic Training Education Program

The mission of the University of New Mexico Athletic Training Education Program (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 enter the profession of Athletic Training and assume a leadership role in the implementation of changes evolving in the profession of sports medicine.

The four-year Athletic Training Education Program is designed for students who are interested in the allied health care profession specializing in sports medicine. The program requirements are based on the National Athletic Trainers' Association (NATA) Role Delineation Study, the Commission on the Accreditation of Allied Health Education Programs requirements, and Athletic Training competencies established by the NATA Professional Education Committee. The Athletic Training major is a 128 credit hour degree program. The curriculum is comprised of 79 credit hours that consist of competencies within 12 educational domains set forth by the NATA.

Risk Management
 Pathology of Illness and Injuries
 Assessment and Evaluation
 Acute Care of Injury and Illness
 Pharmacology
 Therapeutic Modalities
 Therapeutic Exercises
 General Medical Conditions and Disabilities
 Nutritional Aspects of Injury and Illness
 Psychological Intervention and Referral
 Health Care Administration
 Professional Development and Responsibilities

A strong emphasis is placed in the UNM-ATEP on clinical experiences, which allow the Athletic Training Student (ATS) to apply theories and concepts learned in the classroom. These clinical experiences include clinical hours with a variety of athletic teams at the high school, intercollegiate, clinical and professional levels. These experiences are invaluable in preparing the Athletic Training Student for future employment opportunities.

Upon completion of the UNM-ATEP, the student will graduate with a Bachelor of Science in Athletic Training. The UNM-ATEP is in the Department of Physical Performance and Development within the College of Education. The student will be provided with extensive didactic and clinical experi-

ences to prepare them for the National Athletic Trainers' Association Board of Certification (NATABOC) Examination. Successful completion of the examination is necessary to become a Certified Athletic Trainer (ATC).

Technical Standards for Program Admission

The UNM-ATEP is an intense program that places specific educational and clinical requirements on students enrolled in the program. Throughout progression in the UNM-ATEP, students are prepared to enter a variety of athletic training employment settings by achieving the skills, competencies, and knowledge of an entry level ATC. The following technical standards set forth by the UNM-ATEP 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 Allied Health Education Programs.

Candidates who qualify for admission into the UNM-ATEP are required to verify they understand and are able to meet the above technical standards or they believe that with certain accommodations they can meet these standards. In the event a student is unable to fulfill these technical standards, with or without reasonable accommodation, the student will not be admitted into, or allowed to graduate from the UNM-ATEP. Compliance with the program's technical standards does not guarantee a student's eligibility for the NATABOC Examination. The UNM-ATEP reserves the right to accept, to retain and to recommend for graduation those who fulfill all academic requirements and who satisfy all technical standards.

Candidates who qualify for admission into the UNM-ATEP must demonstrate:

1. The ability to communicate effectively with patients, colleagues, and instructors. This includes individuals of different social, cultural and religious backgrounds.
2. The ability 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 and 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 injury evaluations.
6. Effective skills and appropriate conduct that relate to professional education, and superior patient care.
7. The capacity to maintain composure and continue to function normally during periods of high stress and demands.
8. The perseverance, diligence and commitment to successfully complete the UNM-ATEP as outlined by the UNM-ATEP student manual.

If a student states he or she cannot meet these standards without accommodation, then the University of New Mexico Student Disability Services Department will determine if 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 course work of the student or the institution, including course work and clinical experiences necessary for graduation from the UNM-ATEP.

Application Procedures

Admission into the UNM-ATEP is a highly competitive process, as the number of students is limited based on the ATEP governing bodies. These standards consider the university's Athletic Training Facilities, the number of Clinical

Instructors/Approved Clinical Instructors, and available clinical settings. The student may apply to the UNM-ATEP, if they have met the following requirements:

1. Successful completion of the below courses with a grade of a "B-" or better:
 - a. PE-P 273: Introduction to Athletic Training
 - b. PE-P 284: Professional Laboratory Experience for Athletic Training
 - c. PE-P 285: Protective Athletic Equipment
 - i. Students who do not meet the required grade in PE-P 284 & 285 will not be permitted to continue taking UNM-ATEP clinical courses.
 - d. H Ed 164L: Standard First Aid/Lab.
2. A minimum of 26 credit hours.
3. A completed physical examination
 - a. Includes immunization records.
4. Signed Technical Standards Statement.
5. Completion of a minimum of 60 clinical observation hours within the University of New Mexico Athletic Training Facilities.
6. A current cumulative grade point average of 2.75 or better.
 - a. Probationary acceptance may be considered for students who have a cumulative 2.5-2.74 GPA at the time of application.
 - b. Students who have below a cumulative 2.5 GPA will not be considered for admission.
7. Official transcripts from all institutions of higher learning.
8. Three completed reference forms.
 - a. Reference forms must be completed by individuals who can attest to the practical athletic training experience or potential to be a successful ATS.

In addition to the above requirements, transfer students will be considered for acceptance into the UNM-ATEP upon completion of the following:

1. Completion of the UNM-ATEP undergraduate entrance application.
2. Submission of syllabus and course work (including proficiencies/competencies if applicable) from all previous athletic training courses taken.
 - a. The transfer student will need to demonstrate all proficiencies/competencies associated with transfer courses.
3. Advisement with the UNM-ATEP Director and/or the Chair of the Department of Physical Performance and Development.
4. Minimum cumulative grade point average of 2.75 on all transferred course work.
 - a. The transfer student must have obtained a "B-" or better in all transferred athletic training course work.
 - b. 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.
5. Completion of 30 observation hours in the UNM Athletic Training facilities. (not 60 hours as listed above)

Transferring Course Work Procedures

The UNM-ATEP Director along with the Chair of the Department of Physical Performance and Development will review all of the course descriptions and syllabi. Materials submitted will be compared to UNM course descriptions, objectives, and competencies evaluated to determine if they are comparable.

If the course does not have comparable credit hours, content, objectives, grade and/or clinical experiences, the course will not be substituted for a UNM course and the student will follow the athletic training curricular plan. If the transfer course is equivalent to the UNM course, the student will be required to demonstrate all competencies associated with the transfer course. The transferred course will then be placed within the curricular plan where deemed appropriate by the UNM-ATEP Director and the Chair of the Department of Physical Performance and Development.

Retention Policy

In order for continuation in the UNM-ATEP, the ATS must comply with the following:

1. Maintain a cumulative GPA of a 2.75
2. Achieve a "B-" or better in all Athletic Training Courses
3. Complete the required minimum number of clinical hours for each clinical course
4. Complete required proficiencies for each clinical course
5. Maintain compliance with the UNM-ATEP Student Manual and all University of New Mexico policies and procedures as outlined in the University of New Mexico Catalog and Pathfinder
6. Adhere to the NATA Code of Ethics

Athletic Training Curriculum

A grade of C (not C-) or better is required for all course work that counts towards the 128 hour degree.

First Year–Fall

Engl 101	Composition I: Exposition	3
Psych 105	General Psychology	3
Chem 111L	Elements of General Chemistry	4
H Ed 164L	Standard First Aid/Lab	3
P E-P 273	Intro Athletic Training	2
P E-P 284	Professional Laboratory Experience for Athletic Training	1
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		16

First Year–Spring

Engl 102	Composition II: Analysis and Argument	3
Math 120	Intermediate Algebra	3
–or– 121	College Algebra	
Biol 123/124L	Biology for Health Related Sciences and Non-Majors/Lab	4
H Ed 171	Personal Health Management	3
P E-P 285	Athletic Protective Equipment	2
P E-P 288	Motor Learning and Performance	3
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		18

Second Year–Fall

Biol 237–247L	Human Anatomy and Physiology I for the Health Sciences–Human Anatomy and Physiology Laboratory I	4
Stat 145	Introduction to Statistics	3
Psych 220	Developmental Psychology	3
P E-P 286	Evaluation of Athletic Injuries—Extremities	3
C & J 130	Public Speaking	3
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		16

Second Year–Spring

Biol 238–248L	Human Anatomy and Physiology II for the Health Sciences–Human Anatomy and Physiology Laboratory II	4
P E-P 277	Kinesiology	3
EMS 101	Emergency Medical Technician	6
P E-P 287	Evaluation of Athletic Injuries—Trunk/Torso	3
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		16

Third Year–Fall

P E-P 289	Tests and Measurements in Physical Education	3
P E-P 326L	Fundamentals of Exercise Physiology	3
P E-P 374	Therapeutic Modalities	3
Elective	General Education Upper Division 300+ Elective	3
P E-P 481	Athletic Training Clinical I	3
Nutr 244	Human Nutrition	3
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		18

Third Year–Spring

P E-P 373	Advanced Athletic Training	3
P E-P 473	Rehabilitation of Athletic Injuries	3
P E-P 375	Athletic Training Mock/Muscle Testing	3
P E-P 483	Athletic Training Clinical II	3
UNM Core	Humanities Requirement	3
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		15

EDUCATION

Fourth Year–Fall

P E-P 488	Athletic Training Field Experience	3
P E-P 470	Designs for Fitness	3
UNM Core	Humanities Requirement	3
UNM Core	Second Language	3
UNM Core	Fine Arts	3
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		15

Fourth Year–Spring

P E-P 474	Organization & Administration of Athletic Training	3
Electives	Upper division electives	3
P E-P	Upper division electives, 300+ requirement	3
UNM Core	Social/Behavior Science	3
Electives	Electives	2
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		14
Total		<hr/>
		128

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 2.75 GPA for admission into the undergraduate program. A grade of C or better (not C-) is required for each course that counts towards the 132 hour degree.

First Year

Engl 101	Composition I: Exposition	3
Engl 102	Composition II: Analysis and Argument	3
Psych 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
P E-NP 160	Weight Training and Physical Conditioning 1	1
P E-P 273	Introduction to Athletic Training	2
P E-P 288	Motor Learning and Performance	3
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		33

Second Year

C & J 130	Public Speaking	3
Stat 145	Introduction to Statistics	3
H Ed 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
PE-P 305	Teaching Group Exercise	3
P E-NP 162	Jogging Fitness	1
P E-NP 165	Yoga	1
P E-P 277	Kinesiology	3
P E-P 289	Tests and Measurements in Physical Education	3
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		34

Third Year

Phycs 151	General Physics	3
–or– 102	Introduction to Physics	
Nutr 344	Energy Nutrients in Human Nutrition	3
Nutr 345	Vitamins and Minerals in Human Nutrition	3
P E-P 326L	Fundamentals of Exercise Physiology	3
P E-P 470	Designs for Fitness	3
P E-P 475	EKG Interpretation	3
P E-P 476	Exercise Testing and Interpretation	3
P E-P 478	Sports Physiology	3
P E-P 495	Practicum	3
UNM Core	Humanities	3
P E-NP 102	Intermediate Swimming	1
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		31

Fourth Year

Nutr 445	Applied Nutrition and Exercise	3
P E-P 391	Problems	1
P E-P 426	Intern Exercise Physiology	3
P E-P 467	Physical Disabilities and Causes	3
P E-P 469	Management Concepts in Sport and Fitness Settings	3
P E-P 487	Physical Activity and Aging	3
P E-P 495	Practicum	3
UNM Core	Humanities	3
UNM Core	Fine Arts	3
UNM Core	Second Language	3
P E-P 471	Exercise and Disease Prevention	3
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		31
		<hr/>
		Total 129

Athletic Coaching Minor

H Ed 164L	Standard First Aid	3
P E-P 238	Yoga/Weight Training	1
P E-P 273	Athletic Training	2
P E-P 277	Kinesiology	3
–or–		
P E-P 326L	Fundamentals of Exercise Physiology	
P E-P 288	Motor Learning	3
P E-P 479	Organization and Administration of Physical Education	3
P E-P 480	Principles of Coaching	3
P E-P 495	Field Experience	3

Choose a minimum of 3 hours from the following group:

P E-P 245	Professional Lab Experience in Physical Education	2
P E-P 277	Kinesiology	3
–or–		
P E-P 326L	Fundamentals of Exercise Physiology	
P E-P 386	Women in Sports	3
P E-P 464	Theory of Football	3
P E-P 465	Theory of Basketball	3
P E-P 466	Special Physical Education	3
H Ed 171	Personal Health Management	3
Nutr 244	Human Nutrition	3
		<hr/>
		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. Physical education majors will not be allowed to graduate with a grade of C- or lower in a course that counts toward the degree.

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.: Physical Education
Ph.D.: Health, Physical Education and Recreation

Contact for Graduate Advisor and Student Information
Sally Renfro, Johnson Center, Room 1155, (505) 277-8173

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 HPER 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 a number of areas reflecting the interests and goals of the student. In addition to this broad-based program in physical education, three concentrations are also available:

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.

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.

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 are developed with an advisor within the structure of each area. Details about each area can be obtained from the Department Chairperson. Individuals who do not have an undergraduate degree in physical education should consult the Department Chairperson.

Sport Administration Concentration–Master's of Science in Physical Education

Masters of Science Requirements–36 hours

Plan I–Thesis

Required Core Courses

PE-P 507	Research Design in HPER	3
PE-P 539	Introduction to Sport Administration	3
PE-P 541	Ethics in Sport and Fitness	3
PE-P 548	Financing Sport	3
PE-P 561	Risk Management in Sport	3
PE-P 599	Master's Thesis	6
PE-P 696	Internship	6
		27

Electives

Nine hours within Physical Education or a related area, approved by advisor 36 hours total

Plan II–Non-Thesis

Required Core Courses

PE-P 507	Research Design in HPER	3
PE-P 539	Introduction to Sport Administration	3
PE-P 541	Ethics in Sport and Fitness	3
PE-P 548	Financing Sport	3
PE-P 561	Risk Management in Sport	3
PE-P 696	Internship	6
		21

Electives

Fifteen hours within Physical Education or a related area, approved by advisor 36 hours total

Doctoral Degree in Health, Physical Education and Recreation (HPER)

Within the HPER doctoral degree, it is possible to design a program of studies in general physical education selecting courses from several concentrations in physical education. It is also possible to design a program of studies that emphasizes one concentration. Faculty availability and expertise, as well as course offerings, may allow students to complete a concentration in sports administration, curriculum and instruction, or exercise science.

For the University requirements for doctoral (Ph.D.) programs, refer to appropriate sections of this catalog. For details, contact the Department Chairperson.

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 a 24-hour minor or supporting area.

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. The program provides students with a choice of five areas of emphases: 1) interscholastic/intercollegiate sport administration; 2) sport marketing; 3) sport leadership; 4) sport risk management; and 5) sport psychology (program designed to provide all AAASP certification criteria). 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.

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.

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.

Sport Administration Concentration—Ph.D. in Health, Physical Education and Recreation

Ph.D. Requirements—72 hours plus 18 hours dissertation

Required Core Courses

PE-P 545	Sport Leadership	3
PE-P 541	Ethics in Sport and Fitness	3
PE-P 560	Legal Aspects of Sport	3
PE-P 696	Internship	6
		15

Inquiry Skills—Minimum 18 hours required

PE-P 507	Research Design in HPER	3
Ed Psy 511	Introductory Education Statistics	3
Ed Psy 603	Applied Statistical Design and Analysis	3
Ed Psy 604	Multiple Regression Techniques as Applied to Education	3
EdLead 605	Qualitative Research in Education	
—or—		
Ed Psych 606	Applied Multivariate Statistics	3
PE-P 604	Research Seminar	3
		18

Supporting Area

Twenty-four credit hours of course work in an approved supporting area is required.

Electives

Additional credit hours in Sport Administration to be selected with advisor.

Professional Physical Education (P E-P)

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.

203. Theory and Practice of Wrestling. (2)

The professional course in wrestling. Four class meetings per week.

205. Fundamentals of Basketball. (2)

The professional coaching course in the fundamentals of basketball. Four class meetings per week.

219. Practicum in Elementary School Physical Education. (2)

Designed to provide beginning teacher experiences in the elementary school level under the direct supervision and guidance of University personnel.

230. Archery, Badminton. (1)

This course is designed to improve the student's skill and knowledge in archery and badminton.

Prerequisite: Physical Education Major. {Spring}

231. Basketball, Volleyball, Flag Football, Flickerball. (1)

Instruction and practice of advanced game skills, tactics and strategy of basketball, volleyball, flag football and flickerball.

Prerequisite: Physical Education major or minor. {Fall}

232. Golf and Aerobic Dance. (1)

Comprehensive skill and knowledge in golf and aerobic dance.

Prerequisite: Physical Education major or minor and P.E.-NP 158. {Fall}

233. Soccer, Speedaway, Swimming. (1)

This course is designed to improve the student's skill and knowledge in soccer, speedaway and swimming.

Prerequisite: Physical Education major. {Fall}

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.

Prerequisite: Physical Education major or minor. {Fall}

235. Tennis, Cardio-Fitness. [Tennis, Aerobics.] (1)

Comprehensive skill and knowledge of tennis. Knowledge of factors involved in designing a cardio-fitness program and participating in a variety of cardio-fitness programs.

Prerequisite: Physical Education major.

236. Secondary School Activities. [Middle School Games/Archery.] (1)

This course is designed to improve prospective physical education teachers ability to instruct secondary physical education units in a variety of non-traditional lifetime physical activities.

Prerequisite: Physical Education major.

237. Elementary Rhythms, Team Handball, Softball. [Softball, Team Handball, Badminton.] (1)

This course is designed to improve the student's skill and knowledge in elementary rhythms, team handball, and softball.

Prerequisite: Physical Education major.

238. Yoga/Weight Training. (1)

This course is designed to provide prospective physical education teachers with the basic background to instruct public school physical education units in yoga and weight training.

Prerequisite: Physical Education major.

239. Dance. (1)

Comprehensive skill and knowledge in folk, square and contra dance.

Prerequisite: Physical Education major or minor.

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. (2)

An introduction to the field of athletic training and the bases of prevention and treatment of athletic injuries.

277. Kinesiology. (3)

Anatomical and biomechanical bases of human movement and exercise.

Prerequisites: Biol 237, 247L.

284. Professional Laboratory Experience for Athletic Training. (1)

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 Protective Equipment. (2)

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.

Prerequisites: 273, 284 or permission of instructor.

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 150 clinical hours.

Prerequisites: 273, 284, 285 or permission of instructor.

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 150 clinical hours.

Prerequisites: 273, 284, 285, 286 or permission of instructor.

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)
 Techniques to determine abilities, needs and placement in the physical education program.
 Prerequisite: Stat 145.

292. Workshop. (1-4) Δ
 May be repeated for credit, no limit.

293. Topics. (1-3) Δ
 May be repeated for credit, no limit.

301. Teaching of Team Sports. (2)
 Organization, methods, skills necessary to teach a wide variety of team sports.
 Prerequisites: 231, 233, 234, 237 or permission of instructor.
 Four hrs. per week.

304. Adapted Aquatics. (2)
 (Also offered as Recrea 304.) Covers the theoretical and applied aspects of teaching aquatics to disabled populations. Students will have the opportunity to become certified as American Red Cross Adapted Aquatics Instructors.
 Prerequisite: American Red Cross Water Safety Instructor Certification or permission of instructor.

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.

308. 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.
 Corequisites: 289, 445.

310. Teaching of Dance in Schools. (2)
 Organization and methods in teaching social, folk and square dance.
 Prerequisite: 239. Four hrs. per week.

318. Rhythms and Movement in Elementary Physical Education. (2)
 Fundamentals of rhythm (and dance) and the development of movement education concepts and their application in teaching physical education in elementary schools.

319. Physical Education in the Elementary School. (3)
 Introduction to all methods of teaching elementary physical education. Four hrs. per week.

326L. Fundamentals of Exercise Physiology. (3)
 Study of the immediate and long-term effects of exercise on physiological systems of the human body.
 Prerequisites: Biol 237, 247L.

373. Advanced 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.
 Prerequisites: 273, 284, 285, 286, 287, 374, 481, H Ed 164L.

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.
 Prerequisites: 273, 284, 285, 286, 287 or permission of instructor.

375. Athletic Training Mock/Muscle Testing. (3)
 Provide information relative to advanced assessment techniques and procedures to properly evaluate athletic related injuries and conditions. Emphasis will be placed on performance of special tests and specific muscle testing for orthopedic examinations.
 Prerequisites: 273, 284, 285, 286, 287, 374 or permission of instructor.

378. Principles of Physical Education. (2)
 The aims and objectives of physical education; physiological, psychological and sociological principles which underlie practices in the profession.

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) Δ
 May be repeated for credit, no limit.
 Prerequisite: permission of Physical Education Coordinator.

400. Student Teaching in the Elementary School. (5) Δ
 Prerequisites: 245, 277, 288, 289, 301, 308, 310, 319, 326L, 444, 466, Ed Psy 303, 310.

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.
 Prerequisites: 326L, undergraduate exercise physiology or permission of instructor.

444. Teaching of Physical Education I. (3)
 Theories and concepts related to teaching physical education.
 Prerequisites: 245, 288, 319.

445. Motor Development in Children. (3)
 Prenatal through adolescent human growth and development is studied with an emphasis on movement performance application. Knowledge is then applied toward developing an appropriate physical education curriculum.
 Prerequisites: 245, 288, 319, 444.

461. Student Teaching in the Secondary Schools. (7 to a maximum of 12) [7-12 to a maximum of 12] Δ
 Prerequisites: 245, 277, 288, 289, 301, 308, 310, 319, 326L, 444, 466, Ed Psy 303, 310.

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.
 Prerequisite: junior/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.
 Prerequisite: junior/senior standing.

466. Special Physical Education. (3)
 (Also offered as Recrea 466.) The field of adaptive and corrective physical education and its relationship to the regular curriculum in PE.

467/529. Physical Disabilities and Causes. (3)
 (Also offered as Recrea, Spc Ed 467.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.
 Prerequisites: Spc Ed 201 or permission of instructor.

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.

Prerequisites: 277, 289, 326L or equivalents.

471. Exercise and Disease Prevention. (3)

Identification and analysis of current disease prevention issues related to exercise, physical activity and lifestyle.

Prerequisite: 326L.

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.

Prerequisites: 277, 284, Biol 237, 238, 247L, 248L.

474. Organization and Administration of Athletic Training. (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: 273, 284, 285, 286, 287, 374, 481, H ED 164L.

475/503. EKG Interpretation. (3)

Anatomical and physiological approach to the interpretation of resting 12-lead electrocardiograms. Course fee.

Prerequisite: 326L or equivalent.

476/508. Exercise Testing and Interpretation. (3)

Practical and theoretical skills necessary to safely conduct graded exercise tests on treadmills and ergometers.

Prerequisite: 475 or equivalent.

478/579. [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.

Prerequisites: 277, 326L, 426.

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 I. (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.

Prerequisites: 273, 284, 285, 286, 287 and permission of instructor.

483. Athletic Training Clinical II. (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.

Prerequisites: 273, 284, 285, 286, 287, 374, 481 and permission of instructor.

485/585. African Americans, Hispanics, Native Americans & Physical Activity [Physical Activity, Culture and Academic Success.] (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 Recrea, H Ed 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 Field Experience. (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.

Prerequisites: 273, 284, 285, 286, 287, 374, 375, 481, 483 and permission of instructor.

492/592. Workshop. (1-4)**493/593. Topics. (1-3) Δ**

May be repeated for credit, no limit.

495. Practicum. (3-6 to a maximum of 12) Δ

Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Prerequisite: 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.

Prerequisites: 326L, undergraduate exercise physiology or permission of instructor.

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.

Prerequisites: 277, 289, 326L or equivalents.

503/475. EKG Interpretation. (3)

Anatomical and physiological approach to the interpretation of resting 12-lead electrocardiograms. Course fee.

Prerequisite: 362L or equivalent.

504. [504./489.] Fitness Program Leadership. (3)

Focus on management and applied exercise prescription. Collect lab data and assist the University of New Mexico Adult Fitness Program participants. Preparation for ACSM certification as Exercise Program Director.

Prerequisites: 426, 470 or equivalents and permission of instructor.

505. Foundations for a Philosophy in HPER. (3)

(Also offered as H Ed, Recrea 505.) Designed to prepare graduates to formulate a professional philosophy in their respective fields.

Prerequisite: at least 3 hours in history, principles or methods of physical education.

507. Research Design in HPER. (3)

(Also offered as H Ed, Recrea 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 or equivalent.

509. Media/Public Relations in HPER. [Public Relations In HPER.] (3)
 (Also offered as H Ed, Recrea 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 of People with Disabilities. (3)
 (Also offered as Recrea, Spc Ed 521.) 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.

522. Motor Learning of the Handicapped. (3)
 (Also offered as Recrea, Spc Ed 522.)

526. Motor Assessment of Individuals with Disabilities. [Motor Assessment of the Handicapped.] (3)
 (Also offered as Recrea, Spc Ed 526.) Orientation to the necessity for, procedures involved with, and application of results pertaining to motor assessment for persons who are disabled.
 Prerequisite: undergraduate major or minor in physical education, recreation, special education or 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 or equivalent.

529./467. Physical Disabilities and Causes. (3)
 (Also offered as Recrea, Spc Ed 529.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.
 Prerequisite: Spc Ed 201 or permission of instructor.

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.
 Prerequisites: undergraduate course in exercise physiology and permission of instructor.

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, permission of instructor.

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.
 Prerequisites: 426, Biol 429 or the equivalent and permission of instructor.

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.
 Prerequisites: 426 or equivalent, 530, 535.

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 in Culture. (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. NCAA Policies and Procedures. (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.
 Prerequisites: 426 or equivalent, 530.

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.
 Prerequisites: 426 or equivalent, 530.

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.
 Prerequisite: permission of instructor.

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. [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.

Prerequisites: 277, 326L, 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. African Americans, Hispanics, Native

Americans & Physical Activity [Physical Activity, Culture and Academic Success.] (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 Recrea, H Ed 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.

Prerequisite: permission of instructor.

591/391/691. Problems. (1-3 to a maximum of 6) Δ**592/492. Workshop. (1-4) Δ**

Carries graduate credit when specifically approved by the Office of Graduate Studies. Repeatable to a maximum of 5 credit hours for Plan I M.S., 8 hours maximum for Plan II M.S.

593/493. Topics. (1-3) Δ

May be repeated for credit, no limit.

595. Advanced Field Experiences. (3-6) Δ

May be repeated for credit, no limit.

Prerequisites: acceptance into a graduate program and permission of instructor.

598. Directed Readings in Physical Education. (3-6 to a maximum of 6) Δ**599. Master's Thesis. (1-6) Δ**

May be repeated for credit, no limit. Offered on a CR/NC basis only.

604. Research Seminar. (3)

(Also offered as H Ed and Recrea 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: departmental required research skills sequence.

612. Organizational Theory in Sport. [Seminar in Sport Organization Research.] (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.

614. Sport Consumer Behavior. [Sport Marketing Research.] (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.

615. [560.] 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.

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 6) Δ

Prerequisite: permission of instructor.

695. Advanced Field Experiences. (3-6 to a maximum of 12) Δ

Prerequisite: permission of instructor.

696. Internship. (3-6 to a maximum of 12) Δ

Prerequisite: permission of instructor.

698. Directed Readings in Physical Education. (3-6 to a maximum of 12) Δ

Prerequisite: permission of instructor.

699. Dissertation. (3-12) Δ

May be repeated for credit, no limit. Offered on a CR/NC basis only.

Physical Education (P E-NP)

Basic Instruction Program—Physical Education
Most activity courses are offered every semester.

- 101. Beginning Swimming. (1)**
 Instruction for students who have not been in the water or have a fear of water.
- 102. Intermediate Swimming. (1)**
 Instruction in all basic strokes. For students who can swim.
- 103. Advanced Swimming. (1)**
 Instruction and practice in perfecting all swimming strokes; competitive skills; synchronized skills.
- 105. Water Polo. (1)**
 Basic skills, strategy, rules and terminology to play and officiate the game.
- 106. Lifesaving. (1)**
 Instruction and practice in lifesaving techniques which lead to advanced Red Cross Lifesaving Certificate.
 Prerequisite: ability to swim, basic strokes.
- 118. Individual Tumbling. (1)**
 A class for the beginner to help develop coordination, agility, flexibility, a kinesthetic sense and neuromuscular control.
- 124. Ballroom Dance. (1)**
 Instruction in the basic movements of social dances such as fox trot, waltz, lindy, rhumba, tango and cha-cha.
- 125. Intermediate Ballroom Dance. (1)**
 Instruction dependent upon experience of students in basic movements of all segments of ballroom dance.
- 128. Beginning Country Western Dance. (1)**
 Instruction in the basic movements of the Waltz, Two-Step, Swing and Polka.
- 129. Intermediate Country Western Dance. (1)**
 Instruction dependent upon experience of students in basic movements of all segments of Country Western Dance.
- 136. Personal Defense. (1)**
 Instruction in the basic skills needed to defend oneself against assault.
- 138. Karate. (1)**
 Instruction in the basic skills, blocks, strikes, and kicks of Japanese karate.
- 140. Beginning Golf. (1)**
 Instruction in the basic skills, equipment, rules, etiquette and shot-making.
- 141. Intermediate Golf. (1)**
 Instruction emphasizes actual play.
- 143. Beginning Tennis. (1)**
 Instruction in the basic skills and rules of tennis.
- 144. Intermediate Tennis. (1)**
 Instruction dependent upon experience and skills of students in basic fundamentals. Perfection of strokes.
- 146. Bowling. (1)**
 Special fees. Instruction and practice in the basic skills of bowling.
- 148. Archery. (1)**
 Instruction in the basic skills and knowledge of range archery.
- 149. Badminton. (1)**
 Instruction in the basic skills, rules and strategy of competitive play.
- 152. Racquetball. (1)**
 Instruction and practice in the skills and rules of racquetball.

- 154. Intermediate Racquetball. (1)**
 Instruction dependent upon experience and skills of students in basic fundamentals. Perfection of all strokes and strategies used in the game of racquetball.
- 158. Aerobic Dance I. (1)**
 Instruction in continuous movement using basic dance steps for improved cardiorespiratory endurance. Fitness Test Fee.
- 159. Aerobic Dance II. (1)**
 Instruction in a longer aerobic workout using more advanced dance steps for improved cardiorespiratory endurance. Fitness Test Fee.
- 160. Weight Training and Physical Conditioning. (1)**
 Individual training programs for development of general strength, tone, endurance and weight control. Fitness Test Fee.
- 161. Developmental Physical Education—Weight Control. (1)**
 Combined weight training and running for overall development. Fitness Test Fee.
- 162. Jogging Fitness. (1)**
 Individualized running programs for improved cardiorespiratory endurance. Fitness Test Fee.
- 163. Intermediate Weight Training. (1)**
 Instruction in advanced weight-lifting principles and techniques as well as fitness related topics. Fitness Test Fee.
- 165. Yoga. (1)**
 Introduction to five areas of yoga which are particularly significant to the Western World.
- 166. Intermediate Yoga. (1)**
 Instruction in more advanced techniques of Yoga emphasizing the physical aspects of Hatha Yoga.
- 167. Basketball. (1)**
 Instruction and practice of basic skills.
- 168. Basketball Competition. (1)**
 Instruction and practice of game skills in a team setting.
- 170. Volleyball. (1)**
 Instruction and practice of basic game skills, with emphasis upon power techniques.
- 173. Soccer. (1)**
 Instruction and practice of basic skills of soccer and speed-away.
- 174. Softball. (1)**
 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.
- 188. Therapeutic Physical Education. (1)**
- 193. Topics. (1-2) Δ**
 May be repeated for credit, no limit. New activities offered on an exploratory basis.

SECONDARY EDUCATION

Student Advisor and Information Contact:
 College of Education Advisement Center
 Hokona Hall, Room 134, (505) 277-3190

Anne Madsen, Department Chairperson
 The University of New Mexico
 Department of Teacher Education
 Hokona Hall, Room 128
 Albuquerque, NM 87131-1231
 (505) 277-6640

Kathryn Watkins, Director of Secondary Education
The University of New Mexico
Department of Teacher Education
Hokona Hall, Room 296
Albuquerque, NM 87131-2131
(505) 277-8186

For more information, please contact the:
Secondary Education Office
Hokona Hall, Room 205
(505) 277-0513

Program Faculty

Rosalita D. Mitchell, Ph.D., The University of New Mexico
Quincy Spurlin, University of Texas at Austin
Kathryn M. Watkins, Ph.D., Texas A&M University

Affiliated Faculty

Rebecca Blum-Martinez, Ph.D., University of California, LLSS

Lynette K. Oshima, Ph.D., Indiana University, LLSS

Lucretia Pence, Ph.D., University of Pittsburgh, LLSS

Richard Kitchen, Ph.D. University of Wisconsin, ED SPEC

Donald Zancanella, Ph.D., University of Missouri, LLSS

Laurel Lampela, Ph.D., Ohio State University, ED SPEC

Undergraduate Study

The Secondary Education Program offers an undergraduate major leading to teacher licensure in subjects commonly taught in middle and high schools (grades 7–12).

Undergraduate Teaching Fields and Degrees (for teaching grades 7–12)

Bilingual Education: Bachelor of Arts in Education (B.A. Ed.)
Communicative Arts Education: Bachelor of Arts in Education (B.A. Ed.)

Earth Science Education: Bachelor of Science in Education (B.S. Ed.)

Life Science Education: Bachelor of Science in Education (B.S. Ed.)

Mathematics Education: Bachelor of Science in Education (B.S. Ed.)

Modern and Classical Languages (Spanish, French, etc.):
Bachelor of Arts in Education (B.A. Ed.)

Social Studies Education: Bachelor of Arts in Education (B.A. Ed.)

Teaching English as a Second Language (TESOL/ESL):
Bachelor of Arts in Education (B.A. Ed.)

All students must complete application and be admitted prior to the beginning of the program. Admissions are competitive; it is limited by capacity to offer a quality program. See preceding sections on: 1) *Application and Admissions Process for Teacher Preparation*; and 2) *Minimum Criteria for Undergraduate Application to Teacher Preparation Licensure*.

Undergraduate Curriculum for Students Preparing to Teach in Secondary Schools

The Secondary Education curriculum leading to the Bachelor's Degree is designed for students preparing to teach in middle schools, junior high schools or senior high schools (grades 7–12). A faculty advisor in the Secondary Education Program must approve students' advisement sheets. The advisement sheets for the Secondary Education Major and licensure have three components:

- General Education Requirements
- Teaching Field Requirements
- Professional Education Sequence

General Education Requirements (66 hours)

- Communication Arts (12 hours)
Engl 101, Engl 102, Ling 101, C&J 130 or 220
- Mathematics (6 hours)
Math 120, Stat 145
- Science (12 hours)
Select from Biol 110 and 112L, 201, 202 and 203; Chem 111L, 121L or 131L, 122L or 132L; E&PS 101 and 105L, 201L; Env Sc 101; Physcs 102–102L, 151–152L, 160–160L, 161–161L; Astr 101.
- History (12 hours)
Hist 101L or 102L, 161L, 162, 260 or 463
- Social Science (6 hours)
Select from Soc 101, Psych 105, Pol Sc 110 or 220, Anth 101 or 130, Econ 105 or 106, or Geog 102.
- Fine Arts (6 hours)
Art Hi 101 or 251, Music 139 or 140
- 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.
- Pre-Professional Study (9 hours)
EDUC 313 —or— Ed Psy 303 and 310 and MSET 365

Undergraduate Teaching Fields Requirements

(54 hours for a composite teaching field; 24–36 hours for a single subject teaching field; at least 12 hours at the 300 level or above in both types of teaching fields.) See advisement sheets.

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.

Communication Arts Composite (54 hours): This teaching field includes interdisciplinary study in literature, writing, communication and journalism, and theatre arts.

Science Composite (54 hours): The composite teaching field in science consists of course work in the broad fields of science and mathematics. Four areas of concentration are available:

- Physical Science (Physics Emphasis). This area of concentration requires 30 hours in physics and 8 hours EACH in biology, chemistry, earth and planetary sciences and mathematics.
- Physical Science (Chemistry Emphasis). This area of concentration requires 30 hours in chemistry and 8 hours EACH in biology, earth and planetary sciences, physics and mathematics.
- Earth Science. This area of concentration requires 30 hours of earth and planetary sciences and 8 hours EACH in biology, chemistry, physics and mathematics.
- Life Science. This area of concentration requires 30 hours of biology and 8 hours EACH in earth and planetary sciences, chemistry, physics and mathematics.

Social Studies Composite (54 hours): This teaching field includes interdisciplinary study in social studies including history (U.S. and Western Civilization), political science, anthropology, economics, geography, economics and sociology.

Fine Arts (36 hours): This teaching field focuses on one of two areas:

Theatre. This area of concentration requires 36 hours of courses that cover all aspects of theatre including acting, voice, directing, stagecraft, theatre history and script analysis and is designed to qualify a person to

teach drama courses and direct school plays at the secondary level.

Dance. This area of concentration requires 14 hours in dance technique (modern, ballet, ethnic, folk, jazz and tap) and 22 hours in dance appreciation, improvisation, rhythmic fundamentals, movement analysis, choreography and musical structure, dance history and dance curriculum development.

Specific Theatre and Dance course requirements are listed in the Department of Theatre and Dance section of this Catalog. Requirements may change. See the Theatre and Dance advisor for current information.

Mathematics (34 hours): This 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.

Modern and Classical Languages (30 hours): This teaching field requires course work in ONE of the world languages acceptable for secondary licensure (e.g., Spanish, German, French, Latin, Russian) that enable students to develop proficiencies in the varied aspects of their chosen language, including oral and writing communication skills, grammar, literature and culture.

Bilingual Education (24 hours): Students may elect a teaching field in bilingual education with either a Spanish-English or Navajo-English concentration. This teaching field meets K-12 licensure requirements.

Teaching English to Speakers of Other Languages (36 hours): Students may elect a teaching field in Teaching English to Speakers of Other Languages (TESOL). This program meets K-12 licensure requirements.

Reading (24 hours): This teaching field provides advanced study in the teaching of reading for K-12 licensure.

Professional Education Sequence (35 hours)

The following professional sequence is required of all undergraduate students working towards eligibility for a secondary initial license. In order to qualify for Teaching Experience I and Student Teaching course work, students should complete the general education and teaching field requirements. However, if space is available and other requirements have been met, students may be allowed to proceed into the Professional Education sequence if lacking no more than six hours total of the general education and or teaching field, course requirements. See the front part of the College section of this catalog regarding application for licensure.

Professional Courses (Fall Only)

Spc Ed 493 T/Working w/Special Needs	
Populations	2 hours
EDUC *438 Teaching Reading and Writing in the Content Field	3 hours
EDUC 362 Teaching Experience I	3 hours
EDUC 493 Issues in Secondary Education	3 hours

One of the following teaching field methods courses: 3 hours

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	
LLSS *482 Teaching English as a Second Language	

Student Teaching Courses (Spring Only)

EDUC 462 Student Teaching	9 hours
EDUC 464 Seminar in Student Teaching	3 hours

Students must achieve and maintain a "B" or better average overall in the Professional Courses for advancement to Student Teaching. The Teaching Experience I and Student Teaching courses require a field experience in a secondary

school. Student should be prepared to spend time in schools during both fall and spring semesters. Student Teaching requires full-time teaching for at least **one public school semester**. A total of 12 credit hours are required for this experience, which includes Student Teaching (9 hours) and the Student Teaching Seminar (3 hours). The Student Teaching Courses follow the public school (not the University of New Mexico) calendar.

Altogether, the secondary education professional course work sequence may require two to three semesters. Students are urged to consult the College Advisement Center and faculty advisors as early in their college careers as possible.

NOTE: Changes in state requirements or state reform initiatives in education 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 in secondary education. For information on a graduate application contact the Secondary Education Office at: Hokona Hall, Room 250, (505) 277-0513.

General Secondary Education Curriculum

Hokona Hall, Room 205, (505) 277-0513.

Teacher Education Specialty Area

College of Education Advisement Center
Hokona Hall, (505) 277-3190

Application Deadlines

Initial screening of applications will begin:

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 and financial assistance. Applications will continue to be received after the initial screening dates until the final deadlines listed below. 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.: Secondary Education

M.A. in Secondary Education

Prospective students must apply for admission and be formally admitted by the program faculty. Candidates are required to work under the supervision of an assigned advisor and 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. Application is competitive, as more individuals apply than can be accommodated.

Emphases (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. Please contact designated specialty area office listed above. Note that some of these areas are offered within the MA or Ed.D./Ph.D. in Secondary Education/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 comprehensive 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 seminar.
2. Students considering a Plan I program must consult with a faculty advisor for an appropriate completion to their program.
3. A comprehensive 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.

Masters 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 consult 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

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, please meet with one of the Secondary Education Faculty.

Formal admission to graduate status occurs concurrently with admission to Secondary Education.

Application packets are available in the Student Advisement Center.

College of Education Advisement Center
Hokona Hall, Room 134, (505) 277-3190

Curriculum Requirements for Master's Degree and Licensure (45 hours)

Licensure Component (24 hours):

1. Ed Psy 303/503*	Human Growth and Development	3 hours
2. EDUC 438 or LLSS 538*	Teaching Reading and Writing in the Content Field	3 hours
3. Spc Ed 507*	Collaboration for Inclusive Education	3 hours
4. EDUC 362	Teaching Experience I	3 hours
6. EDUC 493	T/Issues in Secondary Education	3 hours
7. CIMTE 595*	Advanced Field Experience	6 hours

One of the following teaching field methods courses: 3 hours	
MSET 429	Teaching of Secondary Mathematics
MSET 431	Teaching of the Sciences
LLSS 432	Teaching of Social Studies
LLSS 436	Teaching of English

* 12 graduate credit hours (500-level courses) in the licensure component may count as course work in the Master's component described below.

All students pursuing a Master's degree program with licensure must complete a core (21 hours) 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 will also complete 6 hours or more in related course work. 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.

Education Specialist Certificate *

The Education Specialist Certificate is available in Curriculum and Instruction. Persons interested in the certificate should contact the appropriate program division for specific requirements.

This graduate program requires 30 hours beyond the Master's degree and is planned individually for each candidate under the direction of Secondary Education Faculty. This certificate is designed for the individual who does not wish to pursue the doctorate but is interested in continued graduate work in a specific area. Students working under this plan must be admitted to graduate study and are subject to regular Office of Graduate Studies requirements. All course work must be taken within the five-year period beginning with the semester admitted for an Education Specialist Certificate. Not more than one-third of the required hours may be problems, directed readings or workshop credit. Students must submit a formal Program of Studies at least one semester prior to completion to the Office of Graduate Studies within the five-year period allotted.

* *Not a degree.*

SPECIAL EDUCATION

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Special Education, Hokona Hall, Room 103
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1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-6510, FAX (505) 277-6929

Professors

Ruth Luckasson, J.D., University of New Mexico
Loretta Serna, Ph.D., University of Kansas

Associate Professors

Isaura Barrera, Ph.D., State University of New York (Buffalo)
Elizabeth Keefe, Ph.D., University of New Mexico
Elizabeth Nielsen, Ph.D., Purdue University
Diane Torres Velasquez, Ph.D., The University of New Mexico

Assistant Professors

Susan Copeland, Ph.D., Vanderbilt University
Huaqing Qi, Ph.D., Vanderbilt University
Julia Scherba de Valenzuela, Ph.D., University of Colorado (Boulder)

Lecturers

Veronica Moore, Ph.D., University of New Mexico
Kelley Peters, Ph.D., University of New Mexico

Adjunct Faculty

Colleen Miller, J.D., University of Pittsburgh

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 Advisor Contact and Student Information Contact

For program, application and admission information, see below.

Majors and Degrees

Special Education (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 Spc Ed 201 and Spc Ed 204 (Concurrent enrollment required)
- Spc Ed 201 Education of Exceptional Persons 3
- Spc Ed 204 Introduction to Special Education 2 (Field Experience and Seminar)

Step Two

Complete application for non-teaching minor, which can be obtained from the Special Education administrative office. Meet with an advisor 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 three of the following:

- Spc Ed 409 Affective Education and the Exceptional Person 3
- Spc Ed 420 Nature and Needs of Students with Mental Retardation 3
- Spc Ed 430 Introduction to Students with Emotional and Behavioral Disorders 3
- Spc Ed 440 Introduction to Learning Disabilities 3

Choose two of the following:

- Spc Ed 302 Introduction to Communicative Disorders 3
- Spc Ed 465 Art and the Exceptional Child 3
- Spc Ed 467 Physical Disabilities and Causes 3

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 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.

Application and Admission

Applicants must contact the College of Education Advisement Center in Hokona Hall for information on application and admission procedures for the Dual License Program. 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 Spc Ed 201 and Spc Ed 204 (which must be taken concurrently) and must have a minimum grade point average of 2.50 prior to admission to the Dual License program. Other specific requirements are stated in program documents. Upon acceptance, the students will be assigned an advisor who will assist in the preparation of the program of studies.

Students seeking further information should consult with the Center for Teacher Education Advisement Center.

Graduate Program

Graduate Advisor

Inquire within the program.

Student Information Contact

Jo Sanchez-Hokona Hall, Room 273, (505) 277-5018

Priority Applications Deadlines

MA, 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.: Special Education
- Ed.D.: Special Education
- Ph.D.: Special Education
- Certificate: Education Specialist (Ed.S.), Special Education

Special Education offers graduate programs leading to special education teacher licensure, the Master's degree, sixth year certificate (Ed.S.) and doctoral degrees (Ed.D. and Ph.D.). Areas of study are: 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, bilingual/multicultural, early childhood and gifted/twice exceptional). Contact the program for specific information and related requirements.

Application

Persons applying for admission to graduate programs in special education must have a complete Self-Managed Application (SMA) filed before the published deadline. The application file must include the following for all programs:

1. Application form for admission to Office of Graduate Studies.



2. Two official copies of all transcripts to the University of New Mexico Office of Graduate Studies.
3. A letter of intent which includes reason for applying, brief description of career goals and brief description of experience and accomplishments to the Special Education program.
4. Application form for admission to the Special Education program.
5. Results of the NTE or GRE examination results to Special Education, if exam has been taken.
6. Letters of Recommendation
7. Be available for personal interview with program faculty.

Letters of Recommendation to the Master of Arts degree program should include the following items:

1. Three letters of recommendation from persons qualified to comment on the applicant's potential to do graduate work and/or teach.

Sixth-Year Certificate and Doctoral Concentration (Ed.D. and Ph.D.)

Applicants for the sixth year certificate and doctoral programs must hold appropriate and relevant prior degrees and have at least two years of relevant experience with persons with disabilities.

Applicants must also submit in addition to the general requirements:

1. Five letters of recommendation;
2. A sample of writing (term paper, M.A. thesis or published or unpublished articles);
3. Professional vita; and
4. Evidence of at least two years successful special education teaching experience or equivalent.

Requirements

Students are required to take Spc Ed 601 prior to screening for Ph.D. or Ed.D. Spc Ed 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 State Department of Education 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.

Table 1 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.

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. More detailed information on each emphasis 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 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:

- Spc Ed 507 Collaboration for Inclusive Education
- Spc Ed 511 Social Construction of Disabilities
- Spc Ed 516 The Brain, Mind and Education
- Spc Ed 519 The Application of Applied Behavior Analysis in the Special Education Classroom
- Spc Ed 520 Nature and Needs of Students with Mental Retardation
- Spc Ed 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 concentration preference. Course work includes a common core (see below) plus courses from one of several specialization areas: learning disabilities, behavior disorders, bilingual/multicultural, 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. Concentration II core courses are listed below. Asterisks (*) indicate courses required for New Mexico Special Education licensure within this concentration.

- Spc Ed 501* The Psychology and Education of Exceptional Persons (Prerequisite)
- Spc Ed 502 At Risk for School Failure and Disabilities (Prerequisite)
- Spc Ed 503* Instructional Strategies in Special Education
- Spc Ed 504* Practicum in Special Education
- Spc Ed 506 Fostering Creativity, Cooperation and Problem Solving Among Diverse Learners
- Spc Ed 508 Collaboration with Family, School and Community
- Spc Ed 513 Curriculum Development in Special Education
- Spc Ed 514 Teaching Reading to Students with Learning and Behavior Exceptionalities
- Spc Ed 517* Assessment of Diverse Students with Learning and Behavior Exceptionalities
- Spc Ed 518* Classroom Organization and Positive Behavioral Supports
- Spc Ed 534 Social Competence, Self Determination and Resiliency

In conjunction with their advisors, MA degree students may choose one of the following capstone experiences to culminate their degree programs: (a) comprehensive examination, (b) MA project or (c) MA 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.

A sixth year Education Specialist (Ed.S.) certificate is also offered. This certificate is available for persons wishing to specialize beyond their MA degree in Special Education but for whom the doctorate is not appropriate for his/her career objectives. The Ed.S. requires a minimum of 30 hours (primarily in Special Education) beyond the MA degree 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 (Sp Ed)

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.

Corequisite: 204.

204. Introduction to Special Education. (2)

Field experience and seminar in special education settings. Required of all undergraduate majors.

Corequisite: 201.

293. Topics. (1-3) Δ

Designed to offer specialized content to paraprofessionals working with handicapped learners. May be repeated for credit, no limit.

*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.

Prerequisite: 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.

Prerequisites: 201, 204, 313.

304. Practicum. (1-4)

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.

Corequisites: 303, 313.

306. Introduction to Behavior Management. (3)

Provides an introduction to behavioral principles and procedures in application with children and youth. Covers planning, environmental organization and behavioral principles.

Prerequisites: 201, 204.

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.

Corequisites: 303, 304.

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.

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)

Prerequisite: permission of instructor.

*408. Special Education in the Regular Classroom. (3)

Provides regular educators with skills to assist mildly handicapped children in the regular class and provides special educators with skills and strategies to assist regular teachers with mildly handicapped children in their class.

409/509. Affective Education and the Exceptional Person. (3)

Develops communication skills, values clarification methods, non-verbal skills and other effective techniques related to the exceptional person and teacher. Emphasis is placed on social and psychological problems in special education.

420/520. Nature and Needs of Students with 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.

Prerequisite: 201.

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.

Prerequisite: instructor approval. Undergraduate students must be within no more than two semesters of graduation.

452/552. Teaching Students with Mental Retardation. (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.

Prerequisite: 420.

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.

Prerequisite: all other courses in sequence. Corequisite: 464.

463. Student Teaching in the Secondary Schools: Professional Education Block. (6-15 to a maximum of 15) Δ

464. Classroom Diagnosis 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.
Prerequisites: 303, 304, 313.

465/565. Art and the Exceptional Child. (3)
(Also offered as Art Ed 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)
(Also offered as P E-P, Recrea 467.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.
Prerequisite: Spc Ed 201 or permission of instructor.

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. 470/570 is a recommended prerequisite to other courses in gifted education.

481/581. 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.
Prerequisite: basic computer competencies and word processing skills.

493. Topics in Special Education. (1-3) Δ
May be repeated for credit, no limit.

495. Field Experience (3-6 to a maximum of 12) Δ
Planned and supervised professional laboratory or field experiences in agency or institutional setting.
Prerequisite: 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. Instructional Strategies 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) 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.
Prerequisites: major in program and permission of instructor.

505. Seminars in Special Education. (3) Δ
Research in current trends in the various topic areas of special education. May be repeated for credit, no limit.

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.

509/409. Affective Education and the Exceptional Person. (3)
Course develops communication skills, values clarification methods, nonverbal skills and other effective techniques relating to the exceptional person and her/his teacher. Special emphasis placed on social and psychological problems in special education.

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.
Prerequisites: 501, 503.

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.
Prerequisite: major in the department.

520./420. Nature and Needs of Students with 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.
Prerequisite: 501.

521. Motor Learning of People with Disabilities. (3)

(Also offered as P E-P, Recrea 521.) 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.

522. Motor Learning of the Handicapped. (3)

(Also offered as P E-P, Recrea 522.)

523. Teaching Students with Mental Disabilities. (3)

Surveys curriculum and instructional theory appropriate to students with mental disabilities. Particular attention is given to students with intermittent and limited needs for supports.
Prerequisite: 420/520.

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 of Individuals with Disabilities.

[Motor Assessment of the Handicapped.] (3) Lange
(Also offered as P E-P, Recrea 526.)
Prerequisite: undergraduate major or minor in physical education, recreation, special education or 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 Recrea, P E-P 529.) Investigation of etiology, characteristics and treatment appropriate for individuals with physical disabilities who are in public sector, schools and exercise programs.

Prerequisite: Spc Ed 201 or permission of instructor.

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.

Prerequisites: permission of instructor, program majors only, 540 recommended.

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.

Prerequisite: instructor approval. Undergraduate students must be within no more than two semesters of graduation.

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.

Prerequisite: instructor approval.

552./452. Teaching Students with Mental Retardation. (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.
Prerequisite: 420/520.

553. Advanced Field Seminar—ECSE. (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.

Prerequisite: instructor approval.

554. ECSE Extended Study: _____. (1-3) Δ
May be repeated for credit with instructor approval; no limit. Special in-depth offerings on various areas of interest (e.g., trauma, bilingualism) linked to material presented in other ECSE courses.
Prerequisite: instructor approval.

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.

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.
Prerequisite: 560.

565/465. Art and the Exceptional Child. (3)
(Also offered as Art Ed 565.) Study of the special use of art activities with exceptional children along with practicum experience in field situations. Lab fee.

566L. 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.
Prerequisite: permission of instructor.

567L. 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. 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.

569. Clinical Internship in Diagnosis. (3-6) Δ
Internship is laboratory and clinical experience conducted primarily within a public school setting; allows for direct application of theoretical knowledge with children. 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.
Prerequisites: 567L, 568L. Offered on a CR/NC basis only.

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.
Prerequisites: 470 or 570 and permission of instructor.

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.
Prerequisites: 470 or 570, 576 and permission of instructor.

581/481. 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.
Prerequisite: basic computer competencies and word processing skills.

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.

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.

591. Problems. (1-3) 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.
Prerequisite: permission of instructor.

592. Workshops in Special Education. (1-4) 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) Δ
May be repeated for credit, no limit.

595. Advanced Field Experience. (3-6 to a maximum of 12) Δ
Planned and supervised professional laboratory experiences in agencies or institutional settings.

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.
Prerequisite: permission of instructor.

599. Master's Thesis. (1-6) Δ
Offered on a CR/NC basis only.

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.
Prerequisite: admission to post-master's work in Special Education or 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.
Prerequisites: doctoral intermediate status in Special Education and permission of instructor.

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 or permission of instructor.

625. Seminar in Mental Retardation. (3) Δ
Seminar for graduate students interested in education and development of persons with mental retardation. Current research and development projects are reviewed. May be repeated for credit, no limit, when topics differ.
Prerequisites: 520, 522 or permission of instructor. Master's students may enroll with permission of instructor.

635. Seminar in Behavioral Disorders. (3)
Prerequisite: permission of instructor.

640. Clinical Aspects of Learning Disabilities. (3)
Designed to investigate existing research in the area of learning disabilities and to identify specific areas lacking significant research. Emphasis or areas of study include theory, etiology intervention, training and programs.

675. Seminar on the Gifted. (3)
Emphasis on theoretical issues, current research findings and research methodology. May be repeated when different topics are covered.
Prerequisite: Master's candidates with experience and training may enroll with 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.

699. Dissertation. (3-12)
Students may not receive credit in Dissertation until the semester in which the doctoral comps are passed. **Offered on a CR/NC basis only.**



SCHOOL OF ENGINEERING

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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 cognition, 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 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. It 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. One indication of continued growth and development is registration as a Professional Engineer. Every state has established criteria of education and experience which must be met before an engineer can be registered as a Professional Engineer.

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 Institute for Space and Nuclear Power Studies, Center for High Technology Materials, Center for Micro-Engineered Materials, High Performance Computing Education and Research Center, Alliance for Transportation Research, Alliance for Photonic Technology, Waste Management Education and Research Consortium, Advanced Materials Laboratory, and Training and Research Institute for Plastics.

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.

Bachelor of Engineering Degrees. In addition to the major professional fields of study listed above, the School of Engineering offers the degree of Bachelor of Engineering in Manufacturing Engineering and Robotics. In the future, additional options may be available within the Bachelor of Engineering degree program to meet changing needs.

3 + 2 BS/MBA Program. The School of Engineering recognizes that many engineers become managers of engineering programs and projects and thus require supplementary training in business methods beyond their engineering training. In cooperation with the Anderson Schools 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. Please 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 deans of the colleges concerned. With care in selection of the program of studies, it is possible for students to secure two degrees in one additional year.

Military Studies. Students enrolled in the Air Force or Naval 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 chairperson 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 2.20 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 Programs 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 chairperson 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 School of Engineering Student Programs 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 Engineering Student Programs 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 Diversity Programs Office. These include the Minority Engineering Program (MEP), the NASA Training Project and the Native American Program-School of Engineering (NAP-COE). 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.

Cooperative Education Program

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.

A student in good standing with a minimum degree grade point average of 2.50 may enter the Engineering Co-op Program if a suitable employer can be found to sponsor the student. 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 some other university or college shall become eligible for the Co-op Program upon completion of 12 hours in a degree program in the School of Engineering. To remain in the Co-op Program, the student must maintain a minimum grade point average of 3.0 and otherwise be in good standing 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 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 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.

Students wishing to know more about the Cooperative Education Program should contact its director.

Waste-Management Education and Research Consortium Certificate Program

The education program of the Waste-Management Education and Research Consortium (WEREC) offers interested students a certificate in hazardous and radioactive waste management as part of their undergraduate or graduate degree programs or as a stand-alone certificate for those already holding degrees in engineering or related fields. WEREC members include the University of New Mexico, New Mexico Institute of Mining and Technology, New Mexico State University, Diné College, Sandia National Laboratories and Los Alamos National Laboratory.

Licensure

All students pursuing engineering degrees are encouraged to take the Fundamentals of Engineering Examination during their senior year as a first step in becoming Registered Professional Engineers. Students in some degree programs are required to take this examination prior to graduation.

Probation

The School of Engineering uses two probational procedures:

1. A student enrolled in the School of Engineering will be placed on **Academic Probation** if the student's cumulative grade point average based on all work taken at the University of New Mexico falls below 2.00.
2. A student enrolled in the School of Engineering will be placed on **School of Engineering Probation** under any of the following conditions:
 - a. When in a pre-major status, a cumulative grade point 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.
 - b. When in a department degree status, a 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 2.00 or below 1.50 in the most recent semester.
 - c. When in either pre-major status or department degree status, there is unsatisfactory progress towards a School of Engineering degree.
 - d. Upon admission to the University of New Mexico and SOE as a transfer student with a poor academic record at other schools.

Suspension

A student on Academic or School of Engineering Probation during any regular semester may, at the end of that semester, be suspended from the University if the condition for the probation has not been removed. A student suspended from the University for the first time is not eligible to reenter the University for a minimum period of one semester from the date of suspension, excluding summer session. A student suspended from the University for the second time is not

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eligible to reenter the University for one academic year. A student suspended from the University for the third time is not eligible to reenter the University for five academic years.

A student on probation may be suspended for any one of the following reasons:

1. Not making satisfactory progress towards a School of Engineering degree.
2. Not meeting the conditions for being removed from probation at the end of specified semester.
3. When in department degree status, 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. When in pre-major status, 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. When in pre-major status, accumulating 50 or more attempted credits that count toward a major in the School of Engineering.

Upon completion of the term of suspension, a student is not directly readmitted to the School of Engineering. Students returning from suspension must first gain admission to another degree granting unit at UNM. After being admitted to another program, students wishing to return to the School of Engineering 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 the School of Engineering and will not be allowed to take classes offered by the School of Engineering.

A student who has been suspended from the University while enrolled in the School of Engineering and who has been admitted to any unit of the University other than the School of Engineering after the suspension is terminated, is not permitted to register for any course offered by the School of Engineering.

No student is subject to suspension from the University until the end of the semester or summer session in which the cumulative hours attempted at the University of New Mexico equal to 16 or more.

Testing (CLEP, AP and ACT)

The School 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 does 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 suspended 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 Chairperson and the School Dean.

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 School of Engineering Dean's 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 School of Engineering Dean's Office.

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, Mechanical Engineering and Manufacturing Engineering and Robotics Option.

Descriptions of the engineering courses for students not majoring in engineering (ENGR-N course designation), the general courses for engineering students (ENGR designation), and courses taken by students participating in the Engineering Cooperative Education Program (E Coop 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 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 without departmental designation. For further information please 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: the William and Charlotte Kraft Graduate Fellowship provides full support for study towards a Ph.D. and several industrial-supported fellowships provide full or partial support.

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. Ad 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 MS 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, please refer to the sections of this catalog describing the graduate program in each department.

Master of Engineering

The Master of Engineering degree (M.Eng.) 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 and in Hazardous Waste Engineering. Admission requirements to the programs are the same as for the Master of Science degree.

The M.Eng. degree in Manufacturing Engineering has tracks in computer integrated manufacturing (CIM), mechanical and equipment manufacturing (MEM) and semiconductor and electronics manufacturing (SEM). For the CIM and MEM tracks, at least three electives must be selected from a set of track courses defined by the Manufacturing Engineering Program. The semiconductor and electronics manufacturing track has a special core that covers semiconductor process design, microelectronics design and processing, and factory design and operations, and a special set of track courses that cover microelectronics processing technology. A total of 33 hours is required for the M.Eng. degree (curricula, by track, are listed below). Interested students should contact advisors in the departments of Chemical and Nuclear Engineering,

Computer Science, Electrical and Computer Engineering or Mechanical Engineering or the Director of the Manufacturing Engineering program.

The curriculum for the Master of Engineering degree, for the Computer Integrated Manufacturing track (CIM) and the Mechanical and Equipment Manufacturing (MEM) track is:

M E/			
E CE 585	Modern Manufacturing Methods		3
Mgt 506	Organizational Behavior Diversity		3
Mgt 504	Microeconomics for Managers		3
M E 583	Statistical Methods for Improving Product Quality		3
C S 492	Introduction to Computers in Manufacturing		3
M E 586	Design for Manufacturability		3
Elective	Track Elective		3
Elective	Track Elective		3
Elective	Track Elective		3
Elective	(for Plan II)		3
C S/			
E CE/M E	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 track (SEM) is:

M E/			
E CE 585	Modern Manufacturing Methods		3
Mgt 506	Organizational Behavior Diversity		3
Mgt 504	Microeconomics for Managers		3
Ch-NE 586	Statistical Design of Experiments for Semiconductor Manufacturing		3
E CE 487	Semiconductor Factory Design and Operations		3
E CE 473	Semiconductor Materials, Devices, and Circuits		3
E CE 574L	Microelectronics Processing I		3
E CE 579	Adv Microelectronics Process		3
E CE 529	Process Integration and Test		3
Elective	(for Plan II)		3
Ch-NE/C S/			
E CE/M E	Project (or 6 hrs. Thesis, Plan I)		3
Total Credit Hours			33

In addition to the above courses, regardless of track, 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 M.Eng. 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 M.Eng. in Hazardous Waste Management 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. Core requirements are C E 538 *Introduction to Hazardous Waste Management* and C E 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.

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 C S/Math 471 (*Introduction to Scientific Computing*) and C S 442/E CE 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 electives, 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 C S/Math 471 (*Introduction to Scientific Computing*) and C S 442/E CE 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++382) or equivalent experience. It is required that a second course on the level of C S 251L be completed or equivalent experience demonstrated as prerequisite to C S 442/E CE 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.hpccerc.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.

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, Electrical Engineering, Optical Science and Engineering, Mechanical Engineering and Nuclear Engineering. A program in mechanics is offered jointly by the Departments of Civil and Mechanical 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.

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).

CHEMICAL AND NUCLEAR ENGINEERING

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Professors

C. Jeffrey Brinker, Ph.D., Rutgers University
Joseph L. Cecchi, Ph.D., Harvard University
Abhaya K. Datye, Ph.D., University of Michigan
Mohamed S. El-Genk, Ph.D., The University of New Mexico
Julia E. Fulghum, Ph.D., University of North Carolina
Gabriel P. Lopez, Ph.D., University of Washington
H. Eric Nuttall, Ph.D., University of Arizona
Anil K. Prinja, Ph.D., University of London
Norman F. Roderick, Ph.D., University of Michigan
Ebtisam S. Wilkins, Ph.D., University of Virginia

Associate Professors

Harold M. Anderson, Ph.D., Wayne State University
Gary W. Cooper, Ph.D., University of Illinois
Richard W. Mead, Ph.D., University of Arizona*
Timothy L. Ward, Ph.D., University of Washington*

Assistant Professors

Plamen Atanassov, Ph.D., Bulgarian Academy of Sciences
Sang M. Han, Ph.D., University of California
Taro Ueki, Ph.D., University of Michigan

Professors Emeriti

David Kauffman, Ph.D., University of Colorado*

Lecturer III

Robert D. Busch, Ph.D., The University of New Mexico*

The University of New Mexico

National Laboratory Professors

John G. Curro, Ph.D., California Institute of Technology
Ronald E. Loehman, Ph.D., Purdue University
Jim E. Morel, Ph.D., The University of New Mexico
Jonathan Phillips, Ph.D., University of Wisconsin-Madison

Research Professors

Timothy Boye, Ph.D., University of Kansas
Lee F. Brown, Ph.D., University of Delaware
Roger G. Cox, Ph.D., Cornell University
William Kroenke, Ph.D., Case Institute of Technology (Ohio)
Frank van Swol, Ph.D., University of Amsterdam
Harry Weaver, Ph.D., Auburn University

Research Associate Professors

Nancy B. Jackson, Ph.D., University of Texas at Austin
Judith Ruffner, Ph.D., University of Arizona

Research Assistant Professors

Kateryna Artyush Kova, Ph.D., Kent State University
Hong You Fan, Ph.D., The University of New Mexico
Laura Frink, Ph.D., University of Illinois
Hamed Saber, Ph.D., The University of New Mexico
David Stein, Ph.D., The University of New Mexico
Jean-Michel P. Tournier, Ph.D., The University of New Mexico
Chung-Yi Tsai, Ph.D., The University of New Mexico
Yi Yang, Ph.D., Jilin University, China

Affiliated Faculty

Barry R. King, M.S., University of Houston
Patrick McDaniel, Ph.D., Purdue University
Amir H. Mohagheghi, Ph.D., The University of New Mexico
Charles A. Potter M.S., University of Massachusetts at Lowell

* Registered Professional Engineer in New Mexico.

Overview

The Department of Chemical and Nuclear Engineering (CNE) 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.

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 are 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 Ch-NE 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 processing, biotechnology, materials processing, semiconductor manufacturing, waste management, and modelling and computation.

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.

The objective of the University of New Mexico's chemical engineering program are to provide:

- 1) an outstanding education that prepares our graduates to succeed as practicing chemical engineers, or serves as a foundation for advanced study in chemical engineering or related fields, or that qualifies our graduates to seek professional degrees in fields such as medicine or law.
- 2) opportunities for our graduates to specialize in specific career areas of chemical engineering, such as materials development and processing, biological engineering, process engineering and environmental engineering.

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: 132²

First Year—First Semester	Hrs. Cr.
Ch-NE 101 Introduction to Chemical Engineering and Nuclear Engineering	1
Math 162 Calculus I	4
Chem 121L General Chemistry	4
Engl 101 Composition I: Exposition	3
Core Humanities Elective ¹	3
	<hr/> 15

Second Semester

Math 163	Calculus II	4
Chem 122L	General Chemistry	4
C S 151L	Computer Programming Fundamentals for Non-Majors/Lab	3
Engl 102	Composition II: Analysis and Argument	3
Physcs 160	General Physics	3
		<hr/> 17

- ³ Physcs 262 or Biol 201, depending on the student's area of concentration.
- ⁴ A minimum of 12 credit hours of advanced chemistry, selected from among 302, 304L, 311, 312 or 431, depending upon the student's area of concentration. For illustrative purposes, the Spring semester Sophomore Year curriculum is shown assuming Chem 302 and 304L as the advanced chemistry concentration. Other advanced chemistry courses may be substituted. Additionally, up to 4 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.
- ⁵ C E 202, C E 304 or E CE 203L.

Second Year—First Semester

Ch-NE 251	Chemical Process Calculations I	3
Math 264	Calculus III	4
Chem 301	Organic Chemistry	3
Chem 303L	Organic Chemistry/Laboratory	1
Physcs 161	General Physics	3
Econ 105	Introductory Macroeconomics ²	3
		<hr/> 17

- ⁶ 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.

Second Semester

Ch-NE 253	Chemical Process Calculations II	3
Ch-NE 301	Thermodynamics	3
Math 316	Applied Ordinary Differential Equations	3
	Basic Science for Concentration ³	3
	Adv Chem for Concentration ⁴	4
		<hr/> 16

- ⁷ Students must file an application for the B.S. degree prior to the completion of 95 semester hours of applicable courses.

Third Year—First Semester

Ch-NE 311	Introduction to Transport Phenomena	4
Ch-NE 317	Chemical and Nuclear Engineering Analysis	3
Ch-NE 450	Chemical and Nuclear Engineering Economics	3
Engl 219	Technical and Professional Writing ²	3
	Adv Chem for Concentration ⁴	4
		<hr/> 17

- ⁸ Students are encouraged to take the Fundamentals of Engineering (FE) Examination during their senior year. This is the first formal step toward professional registration.

- ⁹ Only courses with grades of C- or better may be applied toward the bachelor of science degree in chemical engineering. Courses used to fulfill the University of New Mexico Core Curriculum require a grade of C or better.

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 in C++®. 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.

Second Semester

Ch-NE 302	Chemical Engineering Thermodynamics	3
Ch-NE 312	Unit Operations	2
Ch-NE 321	Mass Transfer	3
	Basic Engineering Elective ⁵	3
	Adv Chem for Concentration ⁴	4
	Core Humanities Elective ¹	3
		<hr/> 18

Fourth Year ^{7,8}—First Semester

Ch-NE 414L	Chemical Engineering Laboratory I	2
Ch-NE 451	Senior Seminar	1
Ch-NE 461	Chemical Reactor Engineering	3
Ch-NE 493L	Chemical Engineering Design Technical Elective ⁶	3
	Core Social/Behavioral Science Elective	3
		<hr/> 15

Second Semester

Ch-NE 415L	Chemical Engineering Laboratory II	3
Ch-NE 454	Process Dynamics and Control	3
Ch-NE 494L	Advanced Chemical Engineering Design	2
	Technical Elective ⁶	3
	Core Fine Arts ¹	3
	Core Second Language ¹	3
		<hr/> 17

Footnotes:

- ¹ Students should consult with advisors to obtain a list of acceptable core humanities, social/behavioral, fine arts and second language electives. These courses may be taken whenever convenient.
- ² Econ 105 and Engl 219 may be taken in either the sophomore or junior year.

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 south-west 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

Introduction

Nuclear engineering is an exciting, rapidly-evolving field which 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).

The objective of the University of New Mexico's nuclear engineering program are to provide:

- 1) An outstanding education that qualifies our graduates to work successfully as nuclear engineers or to serve as a foundation for advanced study in nuclear engineering or related fields or to seek professional degrees in fields such as medicine or law.
- 2.) Opportunities for our graduates to specialize in specific areas of nuclear engineering such as space nuclear power and propulsion.

The most up-to-date version of the 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 three 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 a 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 engineering 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 graduate students who are 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 developed in detail in our engineering economics course. 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.

Nuclear engineering graduate programs are available leading to a Master of Science and to a Doctor of Philosophy. Students from other disciplines who expect to do graduate work in nuclear engineering are advised to concentrate on physics, mathematics and nuclear engineering in the undergraduate course work in addition to their regular program.

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
Ch-NE 101	Introduction to Chemical Engineering and Nuclear Engineering	1	4
Chem 121L	General Chemistry	4	3
Engl 101	Composition I: Exposition	4	4
Math 162	Calculus I	4	3
	Core Humanities Elective ¹	3	
		15	

Second Semester		Cr. Hrs.	Lect/Lab
Physcs 160	General Physics	3	4
Chem 122L	General Chemistry	4	4
Math 163	Calculus II	4	3
Engl 102	Composition II: Analysis and Argument	3	3
C S 151L	Computer Programming Fundamentals for Non-Majors	3	3
		17	

Second Year—First Semester		Cr. Hrs.	Lect/Lab
Ch-NE 230	Principles of Radiation Protection	3	3
Physcs 161	General Physics	3	4
Math 264	Calculus III	4	3
C E 202	Engineering Statics	3	3
Econ 105	Introductory Macroeconomics	3	3
		16	

Second Semester		Cr. Hrs.	Lect/Lab
Ch-NE 231	Principles of Nuclear Engineering	3	3
Ch-NE 301	Thermodynamics	3	3
Physcs 262	General Physics	3	3
Math 316	Applied Ordinary Differential Equations	3	3
Engl 219	Technical and Professional Writing	3	3
E CE 203L	Circuit Analysis I	3	3
		18	

Third Year—First Semester		Cr. Hrs.	Lect/Lab
Ch-NE 311	Introduction to Transport Phenomena	4	3
Ch-NE 317	Chemical and Nuclear Engineering Analysis	3	3
Ch-NE 323L	Radiation Detection and Measurement	3	3
Ch-NE 450	Chemical and Nuclear Engineering Economics	3	3
	Core Social/Behavioral Elective ¹	3	3
		16	

Second Semester		Cr. Hrs.	Lect/Lab
Ch-NE 312	Unit Operations	2	3
Ch-NE 313L	Introduction to Laboratory Techniques for Nuclear Engineering	3	3
Ch-NE 314	Nuclear Systems	3	2
Ch-NE 330	Nuclear Engineering Science	2	3
Ch-NE 370	Engineering Materials Science	3	3
	Core Second Language Elective ¹	3	3
		16	

Fourth Year ^{3,4} —First Semester		Cr. Hrs.	Lect/Lab
Ch-NE 410	Nuclear Reactor Theory I	3	3
Ch-NE 464	Thermal-Hydraulics of Nuclear Systems	3	3
Ch-NE 497L	Introduction to Nuclear Engineering Design	3	3
	Technical Elective ¹	3	3
	Core Humanities Elective ¹	3	3
	Tech Elective ²	3	3
		18	

Second Semester		Cr. Hrs.	Lect/Lab
Ch-NE 413L	Nuclear Engineering Laboratory	3	1
Ch-NE 452	Senior Seminar	1	4
Ch-NE 498L	Nuclear Engineering Design	4	3
	Tech Elective ²	3	3
	Nuclear Engineering Tech Elective ⁵	3	3
	Core Fine Arts Elective ¹	3	3
		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- 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 pulsed neutron generator; 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 Computer and Information Resources and Technology Division. 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.

ENGINEERING

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

C. Jeffrey Brinker, 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 and in Nuclear Engineering, Ph.D. in Engineering

Concentrations: chemical engineering and nuclear engineering.

Master of Engineering

Concentration: Manufacturing

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 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.

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.

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 covers the four traditional core subject areas listed above, and it should be taken as soon as possible after entering the program. 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 is used to determine if the student should be advanced to candidacy status.

Current research programs in chemical engineering emphasize fundamental chemical engineering research, ceramics processing and materials science, biotechnology and semiconductor fabrication technology. 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 equipment in the chemical engineering research laboratories includes the following: aerosol reactors, chemical reactors, Autosorb-1 sorption analyzer, Sedigraph particle sizer, Coulter counter, ASAP2000 sorption analyzers (2), Kratos Axis HS X-ray Photoelectron Spectrometer, Hitachi S-5200 nano SEM, scanning and transmission electron microscopes, chemisorption, in-situ IR Spectroscopy, UHV chambers for surface science experiments, plasma etching equipment, semiconductor fabrication/characterization equipment, a process control laboratory, fossil energy characterization instrumentation and a scattering facility, including two rotating anode generators, Kratky, Pinhole, and Borse-Hart optics for SAXS, and two light scattering set-ups. Other equipment is available in the department for diffusion/absorption measurements, solar research, phase equilibria and biomedical research. In addition, facilities at the two associated Centers (Center for Micro-engineered Materials and the Center for High Technology Materials) as well as those at New Mexico's National Laboratories may be used by graduate students.

Nuclear Engineering

The Department of Chemical and Nuclear Engineering offers a M.S. Nuclear Engineering degree and a Ph.D. in 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 Ch NE 466—*Nuclear Environmental Safety Analysis*, Ch NE 525—*Chemical and Nuclear Engineering Analysis* and Ch NE 501-502—*Graduate 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 Ch NE 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, 1 semester hour of computer programming and 32 semester hours of mathematics (calculus level or above) and science. Students in the RPE program are required to take six core courses in health physics. These are Ch-NE 466—*Nuclear Environmental Safety Analysis*, Ch-NE 524—*Interaction of Radiation with Matter*, Ch-NE 528—*External Radiation Dosimetry*, Pharm 413—*Radiopharmacy Health Physics and Radiation Biology*, Ch-NE 529—*Internal Radiation Dosimetry* and Ch-NE 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 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.

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. Housed in the Nuclear Engineering Laboratory is the newly equipped Environmental Radiation Measurements Laboratory (ERML). ERML equipment includes: a thermoluminescent dosimetry system for environmental and personnel measurements, two high-purity Germanium detectors and a portable Ge detector and multi-channel analyzer for field use, a low-level alpha/beta counting system, pressurized ion chamber, air sampling instruments, a radon monitor and a liquid scintillation system specifically designed to analyze tritium and carbon-14 content. 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 Phillips Laboratories 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.

Chemical and Nuclear Engineering (Ch-NE)

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.

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.

Prerequisites: Chem 121L, 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.

Prerequisites: Chem 121L, Math 162. {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.

Prerequisites: Chem 122L or 132L, C S 151L. {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: C- or better in 251. {Spring}

301. Thermodynamics. (3)

(Also offered as M E 301.) Thermodynamic equilibrium 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.

Prerequisites: Chem 122L, Physcs 161, Math 264. {Summer, Fall, Spring}

302. Chemical Engineering Thermodynamics. (3)

Continuation of 301 with special emphasis on analysis of efficiency of chemical engineering processes and physical and/or chemical equilibrium. Open-ended projects investigating the thermodynamics of industrial systems.

Prerequisite: C- or better in 301. {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: C- or better in 231 or 253. Corequisite: 317. {Fall}

312. Unit Operations. (2)

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: C or better in 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. Corequisites: 312, 314.

314. Nuclear Systems. (3)

Applications of fluid flow, heat transfer and neutron diffusion theory in the nuclear industry. Types of nuclear power plants and the thermodynamics of energy conversion. Requires computer techniques and design concepts.

Prerequisites: 231, 301. Corequisite: 312.

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.

Prerequisites: C- or better in 231 or 301, Math 316. Corequisite: 311. {Fall}

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. Prediction of mass transport properties. Design of separation systems based on mass transfer.

Prerequisites: C- or better in 253 and 311.

****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 or equivalent. {Fall}

***330. Nuclear Engineering Science. (2)**

Nuclear reactions, cross sections and reaction rates, quantum effects, atomic structure, nuclear properties, nuclear stability and decay modes.

Prerequisites: 230, Math 316, Physcs 262.

370. Engineering Materials Science. (3)

(Also offered as M E 370L.) Structure of matter and its relation to mechanical properties. Mechanical behavior of structural materials: metals, ceramics and polymers.

Prerequisite: 301 or 302; C E 302 recommended.

405/505. High Performance Engines. (3)

(Also offered as M E 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: Engineering Thermodynamics equivalent to Ch-NE 301/M E 301.

***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, multi-group methods, topics selected from numerical methods for reactor analysis.

Prerequisites: 314 or its equivalent, 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.

Prerequisites: 314, 323L, 410 or equivalent. One lecture, 6 hrs. lab. {Spring}

414L. Chemical Engineering Laboratory I. (2)

Laboratory practice and experimental study of unit operations. Focus will be on the development of an experimental plan and the written presentation of results.

Prerequisites: 311, 312, Engl 219. 1 lecture, 5 hrs. lab. {Fall}

415L. Chemical Engineering Laboratory II. (3)

Capstone laboratory experience. Includes experiments in mass transfer, chemical kinetics, process control and areas of current developments. Students will be expected to tailor a group of experimental investigations to attack an assigned problem.

Prerequisites: 414L, 461. Corequisite: 454. One lecture, 8 hrs. lab. {Spring}

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.

Prerequisites: 436, 461. {Spring upon demand}

438/538. Biosensors. (3)

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.

***445. Ceramics Science I. (3)**

Study of ceramics science including ceramic powder synthesis, advanced characterization techniques, powder and colloidal processing and sintering of single phase and composite materials.

Prerequisite: 370 or equivalent materials background.

449/549. Seminar in Hazardous Waste Management. (1) Δ

A study of the factors, other than the scientific basis for design, that determine the feasibility of entering a given venture. Includes a design project which covers such topics as raw materials, markets, patents, competition and profitability. Students prepare short written assignments. May be repeated for credit, no limit, as subject matter varies each term. May be counted twice toward a degree.

450. Chemical and Nuclear Engineering Economics. (3)

A study of the factors, other than the scientific basis for design, that determine the feasibility of entering a given venture. Includes a design project which covers such topics as raw materials, markets, patents, competition and profitability.

Prerequisite: Econ 105 or equivalent. {Fall}

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: C or better in 317. {Spring}

****461. Chemical Reactor Engineering. (3)**

Elementary principles of chemical reactor design and operation utilizing the kinetics of homogeneous and heterogeneous-catalytic reactions.

Prerequisites: C or better in 311 and 317. {Fall}

***463. Radiation Shielding. (3)**

Characterization of radiation fields and interaction processes, sources of radiation, mathematical characterization of sources and interactions, radiation transport in one dimension and use of computer models to calculate radiation doses. Shield design using the computer models supplemented with hand calculations.

Prerequisites: 230, 317, 323L or equivalent. {Fall}

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.

Prerequisites: 311, 313L, 317 or equivalent. {Fall}

***466. Nuclear Environmental Safety Analysis. (3)**

Radiation environment, transport, shielding, dose calculations, safety, monitoring, guidelines and regulations; radioactive waste handling and disposal.

Prerequisites: 330, Math 316. Three lectures. {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.

Prerequisites: 231 or equivalent, 311. Recommended: 410, 464. {Spring}

***475. [474.] Polymer Science and Engineering. (3)**

Basic chemistry and synthesis reactions of polymers. Effect of polymer structure and composition on mechanical properties. Viscoelastic behavior of amorphous polymers and response of crystalline polymers to stress. Electrical and optical properties. Fabrication, selection and evaluation of plastics.

Prerequisite: 461 or equivalent. Recommended: Chem 301. {Offered upon demand}

***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.

Prerequisites: 302, 461. {Spring upon demand}

478/578. VLSI Process and Material Technology. (3)

Modern principles and practices of microelectronic device fabrications of chemical engineering unit operation principles to VLSI processing including oxidation, diffusion deposition, lithography, plasma etching, ion implantation and metallization. Computer aided process simulation.

Prerequisite: 311 or permission of instructor. {Offered upon demand}

***485. Fusion Technology. (3)**

(Also offered as E CE 485.) The technology of fusion reactor systems including basic magnetic and inertial confinement physics; system designs; material considerations; shielding; blanket design; fuel cycle; plant operations; magnets; and ICF drivers. Students will design a fusion reactor.

Prerequisite: 330 or senior standing in engineering or physical sciences. Three lectures. {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, feasibility studies, equipment specification, process modeling and simulation, process optimization and scale-up.

Prerequisites: C or better in 253, 302, 312, 321.

494L. Advanced Chemical Engineering Design. (2)

Continued practice in creative engineering design emphasizing in-depth design of commercial-scale chemical processes. Detailed study of at least one major design problem.

Prerequisite: C or better in 493L.

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.

Prerequisites: 317, Math 316. Pre- or corequisites: 410, 464. Two lectures, 2 hrs. 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: 497L. Three lecture, 3 hrs. lab. {Spring}

499. Selected Topics. (1-3)

A course which permits various faculty members to present detailed examinations of developing sciences and technologies in a classroom setting. {Offered upon demand}

501. [501–502.] Chemical and Nuclear Engineering**Seminar. (1)** [1-2, 1] Δ

Colloquia, special lectures and individual study in areas of current research. May be repeated for credit, no limit. A maximum of 3 credits can be applied toward degree. {Fall, Spring}

502. [501–502.] Chemical and Nuclear Engineering**Research Methods Seminar. [Chemical and Nuclear****Engineering Seminar.] (1)** [1-2, 1] Δ

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}

505/405. High Performance Engines. (3)

(Also offered as M E 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 Ch-NE 301/M E 301.

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.

Prerequisites: 410, Math 312. {Spring}

513L. Nuclear Engineering Laboratory II. (1-4)

Laboratory investigations of the theory and practice of nuclear chain reacting systems. Experiments on the department's AGN-201M reactor, the ACPR and SPR at LANL. Course credit determined for each student based on the extent of related laboratory work in his or her undergraduate program. Up to 4 credits may apply toward degree.

Pre- or corequisites: 323L, 511. One lecture, 6 hrs. lab. {Spring upon demand}

515. Special Topics. (1-3 to a maximum of 9) Δ

{Offered upon demand}

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.

Prerequisites: 317, 323L or equivalent. {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.

Prerequisite: Math 316 or equivalent. {Spring}

523L. Environmental Measurements Laboratory. (1-4)

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. Up to 4 credits may apply toward degree.

Prerequisite: 323L or permission of instructor. Two lectures, 3 hrs. 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.

Corequisite: 466. {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.

Prerequisite: Math 316 or equivalent. {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}

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 corequisites: 466, 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.

Prerequisites: 466, 524. {Fall}

534. Plasma Physics I. (3)

(Also offered as Astr, Physcs, E CE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, non-linear effects, applications.

Prerequisite: permission of instructor. {Fall}

535. Plasma Physics II. (3)

(Also offered as Physcs, E CE 535.) 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.

Prerequisite: 534 or Physcs 534. {Spring in alternate years}

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.

Prerequisite: 436, 461. {Spring upon demand}

538/438. Biosensors. (3)

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.

542. Advanced Chemical Engineering Thermodynamics. (3)
Advanced thermodynamics with reference to its application in chemical engineering. (Fall)

545. Pulsed Power and Charged Particle Acceleration. (3)
(Also offered as E CE 557.) 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.
Prerequisite: preparation in classical mechanics and electromagnetics. (360 or equivalent.)

546. Charged Particle Beams. (3 to a maximum of 9) Δ
(Also offered as E CE 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, design of electron and ion guns, transport at high power levels and beam instabilities.
Prerequisite: E CE 557 or Ch-NE 545.

549/449. Seminar in Hazardous Waste Management. (1) 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 repeated for credit, no limit, as subject matter varies each term. May be counted twice toward a degree.

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 E CE 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: E CE 534 or equivalent.

555. Gaseous Electronics. (3)
(Also offered as E CE 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: 511. Recommended: E CE 446. (Fall 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.

Prerequisites: 463, 525 or equivalent. (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.
Prerequisites: 311, 313L, 317 or equivalent. (Fall)

566. Methods of Nuclear Reactor Safety. (3)
Development and use of logic-based methods for risk identification and assessment in nuclear facilities. Includes risk trees for nuclear reactor safety, logic trees for physical protection.
Prerequisites: 231, 410 or permission of instructor. (Spring)

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.
Prerequisites: 231 or equivalent, 311. Recommended: 410, 464. (Spring)

575. Selected Topics in Material Science. (1-3) 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)
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.
Prerequisites: 302, 461. (Spring upon demand)

578/478. VLSI Process and Material Technology. (3)
Modern principles and practices of microelectronic device fabrications of chemical engineering unit operation principles to VLSI processing including oxidation, diffusion deposition, lithography, plasma etching, ion implantation and metallization. Computer aided process simulation.
Prerequisite: 311 or permission of instructor. (Offered upon demand)

580. Advanced Plasma Physics. (3)
(Also offered as Physcs, E CE 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 Physcs 534. (Spring 2004 and 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 or permission of instructor. (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. Radiation Protection Practicum. (6)

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.
Prerequisite: permission of Program Advisor. {Summer, Fall, Spring}

599. Master's Thesis. (1-6)

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)

See Graduate Programs section for total credit requirements.
Offered on a CR/NC basis only.

CIVIL ENGINEERING

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Introduction

The mission of the Department of Civil Engineering at the University of New Mexico is to provide high-quality learning experiences for civil and construction engineering students and lifelong education for practicing engineers, and to develop and disseminate new knowledge to meet the engineering needs of New Mexico and the world. The department is also committed to providing corresponding service to students, practitioners and the community involved in construction management.

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 objectives of the two engineering programs in the Department of Civil Engineering are to:

1. Provide a basic understanding of engineering principles
2. Provide preparation for engineering practice
3. Provide preparation for further study
4. Prepare students for service to society
5. Prepare students to adhere to the Engineering Code of Ethics, which states in part: "Engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties."

Engineering Program Outcomes

Engineering graduates from the department should achieve the skills and have the incentive to become registered professional engineers. The outcomes for the civil and construction engineering programs are:

1. Graduates will achieve an appropriate level of technical competence based on:
 - a. an understanding of basic scientific principles, including calculus, differential equations, mechanics, properties of matter and related topics.
 - b. a familiarity with the modern tools for engineering analysis, including computers and sophisticated laboratory equipment.
 - c. an ability to approach and solve engineering problems in a structured manner.
 - d. synthesis of knowledge from various sources to produce creative, cost-effective designs for civil engineering facilities.
 - e. in addition, the construction engineering program has a goal of producing students with an understanding of basic accounting and business management principles.
2. Graduates will be prepared for the engineering profession through:
 - a. a knowledge of human relations.
 - b. a recognition of the necessity to join and actively participate in professional societies.
 - c. a commitment to becoming registered as professional engineers.
 - d. an ability to communicate effectively, both in written and oral forms, as well as an ability to listen.
 - e. a sensitivity to and practice of personal and professional ethics.
 - f. an ability to work effectively in teams.
3. Graduates will have an educated view of the world, including:
 - a. an understanding of the role and limitations of technology in addressing society's problems.
 - b. an exposure to the cultural, historical and philosophical foundations of society.
 - c. a knowledge of the political and economic systems, particularly those that affect the planning, design, construction and operation of the infrastructure.
 - d. a basic understanding of societal and environmental issues as they affect engineering decisions.
4. Graduates will be prepared for lifelong education:
 - a. their academic training will lay the foundation for students to pursue further education through independent study, short courses and graduate education.
 - b. they are committed to pursuing lifelong education that will enhance their professional capabilities.

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	4
Chem 121L	General Chemistry/Lab	4
M E 160L	Mechanical Engineering Design I	3
	Core Humanities Elective ¹	3
		<hr/> 17

Second Semester		
Engl 102	Composition II: Analysis and Argument ¹	3
Math 163	Calculus II	4
Chem 122L	General Chemistry/Lab	4
C S 151L	Computer Programming Fundamentals for Non-Majors/Lab	3
Physcs 160	General Physics	3
		<hr/> 17

Second Year—First Semester		
Math 264	Calculus III	4
Physcs 161	General Physics	3
C E 202	Engineering Statics	3
C E 283L	Transportation System Measure	3
	Core Fine Arts elective ¹	3
		<hr/> 16

Second Semester		
Math 316	Applied Ordinary Differential Equations	3
C E 352	Computer Applications in Civil Engineering	3
M E 306	Dynamics	3
Econ 105	Introductory Macroeconomics ¹	3
Engl 219	Technical and Professional Writing ¹	3
		<hr/> 15

Third Year—First Semester		
C E 302	Mechanics of Materials	3
C E 305L	Civil Engineering Materials/Lab	4
C E 331L	Fluid Mechanics/Lab	4
C E 354	Probability and Statistics for Civil Engineers	3
C E 382	Transportation Engineering	3
		<hr/> 17

Second Semester		
C E 308	Structural Analysis	3
C E 310L	Structural Design I	4
C E 335	Introduction to Water And Wastewater Treatment	3
C E 350	Engineering Economy	3
C E 360L	Soil Mechanics/Lab	4
		<hr/> 17

Fourth Year²—First Semester		
C E 442	Hydraulic Engineering and Hydrology	3
C E 372	Construction Contracting	3
	Technical Elective D ³	3
	EngrSci elective E CE 203L	
	—or— Ch-NE/M E 301	3
	Core Humanities elective ¹	3
		<hr/> 15

Second Semester		
C E 409	Engineering Ethics	1
C E 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
		<hr/> 16

Notes:

- ¹ Specific Core Curriculum requirements.
- ² Students must take the Fundamentals of Engineering Exam prior to graduation.
- ³ Technical elective D: C E 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

First Year—First Semester		Credits
Engl 101	Composition I: Exposition ¹	3
Math 162	Calculus I	4
Chem 121L	General Chemistry/Lab	4
M E 160L	Mechanical Engineering Design I	3
	Core Humanities Elective ¹	3
		<hr/> 17

Second Semester		Credits
Engl 102	Composition II: Analysis and Argument ¹	3
Math 163	Calculus II	4
C S 151L	Computer Programming Fundamentals for Non-Majors/Lab	3
Physcs 160	General Physics	3
E&PS 101	Introduction to Geology	3
	—or—	
Chem 122L	General Chemistry/Lab	3
		<hr/> 16

Second Year—First Semester		Credits
Math 264	Calculus III	4
Physcs 161	General Physics	3
C E 202	Engineering Statics	3
C E 283L	Transportation System Measurements	3
Econ 105	Introductory Macroeconomics ¹	3
		<hr/> 16

Second Semester		Credits
Math 316	Applied Ordinary Differential Equations	3
C E 352	Computer Applications in Civil Engineering	3
M E 306	Dynamics	3
Engl 219	Technical and Professional Writing ¹	3
	Core Fine Arts Elective ¹	3
		<hr/> 15

Third Year—First Semester		Credits
C E 302	Mech of Materials	3
C E 305L	Civil Engineering Materials	4
C E 372	Construction Contracting	3
C E 350	Engineering Economy	3
C E 354	Probability and Statistics for Civil Engineers	3
		<hr/> 16

Second Semester		Credits
C E 308	Structural Analysis	3
C E 310L	Structural Design I	4
C E 360L	Soil Mechanics/Lab	4
C E 370	Construction Methods and Equipment	3
	Core Humanities Elective ¹	3
		<hr/> 17

Fourth Year ² —First Semester		Credits
C E 331L	Fluid Mechanics/Lab	4
C E 477	Advanced Planning and Estimating	3
C E 478	Design of Temporary Support Structures	3
C E 495	Construction Internship	1
Mgt 202	Principles of Financial Accounting	3
	Core Second Language Elective ¹	3
		<hr/> 17

Second Semester		Credits
C E 409	Engineering Ethics	1
C E 479L	Methods Improvement/Lab	3
C E 499L	Design of Civil Engineering Systems	3
Mgt 303	Managerial Accounting	3
	Core Social/Behavioral Sciences Elective ¹	3
	Engr Sci elective E CE 203	3
	—or— Ch-NE/M E 301	
		<hr/> 16

Notes:

- ¹ Specific Core Curriculum requirements.
- ² Students must take the Fundamentals of Engineering Exam prior to graduation.
- ³ Course must be taken at Albuquerque TVI.

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. The outcomes for this program are:

1. Graduates will achieve competence in construction topics, including:
 - a. an understanding of the elements of calculus, probability and statistics and general physics.
 - b. architectural (in contrast to structural) design concepts.
 - c. scientific management principles applied to construction.
2. Graduates will achieve competence in management through:
 - a. a knowledge of human relations.
 - b. an ability to communicate effectively, both written and oral, as well as an ability to listen.
 - c. an appreciation of ethical principles.
3. Graduates will have an educated view of the world, including:
 - a. an understanding of the role and limitations of technology in addressing society's problems.
 - b. an exposure to the cultural, historical and philosophical foundations of society.
 - c. a knowledge of the political and economic systems, particularly those that affect the planning, design, construction and operation of the infrastructure.
 - d. an appreciation for aesthetics and the environment.

Minor Study Requirements

Students may earn a minor in construction management by completing the following courses with a grade of C- or better: C E 350 or Mgt 326, C E 372 and Mgt 300 or Mgt 362, plus three courses from C E 473, C E 474, C E 475, C E 477 and C E 479L.

Curriculum in Construction Management

Construction Management is a four-year program that combines basic physical science, management, business and field construction knowledge. The development of 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: 129

First Year—First Semester		Credits
Chem 111L	General Chemistry/Lab	4
Engl 101	Composition I: Exposition ¹	3
Math 121	College Algebra	3
E&PS 101	How the Earth Works—An Introduction to Geology	3
C E 130	Construction Detailing ²	3
		<hr/> 16

Second Semester		Credits
C S 150L	Computing for Business Students	3
Engl 102	Composition II: Analysis and Argument ¹	3
Math 123	Trigonometry	3
C E 132L	Core Humanities Elective ¹	3
C E 171	Construction Graphics and Methods ²	3
C E 171	Construction Materials and Techniques ²	3
		<hr/> 18

Second Year—First Semester		Credits
Math 180	Elements of Calculus I	3
Physcs 151	General Physics	3
C E 257	Construction Engineering ²	3
C E 279	Mechanical Electrical Systems Construction ²	3
Econ 105	Introductory Macroeconomics	3
	—or— Econ 106 Introductory Microeconomics ¹	3
		<hr/> 15

Second Semester		Credits
Arch 381	Structures I	3
C E 283L	Transportation System Measurements	3
Engl 219	Technical and Professional Writing ¹	3
C E 277	Construction Project Management ²	3
Mgt 202	Principles of Financial Accounting	3
	Core Fine Arts Elective ¹	3
		<hr/> 18

Third Year—First Semester		Credits
Arch 382	Structures II	3
C E 350	Engineering Economy	3
C E 473	Construction Law	3
Stat 245	Introduction to Business Statistics	3
Mgt 303	Managerial Accounting	3
		<hr/> 15

Second Semester		Credits
C E 370	Construction Methods and Equipment	3
C E 474	Principles of Written Construction Documents	3
	C E/Arch Elective ³	3
	Mgt Elective ³	3
	Core Second Lang Elective ¹	3
		<hr/> 15

Fourth Year—First Semester		Credits
C E 475	Construction Safety	3
C E 477	Advanced Planning and Estimating	3
C E 478	Design of Temporary Support Structures	3
C E 495	Construction Internship	1
	Mgt Elective ³	3
	Core Soc/Behav Sci Elective ¹	3
		<hr/> 16

Second Semester		Credits
C E 409	Engineering Ethics	1
C E 479L	Methods Improvement	3
C E 497L	Design Construction Integration	3
	Const Elective ³	3
	Mgt Elective ³	3
	Core Humanities Elective ¹	3
		<hr/> 16

Notes:

- ¹ Core Curriculum electives from approved lists.
- ² Course must be taken at Albuquerque TVI.
- ³ See Department for approved C E/Arch, Const and Mgt 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
Bruce M. Thomson

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 II¹

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 compe-

tence 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>).

Civil Engineering (C E)

130. Construction Detailing. (3)

Basics of construction detailing and comprehension of working drawing sets.

132L. Construction Graphics and Methods. (3)

Principles and techniques of computer graphic applications used in the construction industry using AutoCAD® 2000.
Prerequisite: 130.

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; friction.
Prerequisites: Physcs 160, Math 163.

257. Construction Engineering. (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. Seven levels of construction estimating are surveyed and applied.
Prerequisite: 171 or estimating experience.

277. Construction Project Management. (3)

Introduction to construction processes and techniques for transforming contract documents and estimating into project schedules. Survey of scheduling techniques and software. Analysis of basic project tasks, controlling for time and work materials.
Prerequisite: 257.

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.

283L. 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.

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 C E or M E students.
Prerequisites: Physcs 160, Math 264.

305L. Civil Engineering Materials. (4)

Lecture and laboratory studies of the physical, structural, mechanical and chemical properties of civil engineering materials including cementitious and bituminous materials, metals, wood and composites. Experimental determination of material properties.
Prerequisite: Engl 219. Corequisite: 302. Three hours lecture, 3 hours lab.

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.

310L. 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.
Prerequisite: 305L. Three lectures and 2 hrs. lab.

331L. 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 corequisites: M E 306, C E 202. Three lectures, 3 hrs. lab.

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.
Prerequisites: 331L, Chem 122L.

350. Engineering Economy. (3)

(Also offered as M E 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: junior 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.
Prerequisites: 283L, M E 160L.

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.

360L. 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, 3 hrs. lab.

370. [470./570.] Construction Methods and Equipment. (3)

Comprehensive study of the ownership and operating costs, production rates and operating characteristics of the major construction equipment types.
Prerequisites: 350, senior standing.

****372. [*472.] 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.
Prerequisite: senior standing.

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.

409. Engineering Ethics. (1)

(Also offered as E CE, M E 409.) 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.
Prerequisite: 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: 310L.

***412. Introduction to Continuum Mechanics. (3)**

(Also offered as M E 412.) 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.
Prerequisite: Math 311 or senior standing in engineering, physics or mathematics.

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.

424/524. Structural Design in Metals. (3)

Design of steel systems in accordance with LRFD design specifications.
Prerequisite: 310L.

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.

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 or permission of instructor. Two lectures, 3 hrs. 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: 331L.

441/541. Groundwater Engineering. (3)

Hydraulics of groundwater flow, well hydraulics, subsurface water quality and groundwater management.
Prerequisite: 442 or permission of instructor.

***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: 331L.

448/548. Fuzzy Logic and Applications. (3)

(Also offered as E CE 448.) 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.
Prerequisites: Math 162, familiarity with basic set theory.

****455. Engineering Project Management. (3)**

(Also offered as M E 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.
Prerequisite: 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 sub-structures.
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: 360L.

466/566. Highway and Airport Pavements. (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: 360L.

***471. Construction Professional Practice. (1)**

Practical issues facing the construction profession, including ethics, business decisions, professional certification and societies.
Prerequisite: senior standing in construction management/engineering.

***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.
Prerequisite: 277.

***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.
Prerequisite: Engl 219.

475/575. 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.

477/577. Advanced Planning and Estimating. (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: 277 or equivalent.

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 Arch 382.

479L/579L. Methods Improvement. (3)

Management of productivity, involving preplanning, work sampling, time lapse photography, methods analysis and methods improvement related to on-site construction. Safety, motivation and worker satisfaction as related to productivity are included.
Prerequisite: senior standing. Two lectures, 3 hrs. lab.

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.

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.

***491-492. Special Topics in Civil Engineering. (1-3, 1-3 to a maximum of 6)**

Advanced studies in various areas of civil engineering.

493. Special Topics in Civil Engineering—Honors. (1-3 to a maximum of 6)

Prerequisite: 3.20 GPA.

494. Honors Seminar. (3 to a maximum of 6) [3] Δ

Prerequisite: 3.20 GPA.

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.
Prerequisite: junior standing or instructor approval.

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.
Corequisites: 477, 479L.

499L. 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.

Prerequisites: 310L, 335, 350, 360L, 382, 442, as well as two technical elective design courses, one of which may be taken concurrently.

501. Advanced Mechanics of Materials. (3)

(Also offered as M E 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. Prerequisite: 302.

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. Prerequisite: 501 or permission of instructor.

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. Prerequisite: 411.

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. Prerequisites: 412, 501, Math 312.

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. Prerequisite: 310L.

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. Prerequisites: 402 or 501, Math 312 or permission of instructor.

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. Prerequisites: 308, M E 306, Math 316.

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. Prerequisite: 520.

524/424. Structural Design in Metals. (3)

Design of steel systems in accordance with LRFD design specifications. Prerequisite: 310L.

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. Prerequisite: 335.

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. Prerequisite: 531.

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. Prerequisite: 437L or permission of instructor.

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. Prerequisite: 335.

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. Prerequisite: 335 or permission of instructor. Two lectures, 3 hrs. lab.

539. Radioactive Waste Management (3)

(Also offered as Ch-NE 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. Prerequisite: 331L.

541/441. Groundwater Engineering. (3)

Hydraulics of groundwater flow, well hydraulics, subsurface water quality and groundwater management. Prerequisite: 442 or permission of instructor.

542. Intermediate Hydrology. (3)

Hydrometeorology, interception, depression storage, infiltration, hydrograph analysis, flood routing, urban hydrology, groundwater analysis and utilization. Prerequisite: 442.

543. Introduction to Groundwater and Contaminant Transport Modeling. (3)

Principles and applications of analytical and numerical modeling of groundwater flow and contaminant transport. Development of the flow and transport equations for saturated and unsaturated media. Presentation of finite difference, finite element and stochastic methods.
Prerequisite: 441 or equivalent.

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.
Prerequisite: permission of instructor.

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.
Prerequisite: 442.

546. Hydraulic Structures. (3)

Design of hydraulic structures such as spillways, stilling basins, concrete dams, canals, measuring devices, sediment excluders and other hydraulic devices.
Prerequisite: 535.

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.
Prerequisite: graduate standing or approval of the instructor.

548/448. Fuzzy Logic and Applications. (3)

(Also offered as E 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.
Prerequisites: Math 162, familiarity with basic set theory.

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.
Prerequisite: graduate standing or approval of the instructor.

551. Problems. (1-3 to a maximum of 6) [1-3] 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.
Prerequisite: Math 316.

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.
Prerequisite: 360L or permission of instructor.

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.
Prerequisite: 560. One lecture, 6 hrs. lab.

562/462. Foundation Engineering I. (3)

Application of principles of soil mechanics to analysis and design of footings, piles, caissons, cofferdams and other sub-structures.
Prerequisite: 360L.

563. Earth Structures. (3)

Analysis and design of earth dams, embankments and excavations; seepage, slope stability. Buried structures, conduits and culverts. Computer applications.
Prerequisite: 462.

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.
Prerequisite: 360L.

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.
Prerequisite: 360L or permission of instructor.

566/466. Highway and Airport Pavements. (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: 360L.

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.
Prerequisite: 462.

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.
Prerequisite: 360L.

572. Construction Project Management. (3)

Management principles as applied to the time and cost control of a construction project; planning and scheduling using CPM, least cost expediting, resource leveling, field cost accounting.

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.

577/477. Advanced Planning and Estimating. (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: 277 or equivalent.

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.
Prerequisite: 308 or Arch 382.

579L/479L. Methods Improvement. (3)

Management of productivity, involving preplanning, work sampling, time lapse photography, methods analysis and methods improvement related to on-site construction. Safety, motivation and worker satisfaction as related to productivity are included.
Prerequisite: senior standing. Two lectures, 3 hrs. lab.

580. Highway Traffic Design. (3)

Basic principles and geometric design of roadways, road-sides, interchanges and intersections.
Prerequisite: 483.

581. Urban Transportation Planning. (3)

Planning aspects of highway transportation including transportation goals, transportation forecasting techniques and models, selection between alternate solutions, financing improvements.
Prerequisite: 483.

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.
Prerequisite: 382.

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.
Prerequisite: 382.

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.

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. Offered on a CR/NC basis only.
Prerequisites: advanced graduate standing and advance permission of instructor. Plan II only.

598. Selected Topics. (1-3 to a maximum of 6) [1-3] 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)
Offered on a CR/NC basis only.

650. Research. (1-6 to a maximum of 12)

691. Seminar. (1 to a maximum of 4) [1] Δ
Offered on a CR/NC basis only.

699. Dissertation. (3-12)
Offered on a CR/NC basis only.

COMPUTER SCIENCE

Deepak Kapur, Chairperson
Computer Science Department
Farris Engineering Center 157
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Albuquerque, NM 87131-0001
(505) 277-3112

Professors

Edward S. Angel, Ph.D., University of Southern California
Stephanie Forrest, Ph.D., University of Michigan
Paul A. Helman, Ph.D., University of Michigan
Deepak Kapur, Ph.D., Massachusetts Institute of Technology
George F. Luger, Ph.D., University of Pennsylvania
Bernard M. E. Moret, Ph.D., University of Tennessee
Robert L. Veroff, Ph.D., Northwestern University

Associate Professors

David H. Ackley, Ph.D., Carnegie Mellon University
Arthur B. Maccabe, Ph.D., Georgia Institute of Technology
Lance R. Williams, Ph.D., University of Massachusetts

Assistant Professors

Patrick G. Bridges, Ph.D., University of Arizona
Terran D. Lane, Ph.D., Purdue University
Shuang Luan, Ph.D., University of Notre Dame
Christopher D. Moore, Ph.D., Cornell University
Jared C. Saia, Ph.D., University of Washington
Darko J. Stefanovic, Ph.D., University of Massachusetts

Professors Emeriti

Stoughton Bell II, Ph.D., University of California (Berkeley)
John M. Brayer, Ph.D., Purdue University
Charles P. Crowley, Ph.D., University of Washington
Edgar J. Gilbert, Ph.D., University of California (Berkeley)
Harold K. Knudsen, Ph.D., University of California (Berkeley)
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

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.

- Communicate effectively in both oral and written modes.
- Understand and respect the professional standards of ethics expected of a computer scientist as well as appreciate the social impact of computing.
- 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:

- A minimum of 30 hours of credit acceptable toward the degree with a grade of C- or better in all courses counted in the 30 hours and an overall academic average for all courses taken at the University of New Mexico of not less than 2.50.
- Twenty-four hours taken from among the communications skills, computer science, mathematics and laboratory science graduation requirements, with an academic average of not less than 2.70 in the 24 hours. Engl 101, Engl 102, C S 152L and Math 162 must be included in the 24 hours, with a grade of no less than B- received in each of C S 152L and Math 162.

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 47 hour computer science course work graduation

requirement. Courses not accepted toward the 47 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 the student must have completed 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.

- Completion of 130 semester hours.
- Completion of at least 42 hours in courses numbered 300 or above.
- Completion of 47 hours in computer science with a GPA of not less than 2.3 in the 47 hours presented. The 47 hours must include the following courses, which total 41 hours:

C S 152L	Computer Programming Fundamentals for Computer Science Majors
C S 261	Mathematical Foundations of Computer Science
E CE 238L	Computer Logic Design
C S 241L	Data Organization
C S 251L	Intermediate Programming
C S 257L	Nonimperative Programming
C S 293	Social and Ethical Issues in Computing
C S 341L	Introduction to Computing Systems
C S 351L	Design of Large Programs
C S 361L	Data Structures and Algorithms I
C S 362	Data Structures and Algorithms II
C S 451	Programming Paradigms
C S 460	Software Engineering
C S 481	Operating Systems Principles

The remaining 6 hours are technical electives of the student's choosing to be taken from among the Computer Science Department offerings. Several 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.

C S 259L may be substituted for C S 152L and C S 251L but only 5 hours credit is awarded. The computer science hour requirement is reduced to 46, but the overall graduation requirement remains at 130.

The following additional rules apply.

- 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, 365, 492, 494 and 590.
 - At most 3 hours of C S 499 may be used toward satisfaction of this requirement.
 - 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.
 - At least 18 credits must be taken in the Computer Science Department at the University of New Mexico.
- Completion of the mathematics sequence:
 - Math 162 and 163 (Calculus I and II)
 - Math 314 (or 321) (Linear Algebra with Applications)
 - Stat 345 (Elements of Mathematical Statistics and Probability Theory)
 - Math 375 (Introduction to Numerical Computing)
 It is recommended that students who minor in mathematics or wish to take additional mathematics as general electives take Math 316 (*Applied Ordinary*

Differential Equations), as this better prepares the student for Math 375.

5. Nine hours of communications skills: English 101, English 102 and one of English 219 (*Technical and Professional Writing*), English 220 (*Expository Writing*) or Communication and Journalism 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 English 101 and 102. When a student is exempted from English 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 in humanities, social science, fine arts and second language. 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.
Astronomy 270–270L, 271–271L
Biology 202, 203L, 204L
Chemistry 121L–122L
Earth and Planetary Sciences 101–105L and 201L or Env Sc 101–102L and Earth and Planetary Sciences 201L;
Physics 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 concentrations of courses taken from the Department of Electrical and Computer Engineering satisfy this requirement:

Minor in Computer Engineering: E CE 203L, E CE 206L, E CE 213, E CE 321, E CE 322, E CE 338 and E CE 438.

Minor in Electrical Engineering: E CE 203L, E CE 206L, E CE 213, E CE 314, E CE 321 and two of E CE 322, E CE 340, E CE 360, E CE 371, or E CE 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: Mgt 290 (Stat 245), 301, 329, 331, 337 and 371, 459, 460, 461.

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 C S 150L after having taken C S 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 E CE 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 the following courses: C S 152L, C S 261, C S 241L, C S 251L and either

- i. E CE 238L and two of C S 341L, C S 351L, 361L; or
- ii. C S 257L, C S 351L and C S 361L.

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
		<hr/> 17

First Year—Second Semester		Credits
Engl 102	Composition II: Analysis and Argument	3
C S 241L	Data Organization	
	—or—	
C S 251L	Intermediate Programming	3
Math 163	Calculus II	4
	Core Requirement	3
	Laboratory Science II	4
		<hr/> 17

Second Year—First Semester		Credits
C S 241L	Data Organization	
	—or—	
C S 251L	Intermediate Programming	3
CS 293	Social and Ethical Issues in Computing	1
E CE 238L	Computer Logic Design	4
Math 314	Linear Algebra with Applications	3
	Laboratory Science III	3
	Minor/Core/Electives	3
		<hr/> 17

Second Year—Second Semester		Credits
C S 261	Mathematical Foundations of Computer Science	3
C S 257L	Nonimperative Programming	3
	English Communications Elective	3
	Laboratory Science IV	3
	Minor/Core/Electives	6
		<hr/> 18

Third Year—First Semester		Credits
C S 341L	Introduction to Computing Systems	3
C S 351L	Design of Large Programs/Lab	3
Stat 345	Elements of Mathematical Statistics and Probability Theory	3
	Minor/Core/Electives	9
		<hr/> 18

Third Year—Second Semester		Credits
C S 361L	Data Structures and Algorithms I	3
Math 375	Introduction to Numerical Computing	3
C S 4xx	Elective	3
	Minor/Core/Electives	6
		<hr/> 15

Fourth Year—First Semester		Credits
C S 362	Data Structures and Algorithms II	3
C S 460	Software Engineering	3
C S 4xx	Elective	3
	Minor/Core/Electives	6
		<hr/> 15

Fourth Year—Second Semester		Credits
C S 451	Programming Paradigms	3
C S 481	Digital Computer Operating Systems	3
	Minor/Core/Electives	9
		<hr/> 15

Graduate Program

Admissions Coordinator

Darko J. Stefanovic

Department of Computer Science Application Deadlines

Fall semester: January 15
 Spring semester: August 15
 Summer session: Applications not accepted.

NOTE: International students may have additional deadlines; please contact International Admissions.

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 C S 152L, 261, 251L, 257L, 341L, 351L, 361L, 362, 441, 451, 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 has two tracks, each with its own set of requirements. Students can get an M.S. under either track. Both tracks are offered under Plans I and II.

Graduation (M.S. Track 1)

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. Exactly 2 semester hours of C S 592 (*Colloquium*), taken at the University of New Mexico.
3. At least 18 hours must be in regularly scheduled and special-topics courses offered by the Computer Science Department; this specifically excludes thesis and individual study.
4. In addition to Colloquium, at least 15 of the 32 hours must be in courses offered by the Computer Science Department at the 500 level or above.
5. Students graduating under Plan I must take a minimum of 6 hours of C S 599 and submit an acceptable thesis. Only 6 hours of C S 599 may be counted toward the 32 hours.
6. Completion of four common core courses: C S 500 (*Introduction to the Theory of Computation*), C S 530 (*Geometric and Probabilistic Methods in Computer Science*), C S 580 (*The Specification of Software Systems*) and a course in complex adaptive systems (contact the department for a list of acceptable courses).
7. Completion of an advanced course in algorithms: contact the department for a list of acceptable courses.
8. Completion of an advanced course in system design: contact the department for a list of acceptable courses.
9. 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 a written examination based on the five courses C S 362, 451, 481, 500 and 530.

A brochure describing the program and requirements can be obtained from the department.

Graduation (M.S. Track 2)

In addition to all Office of Graduate Studies requirements for the master's degree, the department also requires the following:

1. Thirty-five semester hours of approved graduate courses.
2. Exactly 2 semester hours of C S 592 (*Colloquium*), taken at the University of New Mexico.
3. At least 18 hours must be in regularly scheduled and special-topics courses offered by the Computer Science Department; this specifically excludes thesis and individual study.
4. In addition to Colloquium, at least 18 of the 35 hours must be in courses offered by the Computer Science Department at the 500 level or above.
5. Students graduating under Plan I must take a minimum of 6 hours of C S 599 and submit an acceptable thesis. Only 6 hours of C S 599 may be counted toward the 35 hours.
6. Completion of any three of the four common core courses: C S 500 (*Introduction to the Theory of Computation*), C S 530 (*Geometric and Probabilistic Methods in Computer Science*), C S 580 (*The Specification of Software Systems*) and a course in complex adaptive systems (contact the department for a list of acceptable courses).
7. Completion of one of several concentrations defined and approved by the faculty of the Computer Science Department. These concentrations will comprise 9 to 12 units. Plan I students can apply 3 units of 599 towards their concentration.
9. 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 a written examination based on the five courses C S 362, 451, 481, 500 and 530. Adjustments in the exam will be made depending on which core courses the student took.

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: C S 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 (C S)

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) [1]

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 or permission of the instructor.

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.

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.

Prerequisites: Math 150 and basic knowledge of Unix®. (Students unfamiliar with Unix® can obtain this knowledge from 131L or M E 160L.) Three lectures, 1 hr. recitation.

152L. Computer Programming Fundamentals for Computer Science Majors. (3)

An introduction to the art of computing. Intended for Computer Science majors or minors. The objective of the course is an understanding of the relationship between computing and problem solving.

Prerequisites: Math 150 and basic knowledge of Unix®. (Students unfamiliar with Unix® can obtain this knowledge from 131L or M E 160L.) Three lectures, 1 hr. recitation.

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: 151 or equivalent.

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. Three lectures, 1 hr. recitation.

257L. Nonimperative Programming. (3)

Experience with applicative/functional programming languages (Scheme). Lists, recursion, associative arrays, trees. User interface toolkits. Graphics.

Prerequisite: 151L. Three lectures, 1 hr. recitation.

259L. Data Structures with C++®. (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 C++®. Credit not allowed for both 259L and 151L/251L.

Prerequisite: one year of significant programming experience.

261. [201.] 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.

Prerequisites: 151L, Math 162.

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.

Prerequisite: open only to students admitted into the bachelor's degree program.

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.

Prerequisites: 241L, E CE 238L.

351L. Design of Large Programs. (3)

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).

Prerequisites: 241L, 251L. Three lectures, 1 hr. recitation.

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.

Prerequisites: 261 or Math 327, 241L.

362. [*461.] 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. Not available for CS technical elective credit.

Prerequisite: knowledge of calculus recommended.

***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.

Prerequisites: Math 163, some ability in FORTRAN or C programming.

390. Topics in Computer Science for Non-Majors—Undergraduate. (1-3) 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. May be repeated for credit, no limit.

Prerequisite: permission of instructor. Course cannot apply to major or minor in Computer Science.

394. Computer Generated Imagery and Animation. (3)

(Also offered as Art St 394 and M A 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.

Prerequisites: CS 131L, Art St 121 or permission of instructor.

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.

Prerequisite: 261. Offered on a CR/NC basis only.

422/522. Introduction to Image and Pattern Analysis. (3)

Introduction to the concepts and methods of image and pattern analysis. Topics include perception of images, image representation, image transformations, enhancement, restoration, feature extraction, segmentation and computer vision. Survey of applications.

Prerequisites: Math 314, one 300-level programming course.

****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.
Prerequisites: 251, one year of calculus. Recommended: probability or linear algebra, CS 351.

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.

***433. Computer Graphics. (3)**
(Also offered as E CE 433.) Introduction to the use of computer graphics to solve engineering problems. Relevant software and hardware concepts. Use of modern vector and raster devices. Description and manipulation of two and three dimensional objects. Hidden surface removal. Term project required.
Prerequisite: 361L or E CE 331. {Fall}

***438. The Science of Intelligent Systems. (3)**
(Also offered as Psych 467.) 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.
Prerequisite: Computer Science students: one 300-level programming class; Psychology students: Psych 265.

***441. Modern Computer Architecture. (3)**
(Also offered as E CE 401.) 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: 481 or E CE 437L.

***442. Introduction to Parallel Processing. (3)**
(Also offered as E CE 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 E CE 437L.
Prerequisites: 341L or E CE 344L; 351L or E CE 331.

****451. Programming Paradigms. (3)**
A survey of the major programming language paradigms: procedural, functional, object-oriented and logic. Each paradigm will be illustrated with an exemplar language. The programming style and idioms of each paradigm will be studied and practiced. Recommended: 361 or E CE 331.
Prerequisites: 257L, 351.

***452. Simulation. (3)**
(Also offered as Mgt 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.
Prerequisites: Computer Science students: 251L and Stat 345. Management students: Mgt 300 or 520.

453/553. Topics in Program Correctness. (3)
Advanced studies in techniques of reliable program development. Correctness proofs, verification and validation, designing and testing for reliability.
Prerequisite: 361L.

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.
Prerequisites: 341L, 351L.

****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.
Prerequisites: 351L, 361L, two of 362, 451, 481.

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.
Prerequisite: 361L.

467/567. Human-Computer Interaction. (3)
Introduction to the design and analysis of user interfaces and to the development of new interface mechanisms. The course approaches interface design from both cognitive science and computer science perspectives. One or more design projects will be required.
Prerequisite: 351L.

***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.

****481. Digital Computer Operating Systems. (3)**
(Also offered as E CE 437L.) 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 E CE 337L.

****484. 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.
Prerequisites: 481 or equivalent, a solid knowledge of C.

485. Introduction to Computer Networks. (3)
(Also offered as E CE 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.
Prerequisites: E CE 340 or Stat 345; 341L or E CE 337L.

491. Special Topics—Undergraduates. (1-6 to a maximum of 12) Δ
Undergraduate seminars in special topics in computer science.
Prerequisite: permission of instructor.

****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.
Prerequisite: 341L. Course cannot apply to major, minor or master's degree in Computer Science.

****494. Advanced Topics in Computer Generated Imaging. (3) Δ**
(Also offered as M A 494 and Art St 494/594.) A continuation of 394. Students are expected to research and make presentations on advanced topics in CGI. Significant term project required. Course may be repeated for credit, up to 6 credit hours. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.
Prerequisite: 394.

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 C S hour requirement. Prerequisite: permission of instructor.

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 or mathematical maturity at a level acceptable to the graduate advisor.

504. Algorithm Heuristics. (3)

Efficient problem solving techniques. Connection, search and tour problems. Branch-and-bound and backtracking. Dynamic programming. Developing heuristics. Prerequisite: 461.

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: 362.

509. Parallel Algorithms. (3)

(Also offered as E CE 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. Prerequisites: 362 or E CE 537; C S 442/E CE 432.

522/422. Introduction to Image and Pattern Analysis. (3)

Introduction to the concepts and methods of image and pattern analysis. Topics include perception of images, image representation, image transformations, enhancement, restoration, feature extraction, segmentation and computer vision. Survey of applications. Prerequisites: Math 314, one 300-level programming course.

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: 427/527 or permission of instructor.

530. Geometric and Probabilistic Methods in Computer Science. (3)

Techniques of applied mathematics relevant to problems in computer science. The relationship of vector spaces to geometric modeling, computer graphics and numerical methods. Geometric search techniques and mathematical programming; queuing; information theory; pattern recognition and estimation. Prerequisite: Stat 345.

531. Pattern Recognition. (3)

(Also offered as E CE 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. Prerequisites: calculus, Stat 345 or E CE 340, and two programming classes.

532. Computer Vision. (3)

(Also offered as E CE 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. Prerequisites: Stat 345 or E CE 340, C S 361L or E CE 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. Prerequisites: 361L, 427.

547. Neural Networks. (3)

(Also offered as E CE 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. Prerequisite: permission of instructor.

553/453. Topics in Program Correctness. (3)

Advanced studies in techniques of reliable program development. Correctness proofs, verification and validation, designing and testing for reliability. Prerequisite: 361L.

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. Prerequisites: 341L, 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: 454/554.

557. Selected Topics in Numerical Analysis. (3) Δ

(Also offered as Math 557.) Possible topics include approximation theory, two point boundary value problems, quadrature, integral equations and roots of nonlinear equations. May be repeated for credit, no limit.

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: 361L.

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: 464/564.

567/467. Human-Computer Interaction. (3)

Introduction to the design and analysis of user interfaces and to the development of new interface mechanisms. The course approaches interface design from both cognitive science and computer science perspectives. One or more design projects will be required.

Prerequisite: 351L.

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.

Prerequisites: Math 464 or 514, some knowledge of programming. {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.

Prerequisites: Math 316 or Math 401, some knowledge of programming. {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.

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.

Prerequisites: 481, Stat 345.

587. Advanced Operating Systems. (3)

Theory of design of operating systems. Modeling, simulation, synchronization, concurrency, process hierarchies, networks and distributed systems.

Prerequisite: 481 or E CE 437L.

****590. Topics in Computer Science for Non-Majors—Graduate. (1-3) 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. May be repeated for credit, no limit.

Prerequisite: permission of instructor. Course cannot apply to major or minor in Computer Science.

591. Special Topics—Graduate. (1-6) Δ

Graduate seminars in special topics in computer science.

Prerequisite: permission of instructor.

592. Colloquium. (1) 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) Δ

Offered on a CR/NC basis only.

609. Advanced Parallel Algorithms. (3)

(Also offered as E CE 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.

Prerequisites: 509 or E CE 509.

650. Reading and Research. (3 to a maximum of 6) Δ

Prerequisite: permission of instructor.

691. Seminar in Computer Science. (1-6 to a maximum of 12) Δ

Prerequisite: permission of instructor.

699. Dissertation. (3-12) Δ

Offered on a CR/NC basis only.

ELECTRICAL AND COMPUTER ENGINEERING

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J. Scott Tyo, Ph.D., University of Pennsylvania

Professors Emeriti

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- Lewellyn Boatwright, Ph.D., University of Illinois
- Victor W. Bolie, Ph.D. Iowa State University
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* Registered Professional Engineer in New Mexico.
 ** Registered Professional Engineer in a state or territory outside New Mexico.

- Performing basic and applied research with our students to advance the state of our profession, and improving our partnerships with local, regional, and national industry and research agencies.
- Forming alliances with local companies as one of our guiding principles, building on local strengths and synergy.
- **Service**
 - E CE is committed to providing quality service to our students and constituents and will:
 - Provide quality advisement to our students.
 - Encourage opportunities for entrepreneurship to our graduates, thus fostering economic development in New Mexico.
 - Provide resources to the community.
 - Promote activities in professional societies among faculty and students on the local, regional, national, and international levels.
 - Encourage alumni to provide mentoring to students.
 - Identify key companies to hire our graduates.
 - Do a needs assessment with these companies to identify the skills they desire in new graduates, and the training classes and recertification-type classes they could use.
 - Send resumes of faculty to training departments of organizations to let them know which classes faculties are qualified and available to conduct.
 - Develop a portfolio of short courses that faculty can teach on demand.

Baccalaureate Programs

Director of Undergraduate Studies
 Professor Gregory L. Heileman

Vision and Constituents

"A world class educational and research experience."

The Electrical and Computer Engineering (E CE) 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.

Mission

To carry out the Department vision, the E CE Department has identified a three-fold mission:

- **Education**
 - Curriculum development to enhance the relevance, attractiveness, and integration of our programs. E CE is committed to being a model of teaching and learning, to fostering a desire for life-long learning, and to:
 - Providing a nationally recognized first degree, becoming the first choice department for undergraduate applicants in the southwest region and elsewhere.
 - Continuing to achieve international prominence in key programs in graduate studies and research.
 - Providing life-long learning opportunities for E CE alumni.
 - Enhancing professional activities and development for students and faculty in the context of a diversified environment.
 - Incorporating dynamic education for industry.
- **Research**
 - E CE is committed to:
 - Increasing research programs at national and international levels of excellence, fostering multidisciplinary efforts.

Program Objectives

To fulfill the vision and serve our constituents, the objective of our undergraduate program is to educate students to become resourceful practitioners of engineering who:

- 1) Are capable of utilizing their engineering skills in industry 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
- 6) Function well in a diverse environment.

Desired Outcomes

Upon graduation, our students should have:

- 1) The ability to apply knowledge of mathematics, science, and engineering.
- 2) The ability to design and conduct experiments; analyze and interpret data.
- 3) An ability to design a system or component to meet desired needs.
- 4) An ability to function on multi-disciplinary teams.
- 5) An ability to identify, formulate, and solve engineering problems.
- 6) An understanding of professional and ethical responsibility.
- 7) An ability to communicate effectively.
- 8) The broad education necessary to understand the impact of engineering solutions in a global and social context.
- 9) A recognition of the need for, and ability to engage in life-long learning.
- 10) A knowledge of contemporary issues.
- 11) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practices.

Introduction

The Department of Electrical and Computer Engineering (E CE) 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 E CE 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 English 101 or its equivalent before admission. All courses required in a Baccalaureate degree program in the E CE Department must have grades of C- or better for satisfying both admission and graduation requirements, except a C in English 102 is required. 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.

Policy on D or D+ 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 highest grade earned in the course is a D+ or less, 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 E CE 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 E CE 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 C E 304.

E CE courses numbered 300 through 499 are designed primarily for B.S. majors in the E CE Department; courses numbered 500 and above are designed primarily for M.S. and Ph.D. students in the E CE department. Therefore, students who have not been admitted to one of the degree programs in the E CE department may take a maximum of four E CE courses numbered 300 or above. This restriction will not apply to students who are taking an approved minor in the E CE 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 E CE graduate program or are engaged in continuing education will be given special consideration, but are expected to obtain advising from the E CE 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 203L, 213, 206L, 238L, 314, 321 and one of 322, 340, 360, 371 and 445. 2) For a minor in Electrical Engineering, Computer Science students must take 203L, 206L, 213, 314, 321 and two of 322, 340, 360, 371 and 445. 3) For a minor in Computer Engineering, Physics and Mathematics students must take 203L, 213, 238L, 331, 344L and 337L. 4) For a minor in Computer Engineering, Computer Science students must take 203L, 206L, 213, 321, 322, 338 and one of 327L and 438. Substitutions for the above required courses may be made with the approval of the designated E CE advisor for the appropriate minor.

Additional Information

Advisement

Students are required to consult a departmental undergraduate advisor and obtain approval for registration each semester. At this time, 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. Advisors are available for consultations throughout the semester.

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.

Goals have also been developed for students who graduate from the electrical engineering program. Students should be able to:

1. Apply knowledge of basic electrical engineering sciences to identify, formulate, and solve engineering problems;
2. Use the techniques, skills, and tools necessary for engineering practice, including a) an ability to conduct experiments and analyze/interpret data; b) an ability to design a system or component to meet specified criteria; and c) an ability to analyze economic aspects of a project;
3. Function as part of a team;
4. Understand their professional and ethical responsibilities;
5. Communicate effectively in oral presentations and written reports;
6. Recognize the need for, and an ability to engage in, life-long learning; and
7. Gain a satisfaction with the quality of education at the University of New Mexico.

Design is the heart of engineering. Design is integrated throughout the program starting with the first electrical engineering circuits and laboratory courses, E CE 203L and 206L. Design continues in computer related courses, E CE 238L and 344L, in electronics and the electronics laboratory, E CE 321L and 322L, and in other courses throughout the electrical engineering program. The design process culminates with the senior design laboratories, E CE 419L and 420L. The goal of the design experience is to be able to apply the fundamentals of electrical engineering sciences to identify, formulate and solve an engineering problem.

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: 130

First Year—First Semester		Hrs. Cr
Engl 101	Composition I: Exposition	3
E CE 101	Introduction to the Electrical Engineering Profession	1
C S 151L	Computer Programming Fundamentals for Non-Majors	3
Physcs 160	General Physics	3
Math 162	Calculus ¹	4
	Core Elective ¹	3
		<hr/> 17
Second Semester		
Math 163	Calculus II	4
E CE 231L	Intermediate Programming and Engineering Problem Solving	3
Chem 121L	General Chemistry	4
Physcs 161	General Physics	3
Physcs 161L	General Physics Lab	1
Engl 102	Composition II: Analysis and Argument	3
		<hr/> 18

Second Year—First Semester		
E CE 203L	Circuit Analysis I	3
E CE 238L	Computer Logic Design	4
Math 264	Calculus III	4
Math 316	Applied Ordinary Differential Equations	3
C E 304	Engineering Mechanics	4
		<hr/> 18

Second Semester		
E CE 206L	Electrical Engineering Laboratory I	2
E CE 213	Circuit Analysis II	3
Physcs 262	General Physics	3
Math 314	Linear Algebra with Applications	3
Engl 219	Technical and Professional Writing	3
		<hr/> 14

Third Year—First Semester		
E CE 314	Signals and Systems	3
E CE 321	Electronics I	3
E CE 344L	Microprocessors	4
E CE 371	Materials and Devices	4
	Core Elective ¹	3
		<hr/> 17

Second Semester		
E CE 322	Electronics II	3
E CE 340	Probabilistic Methods in Electrical Engineering	3
E CE 360	Electromagnetic Fields and Waves	3
	Core Elective ¹	3
	Track Elective	3
		<hr/> 15

Fourth Year—First Semester ³		
M E/C E 350	Engineering Economy	3
E CE 419L	Senior Design I	3
E CE 445	Introduction to Control Systems	3
	Core Elective ¹	3
	Track Electives	3
		<hr/> 15

Second Semester		
E CE 409	Engineering Ethics	1
E CE 420L	Senior Design II	3
E CE 441	Introduction to Communication Systems	3
	Tech Elective ²	3
	Core Elective ¹	3
	Core Elective ²	3
		<hr/> 16

Notes:

- ¹ See Electrical Engineering Advisement Brochure for list of approved UNM core electives.
- ² Technical electives must be approved in writing by the E CE department and 300, 400 and 500 level E CE 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 track 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 E CE 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 program has also developed goals for computer engineering students who graduate from the program. They should be able to:

1. Apply knowledge of mathematics, physics, hardware, software and electrical engineering to identify, formulate and solve computer engineering problems;
2. Use the techniques, skill and tools necessary for engineering practice;
3. Function as part of a team;
4. Understand their professional and ethical responsibilities;
5. Communicate effectively in oral presentations and written reports;
6. Recognize the need for, and an ability to engage in, life-long learning; and
7. Access engineering information in technical journals and various media.

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 E CE 238L, 337, 338, 438 and 440, all of which include at least some hardware design. The software sequence consists of C S 151L and E CE 231L, 344L, 330, 331 and 435; all of these include some software design. Finally, the electrical engineering sequence includes E CE 203L, 206L, 213, 314 and 321L. E CE 338 and 438 are the culmination of the hardware design sequence and involve software as well. E CE 338, 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 E CE 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: 131

First Year—First Semester		Cr Hrs.
Math 162	Calculus I	4
E CE 101	Intro to E CE	1
C S 151L	Computer Programming Fundamentals for Non-Majors	3
Physcs 160	General Physics	3
Engl 101	Composition I: Exposition Social/Behavioral Science Core Elective ¹	3
		<hr/> 17

Second Semester		
Math 163	Calculus II	4
E CE 231L	Intermediate Programming and Engineering Problem Solving	3
Physcs 161	General Physics	3
Physcs 161L	General Physics Laboratory	1
Engl 102	Composition II: Analysis and Argument	3
	Humanities Core Elective ¹	3
		<hr/> 17

Second Year—First Semester		
E CE 203L	Circuit Analysis I	3
E CE 238L	Computer Logic Design	4
Math 316	Applied Ordinary Differential Equations	3
Engl 219	Technical and Professional Writing	3
	Basic Science with Laboratory	4
		<hr/> 17

Second Semester		
E CE 206L	Electrical Engineering Laboratory I	2
E CE 213	Circuit Analysis II	3
Math 314, 321	Linear Algebra	
–or– 375	Introduction to Numerical Computing	3
Math 264	Calculus III	4
E CE 330	Software Design	3
		<hr/> 15

Third Year—First Semester		
E CE 321	Electronics I	3
E CE 331	Data Structure & Algorithms	3
E CE 344L	Microprocessors	4
Math 327	Discrete Structures	3
	Core Elective ¹	3
		<hr/> 16

Second Semester		
	E CE Elective	3
E CE 314	Signals and Systems	3
E CE 337L	Introduction to Computer Architecture and Organization	3
E CE 340	Probabilistic Meth Social/Behavioral Science Core Elective ¹	3
E CE 409	Engineering Ethics	1
		<hr/> 16

Fourth Year—First Semester ²		
E CE 419	Senior Design I	3
	E CE Elective ²	3
E CE 437L	Digital Computer Operating Systems	3
	Senior Elective	3
C E/M E 350	Engineering Economy	3
	Humanities Core Elective ¹	3
		<hr/> 18

Second Semester		
E CE 420	Senior Design II	3
E CE 440	Computer Networks	3
	Senior Elective ³	3
	Senior Elective ³	3
	Fine Arts Core Elective ¹	3
		<hr/> 15



Notes:

- ¹ See Computer Engineering Advisement Brochure for list of approved UNM core electives.
- ² E CE Electives: E CE 338 and 438 or E CE 335 and 435.
- ³ Senior Electives: These electives will be developed in consultation with the computer engineering advisor from E CE, C S, Physcs or other engineering related courses. See list of suggestion 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 E CE 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 E CE computer systems are integrated into the campus-wide network. The E CE 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. E CE 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 Chaouki Abdallah

Review of Financial Aid Applications

	Begins	Ends
Fall semester:	February 15	April 30
Spring semester:	June 15	August 31

Application Deadlines for Domestic Students:

Fall semester:	July 30
Spring semester:	November 30
Summer semester:	April 30

Application Deadlines for International Students and Domestic Students Requesting Financial Aid:

Fall semester:	February 15
Spring semester:	June 15

NOTE: Early application is recommended.

Graduate Degrees Offered

M.S. in Electrical Engineering

Tracks of study are: high performance computing, computer networks and systems, image processing, computational intelligence, computer design, systems and controls, signal processing, communications, optoelectronics, applied electromagnetics and microelectronics.

Master of Engineering

Concentration: Manufacturing Engineering.

At the M.S. level, a student interested in Manufacturing Engineering has two options. The M.S. in E CE with a Manufacturing option requires 36 semester credit hours and a three month industrial internship in a manufacturing setting. Half the courses in this program are manufacturing engineering courses and half are E CE courses, three of which are the core courses from one of the EE areas (tracks). The Master of Engineering in Manufacturing Engineering degree also requires 36 semester credit hours and a 3-month industrial internship in a manufacturing setting. Tracks available in this program are in Computer-Integrated Manufacturing, Mechanical and Equipment Manufacturing, and Semiconductor and Electronics Manufacturing. For any track, at least four electives must be selected from a set of track courses defined by the Manufacturing Engineering Program. See Curricula for the M.Engr. degree in Manufacturing Engineering.

M.S. in Optical Science and Engineering

Concentrations: Ultrafast optics and photonics, laser physics and engineering, optical imaging, quantum optics, optoelectronic devices, fiber lasers and amplifiers, optical communication, optical materials, optical lithography, integrated optics, and quantum computing.

Administered jointly by the Departments of Physics and Astronomy and Electrical and Computer Engineering, the program features an internship option under which a student can apply qualified industrial/government laboratory research credit along with successfully completed standard course work toward the degree. Under Plan I (thesis-based), a minimum of 24 hours of course work and 6 hours of thesis credit (599) is required. Under Plan II(a) (standard course-based), a minimum of 33 hours of course work, including 3 hours of research seminar (Physics 500) or problems course (Physics 551, 552, 650 or E CE 551, 651) with at least 2 of those hours in Optics, is required. Under Plan II(b) (internship course-based), a minimum of 33 hours of course work, including 3 hours of internship (under the course number Physics 559/E CE 599), is required. All three plans must include Physics 463/E CE 463, Physics 464/E CE 464, Physics 476L or 477L, E CE 574L, Physics 511 or E CE 561, and E CE 564 or E CE 565 as well as 6 hours (only 3 hours under Plan I) drawn from E CE 475, Physics 521, Physics 554/E CE 567, Physics 555/E CE 568, Physics 529 or E CE 572, Physics 569 or E CE 595, Physics 564, E CE 577, Physics 566, Physics 531, and Physics 556. Passing of an oral M.S. examination is required under Plans II(a) and II(b).

Ph.D. in Engineering

Concentration: Electrical Engineering and Computer Engineering, same areas of study as for M.S. above.

Ph.D. in Optical Science and Engineering

Concentration: Optical Engineering.

Requirements

Acceptance as a regular graduate student in the E CE department for the Master's Degree normally requires a Bachelor's Degree in electrical or computer engineering and a minimum 3.0 GPA. Minimum GRE scores are also required. Students whose training is in some other area of engineering, science or mathematics may be accepted into a graduate program. Depending upon their specific background, such students may need to make up undergraduate electrical or computer engineering courses. Three letters of reference and a letter of intent are also required.

The Master's 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 course work hours, 12 hours are required at the 500 level or above. Under Plan II (non-thesis), 33 hours of course work are required with 21 hours being at the 500 level or above. Every student must declare a track and pursue the core courses and recommended courses for that track, with the advice and consent of the track chairperson and the department graduate studies director. A thesis defense is required under Plan I and a final exam is required under Plan II. In Plan I at least five courses must be in E CE, while six courses are required to be in E CE under Plan II.

Acceptance as a regular graduate student in this department for the Ph.D. program normally requires a Bachelor's or Master's Degree in electrical or computer engineering and a minimum 3.5 GPA. Three letters of reference and a letter of intent are required. Minimum GRE scores are also required. Candidates for the Ph.D. program must pass a qualifying examination early in their program of studies. Students must also pass a comprehensive exam and defend their dissertation.

Graduate students should consult with the E CE graduate director for advisement and updated program information. Every graduate student in the E CE department is responsible for satisfying any additional requirements specified in the E CE Department Graduate Handbook, which may be obtained in the E CE Graduate Office on the E CE graduate office Web site.

Electrical and Computer Engineering (E CE)

101. Introduction to Electrical and Computer Engineering. [Introduction to the Electrical Engineering Profession.] (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.

203L. 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. Prerequisites: C- or better in Math 163 and C S 151L. Corequisites: Math 316, Physcs 161.

206L. Instrumentation. [Electrical Engineering Laboratory I.] (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.

Prerequisites: C- or better in both 203L 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.

Prerequisites: C- or better in both 203L and Math 316. Corequisite: Math 314.

231L. Intermediate Programming and Engineering Problem Solving. [Data Organization.] (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: CS 151 or equivalent.

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.

Prerequisites: C- or better in CS 151L.

****314. Signals and Systems.** [Signals and Communications.] (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.

Prerequisites: 213 or equivalent knowledge of transient and transform methods in solving differential EQS.

****321. Electronics I. (3)**

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: C- or better in 213.

****322. Electronics II. (3)**

Analysis, design, and characterization of linear circuits including operational amplifiers. Design of biasing and reference circuits, multistage amplifiers, and feedback circuits.

Prerequisite: C- or better in 321.

331. Data Structures and Algorithms. (3)

An introduction to the analysis of data structures and algorithms. Topics include asymptotic notation, recurrence relations and their solution, sorting, hash tables, basic priority queues, search trees and basic graph representation and search.

Prerequisites: 231L, C S 251L, Math 327.

****337L. 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 lecture, 1 hr. lab.

Prerequisites: C- or better in 238L, and either E CE 231 or C S 241L. {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: C- or better in 238L.

****340. Probabilistic Methods in Engineering.**

[Probabilistic Methods in Electrical 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.

****344L. Microprocessors. (4)**

Computers and Microprocessors: architecture, assembly language programming, input/output and applications.
Prerequisite: C- or better in 238L and 206L. Three lectures, 3 hrs. lab. {Fall, Spring}

****360. Electromagnetic Fields and Waves. (3)**

Maxwell's equations, plane wave propagation, waveguides and transmission lines, transient pulse propagation and elementary dipole antenna.
Prerequisites: C- or better in 213, Physcs 161, 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: C- or better in Physcs 262.

***401. Modern Computer Architecture. (3)**

(Also offered as C S 441.) 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: 437L or C S 481.

409. Engineering Ethics. (1)

(Also offered as C E, M E 409.) 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.
Prerequisite: senior standing.

419L. Senior Design I. (3)

Design methodology and development of professional project-oriented skills including communication, team management and economics. Working in teams, a proposal for a large design is prepared in response to an industrial or in-house sponsor.
Prerequisites: senior standing in electrical or computer engineering and completion of all required 300-level E CE courses except 340.

420L. Senior Design II. (3)

Continuation of 419L. Students work in assigned teams to implement proposal developed in 419L. Prototypes are built and tested to sponsor specifications, and oral and written reports made to the project sponsor.
Prerequisite: 419L.

421/523. Analog Electronics. (3)

Design of advanced analog electronic circuits. BJT and MOS-FET operational amplifiers, current mirrors and output stages. Frequency response and compensation. Noise. A/D and D/A converters.
Prerequisite: C- or better in 322.

***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.
Prerequisites: 322, 338.

***432. Introduction to Parallel Processing. (3)**

(Also offered as C S 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.

Prerequisites: 344L or C S 341L; 331 or C S 351L.
Recommended: 437L or C S 481.

***433. Computer Graphics. (3)**

(Also offered as C S 433.) Introduction to the use of computer graphics to solve engineering problems. Relevant software and hardware concepts. Use of modern hardware graphics devices. Description and manipulation of two and three dimensional objects. Term project required.
Prerequisite: 331 or C S 361L.

****435. Computer Engineering Design Project. (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.
Prerequisites: C- or better in both 331 and 337L.

***437L. Digital Computer Operating Systems. (3)**

(Also offered as C S 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: 337L or C S 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.
Prerequisites: C- or better in 337L, 338, 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.

***440. Introduction to Computer Networks. (3)**

(Also offered as C S 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.
Prerequisites: 340 or Stat 345; 337L or C S 341L.

***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.

***442. 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: some knowledge of electromagnetic wave theory.

***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: C- or better in 438.

***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.
Prerequisites: C- or better in 314 and CE 304.

***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: C- or better in 445.

***447L. Computer Design Laboratory. (2)**

Logic families; PLDs and FPGAs; interfacing; circuit considerations; power supply considerations; metastability, construction techniques; testing and testable design; EPROM and PLD programmers. Students will design and implement complex hardware systems and give oral and written presentations.

Prerequisites: C- or better in 322, 327L and 438.

448./548. Fuzzy Logic with Applications. (3)

(Also offered as C E 448.) 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.

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.

462./562. Electronics RF Design. (3)

Course will cover rf design techniques using transmission lines, strip lines and solid state devices. It will include the design of filters and matching elements required for realizable high frequency design. Amplifiers, oscillators and phase lock loops are covered from a rf perspective.

Prerequisites: 322, 360, 460.

***463. Advanced Optics I. (3)**

(Also offered as Physics 463.) Electromagnetic theory of geometrical optics, Gaussian ray tracing and matrix methods, finite ray tracing, aberrations, interference and diffraction.

Prerequisite: Physics 302.

***464. Laser Physics I. (3)**

(Also offered as Physics 464.) Gain media, atomic transitions, line broadening, excitation methods, resonators, ray tracing, Hermite-Gaussian modes, Q-switching, mode locking, oscillation and amplification and laser types.

Prerequisite: 360 or Physics 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: C- or better in 360 or equivalent.

***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.

Prerequisites: 360, 371 or equivalent.

****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.

Prerequisite: senior standing in a science or engineering department or permission of instructor.

474L./574L. Microelectronics Processing I. (3)

Materials science of semiconductors, microelectronics technologies, device/circuit fabrication, parasitics and packaging.

Lab project features small group design/fabrication/testing of MOS circuits.

Prerequisites: 371, exposure to electronics.

***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: C- or better in 371.

***485. Fusion Technology. (3)**

(Also offered as Ch-NE 485.) The technology of fusion reactor systems including basic magnetic and inertial confinement physics; system designs; material considerations; shielding; blanket design; fuel cycle; plant operations; magnets; and ICF drivers. Students will design a fusion reactor.

Prerequisite: Ch-NE 330 or senior standing in engineering or physical sciences.

486./586. Design for Manufacturability. (3)

(Also offered as M E 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.

Prerequisite: 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.

Prerequisite: basic understanding of semiconductor device operation.

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.

Prerequisite: completion of 90 hours of the EE or Computer Engineering B.S. degree program and prior approval. (12 hours/week) (24 hours/week in summer session). **Offered on a CR/NC basis only.**

491. Undergraduate Problems. (1-6) ††

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. [495L./595.] Special Topics. (1-4, unlimited repetition) Δ

Prerequisites: senior standing and permission of instructor.

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.

Prerequisites: 314, Math 321 or Math 464.

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.
Prerequisites: 331, 337.

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.

507. Algebraic Foundations of Computer Engineering. (3)

Study of topics in modern algebra including relations, algebraic systems, lattices and Boolean algebras, groups and rings, and their application to problems in computer engineering.
Prerequisite: Math 327.

509. Parallel Algorithms. (3)

(Also offered as C S 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.
Prerequisites: 537 or C S 362; C S 442/E CE 432.

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.
Prerequisites: 500.

516. Computer Vision. (3)

(Also offered as C S 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 association and knowledge learning. Formal models of picture languages.
Prerequisites: 340 or Stat 345; 331 or C S 361L.

517. Pattern Recognition. (3)

(Also offered as C S 531) Decision functions and dichotomization; prototype classification and clustering; statistical classification and Bayes theory; trainable deterministic and statistical classifiers. Feature transformations and selection.
Prerequisites: 340 or Stat 345, two programming classes.

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.
Prerequisite: 322.

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.
Prerequisite: C- or better in 322.

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.
Prerequisite: BSEE or permission of instructor.

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.
Prerequisite: BSEE or permission of instructor.

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.
Prerequisite: BSEE or permission of instructor.

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.
Prerequisite: basic knowledge of semiconductor devices.

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.
Prerequisite: Math 327.

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.
Prerequisite: 541 or permission of instructor. 539 recommended.

534. Plasma Physics I. (3)

(Also offered as Astr, Physics, Ch-NE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, nonlinear effects, applications.
Prerequisite: permission of instructor.

535. Plasma Physics II. (3)

(Also offered as Physics, Ch-NE 535.) 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.
Prerequisite: 534 or permission of instructor.

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.
Prerequisites: 331, 337L.

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.
Prerequisite: 331.

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.
Prerequisite: 344L.

539. Digital Signal Processing. [Digital Signal Processing I.] (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.

Prerequisite: 440 or permission of instructor.

541. Probability Theory and Stochastic Processes.

[Random Signal Processing.] (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.

543. Spread Spectrum Communications. (3)

Multiaccess communications. Code division multiple-access channel. Random and pseudorandom signal generation. Synchronization of pseudorandom signals. Modulation and demodulation of spread spectrum signals in multipath and multiple access interference. Single-user matched filter. Decorrelating detectors. Coding and interleaving. Capacity, coverage and control of spread spectrum multiple access networks.

Prerequisite: permission of instructor.

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.

Prerequisites: 446, 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.

Prerequisites: 445, 500.

547. Neural Networks. (3)

(Also offered as C S 547.) A study of biological and artificial neuron models, basic neural architectures and parallel and distributed processing.

Prerequisite: Math 314 or 321.

548/448. Fuzzy Logic with Applications. (3)

(Also offered as C E 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.

Prerequisites: basic set theory and probability theory.

549. [641.] 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.

551. Problems. (1-3) ††**553L. Experimental Techniques in Plasma Science.** (3)

(Also offered as Ch-NE 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 or equivalent.

554. [567.] Advanced Optics II. (3)

(Also offered as Physcs 554.) Coherent optics as approached via Fourier transforms, autocorrelation functions, phase spectroscopy; applications of filtering and Fourier optics to image processing; holography.

Prerequisite: 463 or Physcs 463.

555. Gaseous Electronics. (3)

(Also offered as Ch-NE 555.) The theory of gas discharges. Boltzman equation, distribution functions, breakdown mechanisms, transport coefficients, self-sustained discharges, collisions, gases at high E/N, electron density generation and decay processes.

Prerequisite: 360 or permission of instructor.

557. Pulsed Power and Charged Particle Acceleration. (3)

(Also offered as Ch-NE 545.) 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.

Prerequisite: preparation in classical mechanics and electromagnetics. (360 or equivalent.)

558. Charged Particle Beams. (3)

(Also offered as Ch-NE 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, design of electron and ion guns, transport at high power levels and beam instabilities.

Prerequisites: 557, Ch-NE 545 or permission of instructor.

559. Internship in Optical Science and Engineering. (3)

(Also offered as Physcs 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.

Prerequisite: 360.

561. Electrodynamics. (3)

Electromagnetic interaction with materials, solutions to the wave equation, plane wave propagation, wave reflection and transmission, vector potentials and radiation equations, dielectric slab waveguides, electromagnetic field theorems, Green's Functions, scattering.

Prerequisites: 360, Math 466 or equivalent.

562/462. Electronics RF Design. (3)

Course will cover rf design techniques using transmission lines, strip lines and solid state devices. It will include the design of filters and matching elements required for realizable high frequency design. Amplifiers, oscillators and phase lock loops are covered from a rf perspective.

Prerequisites: 322, 360, 460.

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 or permission of instructor.

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.
Prerequisite: permission of instructor.

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.
Prerequisite: permission of instructor.

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.

568. Nonlinear Optics. (3)
(Also offered as Physcs 568.) General concepts, microscopic approach, nonlinear optical effects and devices.
Prerequisites: 567 or Physcs 554, E CE/Physcs 464.

569/469. Antennas for Wireless Communications Systems. (3)
Aspects of antenna theory and design; radiation from dipoles, loops, apertures, microstrip antennas and antenna arrays.
Prerequisite: C- or better in 360 or equivalent.

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).
Prerequisites: 471 or equivalent.

572. Physics of Semiconductors. (3)
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 I. (3)
Materials science of semiconductors, microelectronics technologies, device/circuit fabrication, parasitics and packaging. Lab project features small group design/fabrication/testing of MOS circuits.
Prerequisites: 371, exposure to electronics.

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.

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.

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 Physcs 580, Ch-NE 580.)
Prerequisite: 534 or Physcs 534.

585. Modern Manufacturing Methods. (3)
(Also offered as M E 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.
Prerequisite: permission of instructor.

586/486. Design for Manufacturability. (3)
(Also offered as M E 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.

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. [595./495L.] Special Topics. (1-4, unlimited repetition) Δ
Prerequisite: permission of instructor.

599. Master's Thesis. (1-6)
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 algorithmics; emphasis on combinatorial problems.
Prerequisites: 509 or CS 509.

635. Advanced Topics in Computer Software Engineering. (3 to a maximum of 9) Δ
Advanced topics including software modeling, real-time software, software process models and software process improvements, requirements analysis and management, validation and testing methods, metrics and cost estimation, statistical quality control.
Prerequisite: permission of instructor.

637. Advanced Topics in Computer Engineering: Algorithms and Applications. (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 algorithmics and computational science algorithms and applications.
Prerequisite: permission of instructor.

638. Advanced Topics in Computer Engineering: 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: permission of instructor.

649. Special Topics in Control Systems. (3 to a maximum of 9) Δ
Prerequisite: 546.

651. Problems. (1-3) ††

661. Advanced Topics in Electromagnetics. (3)
Topics include advanced antenna theory, electromagnetic scattering and propagation, computational methods in electromagnetics, recent advances in rf/microwave circuit design, directed energy.
Prerequisite: 561 or permission of instructor.

699. Dissertation. (3-12)
Offered on a CR/NC basis only.

MECHANICAL ENGINEERING

Juan C. Heinrich, Chairperson
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Professors

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Gregory P. Starr, Ph.D., Stanford University
C. Randall Truman, Ph.D., Arizona State University
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Associate Professors

James R. Leith, Ph.D., University of Texas
Andrea Mammoli, Ph.D., University of Western Australia
Yu-Lin Shen, Ph.D., Brown University

Assistant Professor

Nader D. Ebrahimi, Ph.D., University of Wisconsin (Madison)
Tariq Kharraishi, Ph.D., Washington State University
Herbert G. Tanner, Ph.D., National Technical University of Athens
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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 BSME program is to provide students with the fundamentals of mechanical engineering in order 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 evolves. Our core courses are intended to provide a broad base so that those who terminate their formal education with the BSME 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 BSME 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:

- an ability to apply their knowledge of mathematics, science, and engineering;
- an ability to design and conduct experiments as well as analyze and interpret data;
- an ability to design a system, component, or process that meets desired needs;
- an ability to function in multi-disciplinary, multi-cultural teams;
- an ability to identify, formulate, and solve engineering problems;
- an understanding of professional and ethical responsibility;
- an ability to communicate effectively;
- the broad education necessary to understand the impact of engineering solutions in a global/societal context;
- a recognition of the need for and an ability to engage in lifelong learning;
- a knowledge of contemporary issues;

- k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice;
- l. a familiarity with statistics and linear algebra;
- m. an ability to work professionally in thermal systems including design and realization of such systems;
- n. and an ability to work professionally in mechanical systems including design and a realization of such systems.

Objectives

The Department of Mechanical Engineering will produce graduates who:

- A. apply modern mathematics, science, engineering, and technology to solve a wide variety of mechanical engineering problems and work professionally in a changing environment.
- B. work collaboratively, communicate effectively, and think creatively in the design and analysis of mechanical and thermal systems.
- C. behave ethically and professionally in addressing societal needs.
- D. assume leadership roles in industry, research, academia, and government.

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, vibration, fluid mechanics, heat transfer, robotics and microcomputers, manufacturing and CAD/CAM, HVAC, 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. 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 2.50 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 BSME 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 BSME 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 BSME 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 BSME degree at the University of New Mexico with a grade point average of at least 2.50 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 BSME degree before being admitted to Mechanical Engineering.

Advisement

Pre-major engineering students who have indicated ME as their intended major are advised by the ME Undergraduate Advisor. 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 121L	General Chemistry	4
Math 162	Calculus I	4
M E 160L	Mechanical Engineering Design I	3
Engl 101	Composition I: Exposition	3
	Core Humanities Elective	3
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Freshman Year—Second Semester		Hrs. Cr.
C S 151L	Computer Programming Fundamentals for Non-Majors	3

Physcs 160	General Physics	3	
Math 163	Calculus II	4	
Engl 102	Composition II: Analysis and Argument	3	
Chem 122L	General Chemistry	4	
		17	

Sophomore Year—First Semester

Math 264	Calculus III	4	(4-0)
Physcs 161	General Physics	3	(3-0)
M E 260L	Mechanical Engineering Design II	3	(2-4)
C E 202	Engineering Statics	3	(3-0)
Am St 182	Introduction to Environment, Science and Technology	3	(3-0)
		16	(15-4)

Sophomore Year—Second Semester

M E 318L	Mechanical Engineering Laboratory	4	(3-3)
M E 306	Dynamics	3	(3-0)
E CE 203L	Circuit Analysis I	3	(3-0)
Math 316	Applied Ordinary Differential Equations	3	(3-0)
	Core Writing and Speaking Elective	3	(3-0)
		16	(15-3)

Junior Year—First Semester

M E 317L	Fluid Mechanics	4	(3-3)
Econ 105	Introductory Macroeconomics	3	(3-0)
C E 302	Mechanics of Materials	3	(3-0)
M E 301	Thermodynamics	3	(3-0)
	Math Elective ⁴	3	(3-0)
		16	(15-3)

Junior Year—Second Semester

M E 302	Thermodynamics II		
–or– M E 314	Design of Machinery	3	(3-0)
M E 360L	Mechanical Engineering Design III	3	(2-3)
M E 357	Introduction to Mechanical Vibrations	3	(3-0)
M E 370L	Engineering Materials Science	4	(3-3)
	Core Second Language Elective	3	(3-0)
		16	(14-6)

Senior Year—First Semester

M E 459	Mechanical Engineering Design IV	3	(3-0)
M E 380	Analysis and Design of Mechanical Control Systems	3	(3-0)
M E 320L	Heat Transfer	4	(3-3)
	M E Engineering Science Elective ¹	3	(3-0)
	Core Fine Arts Elective	3	(3-0)
		16	(15-3)

Senior Year—Second Semester

M E 460	Mechanical Engineering Design V	4	(2-3)
	Technical Elective ³	3	(3-0)
	M E Technical Elective ²	3	(3-0)
	M E 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

M E 302	Thermodynamics II	3	(3-0)
–or– ME 314	Design of Machinery		

M E 360L	Mechanical Engineering Design III	3	(2-3)
M E 357	Introduction to Mechanical Vibrations	3	(3-0)
M E 370L	Engineering Materials Science	4	(3-3)
ME 406	Formula SAE Racecar Design	3	(3-0)
		16	(14-6)

Senior Year—First Semester

M E 459	Mechanical Engineering Design IV	3	(3-0)
M E 380	Analysis and Design of Mechanical Control Systems	3	(3-0)
M E 320L	Heat Transfer	4	(3-3)
M E 407	Formula SAE Racecar Fabrication Lab	3	(3-0)
	Core Fine Arts Elective	3	(3-0)
		16	(15-3)

Senior Year—Second Semester

M E 408	Formula SAE Racecar Test Lab	1	(1-0)
	M E Science Elective ¹	3	(3-0)
	M E Technical Elective ²	3	(3-0)
	M E Engineering Science Elective	3	(3-0)
	Core Humanities Elective	3	(3-0)
	Core Second Language Elective	3	(3-0)
		16	(16-0)

Students admitted or re-admitted to the Mechanical Engineering Department the Fall semester of 1998 or later are required to take the Fundamentals of Engineering (FE) exam during their senior year.

¹ "Mechanical Engineering Science Electives" include all Mechanical Engineering elective courses 300 level and above except for: M E 455, M E 456, M E 463, M E 484, M E 485, M E 488, M E 461/462 Aero Design, M E 406, M E 407, M E 408, or M E 461/462 FSAE. Undergraduate Problems, M E 451/452, must be approved by the Mechanical Engineering Undergraduate Advisor to be used as a Mechanical Engineering Science Elective.

² "Mechanical Engineering Technical Electives" include all Mechanical Engineering elective courses 300 and above.

³ "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.

⁴ "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 (BSME) average of at least 3.50 are encouraged to enroll in the Honors Program. M E 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
 Yu-Lin Shen

Application Information

Applications are reviewed as they are received. However, to be assured of consideration for financial aid, one must submit all application materials by:

Fall semester: July 30
 Spring semester: November 30
 Summer session: April 30

Results of the Graduate Record Examination General Test must be submitted to the Department prior to admission.

Degrees Offered**M.S. in Mechanical Engineering**

Concentrations: computational methods, dynamic systems and control, energy/thermodynamics, fluid mechanics, heat transfer, manufacturing engineering, materials science, robotics and solid mechanics.

Master of Engineering

Concentration: Manufacturing

Ph.D. in Engineering

Concentration: Mechanical Engineering.

Persons with a B.S. degree from an accredited mechanical engineering department are admissible to the M.S. and M.Engr. degree programs. Persons with a B.S. degree in another discipline may need to take selected basic courses in mechanical engineering and possibly other engineering disciplines, mathematics and science prior to admission to these degree programs. Each case is considered individually, and the graduate director should be contacted.

The graduate programs offered in the department are planned to prepare graduates for professional engineering work in private industry or government laboratories or for teaching/research positions. Emphasis is on the fundamental concepts in the selected area of concentration, with elective and supporting work to complete the study program.

The Mechanical Engineering Department offers a Master of Science Degree that can be completed in one year. See the Department Graduate Advisor for details.

The Master of Science degree requires 31 semester credit hours and may be earned under either Plan I (thesis) or Plan II (project) programs. A minimum of 18 hours of 500-level credit (including thesis or project) is required for both programs. Six credit hours (M E 599) may be counted for a thesis and 3 credit hours (M E 559) for a project. There is a required seminar course which must be taken for two semesters.

Core Courses

One **mathematics** course
 M E 500 Numerical Techniques in Mechanical Engineering
 M E 504 Computational Mechanics
 ChNE 525 Methods of Analysis in Chemical and Nuclear Engineering
 Any Math/Stat 5XX course

One **thermal science** course
 M E 520 Advanced Thermodynamics I
 M E 530 Theoretical Fluid Mechanics I

One **solid mechanics** course
 M E 501 Advanced Mechanics of Materials
 M E 512 Continuum Mechanics
 M E 540 Elasticity I

One **dynamics or controls** course
 M E 516 Applied Dynamics
 M E 581 Digital Control of Mechanical Systems

The Master of Science (Manufacturing Emphasis) degree requires 36 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.

The M.Engr. (Manufacturing) degree requires 36 hours and a three month industrial internship in a manufacturing setting. The M.Engr. supports options in Computers in Manufacturing, Semiconductor and Electronics Manufacturing and Mechanical Manufacturing. See the Curricula for the M.Engr. degree in Manufacturing Engineering.

The Doctor of Philosophy degree requires 54 semester credit hours beyond the bachelor's degree, exclusive of thesis or dissertation credit. Every student in the Ph.D. program must take the departmental qualifying examination during the second semester of residence. Details of all special requirements are subject to departmental policy.

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 (M E)**160L. Mechanical Engineering Design I. (3)**

Introduction to engineering graphics, the design process, computer aided design, engineering ethics, design economics and project management.

Prerequisite: eligibility for admission to Math 150. Two hrs. lecture, 3 hrs. lab.

260L. Mechanical Engineering Design II. (3)

The design process, project management, shop practice CNC and rapid prototyping, design economics and engineering ethics.

Prerequisites: 160L, Math 162. Two hrs. lecture, 3 hrs lab.

301. Thermodynamics. (3)

(Also offered as Ch-NE 301.) 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.
 Prerequisites: Chem 122L, Physcs 161, Math 163.

****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.
 Prerequisites: C E 202, Math 264.

314. Design of Machinery. [Dynamics 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, 318L and Math 264. 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.

Prerequisites: Physcs 161, Math 264. Corequisites: Math 316, E CE 203L.

****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.
Prerequisites: 301, 317L, Math 316.

350. Engineering Economy. (3)

(Also offered as C E 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: junior 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, 318L and Math 264. Corequisite: 301.

354L. Heat Transfer Laboratory. (1)

Laboratory experiments and demonstrations of fundamental heat transfer concepts.
Prerequisite: 301, 317L.

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, 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.

Prerequisites: 260L, C E 302, Math 264, 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. [370L] Engineering Materials Science.

[Engineering Materials Science Lab.] (4)
(Also offered as Ch-NE 370.) The structure of matter and its relation to mechanical properties. Mechanical behavior of structural materials: metals, ceramics and polymers.
Prerequisite: Chem 122L.

****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.

Prerequisites: 357, Math 316, senior standing or permission of instructor.

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.

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.

404/504. Computational Mechanics. [Introduction to 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: senior standing in M E or Math 312.

405/505. High Performance Engines. (3)

(Also offered as Ch-NE 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: Engineering Thermodynamics equivalent to Ch-NE 301/M E 301.

406. 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.

Prerequisite: junior 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: junior standing.

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: junior standing.

409. Engineering Ethics. (1)

(Also offered as C E, E CE 409.) 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.

Prerequisite: senior standing.

412/512. Introduction to Continuum Mechanics. (3)

(Also offered as C E 412.) 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.

Prerequisite: Math 311 or senior standing in engineering, physics or mathematics.

416/516. Applied Dynamics. (3)

Kinematics and kinetics of a particle and systems of particles; Lagrange's equations; three-dimensional dynamics of rigid bodies.

Prerequisites: 306, 357, Math 316 or equivalent.

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.

Prerequisites: 301, 317L, 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.

Prerequisites: 301, 317L, Math 316 or permission of instructor.

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.

Prerequisite: senior standing.

451-452. Undergraduate Problems. (1-3, 1-3 to a maximum of 6)

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.

Prerequisites: senior standing and permission of instructor.

455. Engineering Project Management. (3)

(Also offered as C E 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.

Prerequisite: senior standing in M E.

456. Entrepreneurial Engineering. (3)

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.

Prerequisite: engineering student, graduate, senior standing or working professional.

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.

Prerequisites: 370L, C E 302.

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.

Prerequisites: 320L, 380, 459, Engl 102.

461/561-462/562. Special Topics. (1-4, 1-4) Δ

Formal course work on special topics of current interest.

Prerequisites: senior standing and permission of instructor. May be repeated for credit, no limit.

463. Undergraduate Honors Thesis. (3)

Independent project of an original nature carried out under faculty supervision, in partial fulfillment of Departmental Honors designation.

Prerequisite: junior standing; open only to undergraduate honors candidates. Registration requires permission of the department chairperson and of the supervising professor.

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.

Prerequisite: senior or graduate standing or permission of instructor.

471/571. Advanced Materials Science. (3)

Treatments of mechanical behavior of materials. Crystal structures, defects, micromechanisms of deformation and fracture, structure-property-processing relations of engineering materials.

Prerequisite: 370 or equivalent.

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 CE 445.

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.

Prerequisites: 380 or equivalent and graduate standing.

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. [482L.] Robot Engineering. (3) [4]

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.

Prerequisite: 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.

Prerequisites: calculus and senior or graduate standing.

484/584. Computer Aided Design. (3)

Implementation of CAD/CAM in automated manufacturing systems, laboratory work on CAD solid modeling software.

Prerequisite: 459 or graduate 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.

Prerequisite: permission of instructor.

486/586. Design for Manufacturability. (3)

(Also offered as E CE 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.

Prerequisite: 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.

Prerequisite: senior standing.

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.

Prerequisite: senior or graduate student. Restricted: enrollment limited. Transportation not provided.

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, work-cells and factories.

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 C E 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.

Prerequisite: senior standing in M E or Math 312.

505/405. High Performance Engines. (3)

(Also offered as Ch-NE 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 Ch-NE 301/M E 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.

Prerequisite: graduate standing.

510. Nonlinear Modeling and Analysis. (3)

Modeling systems that yield nonlinear equations, coupled with methods for their solution and analysis. Development of insight into the fundamental behavior of nonlinear systems.

512/412. [512.] Introduction to Continuum Mechanics. [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.

Prerequisite: graduate standing or permission of instructor.

516/416. Applied Dynamics. (3)

Kinematics and kinetics of a particle and systems of particles; Lagrange's equations; three-dimensional dynamics of rigid bodies.

Prerequisites: 306, 357, Math 316 or equivalent.

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.

Prerequisites: 301, Math 316.

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.

Prerequisites: 301, 317L, 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.

Prerequisites: 320L, Math 312 or permission of instructor.

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.

Prerequisite: 320L or permission of instructor. {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.

Prerequisites: 301, 317L, Math 316 or permission of instructor.

529. [532.] Gas Dynamics. (3)

Two-dimensional flow of ideal gases including shock waves, friction and heat transfer.

Prerequisites: 520, 530.

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.

Prerequisite: 317L.

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. [Elasticity I.] (3)

Field theory of elasticity; Saint Venant's problems; introduction to plane theory of elasticity.

Prerequisites: Math 316 or equivalent.

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 or permission of instructor.

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.
Prerequisite: senior standing.

551-552. Problems. (1-3, 1-3 to a maximum of 6) Δ

Prerequisites: 6 hrs. of 500-level M E courses and permission of instructor.

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.
Prerequisite: permission of instructor.

561/461-562/462. Special Topics. (1-4, 1-4) Δ

May be repeated for credit, no limit.

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.
Prerequisite: senior or graduate standing or permission of instructor.

571/471. Advanced Materials Science. (3)

Treatments of mechanical behavior of materials. Crystal structures, defects, micromechanisms of deformation and fracture, structure-property-processing relations of engineering materials.
Prerequisite: 370L or equivalent.

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.
Prerequisite: 380 or E CE 445.

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.
Prerequisites: 380 or equivalent and graduate standing.

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.
Prerequisites: 380.

582/482. [582L.] Robot Engineering II. (3) [4]

Robot geometry, resolution and repeatability, kinematic design of robots, Denavit-Hartenberg homogeneous transformations, direct and inverse; kinematics and solutions, motion trajectories, differential tracking, force and compliant analyses, dynamics, control and programming.
Prerequisite: 480 or permission of instructor.

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.
Prerequisites: calculus and senior or graduate standing.

584/484. Computer Aided Design. (3)

Implementation of CAD/CAM in automated manufacturing systems, laboratory work on CAD solid modeling software.
Prerequisite: 459 or graduate standing.

585/485. Modern Manufacturing Methods. (3)

(Also offered as E CE 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.
Prerequisite: permission of instructor.

586/486. Design for Manufacturability. (3)

(Also offered as E CE 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.
Prerequisite: graduate standing.

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.
Prerequisite: senior or graduate status. Restricted: enrollment limited. Transportation not provided.

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, work-cells and factories.

591-592. Seminar. (0-1)

(Graduate Students only.) Offered on a CR/NC basis only.

599. Master's Thesis. (1-6)

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 or permission of instructor.

699. Dissertation. (3-12)

Offered on a CR/NC basis only.

BACHELOR OF ENGINEERING OPTION

Manufacturing Engineering and Robotics Option

To respond to nationwide concern and to increase the human and technological resources of the state, a Bachelor of Engineering Degree Program in Manufacturing Engineering and Robotics is offered by the School of Engineering. Being a multidisciplinary program, it does not have a separate faculty or listing of courses. Instead, it utilizes the expertise of faculty from a number of the engineering disciplines. However, the faculty advisor is a member of the Mechanical

Engineering Department. The focuses of this program are the equipment and technology aspects of modern manufacturing and their expected lines of development. The curriculum requires that each student design an elective course sequence, in consultation with a faculty advisor, aimed at an important area of manufacturing.

Curriculum in Manufacturing Engineering and Robotics Option

Hours required for graduation: 133

First Year—First Semester		Hrs.	Cr.	Lect/Lab
Chem 121L	General Chemistry	4	(3-3)	
Math 162	Calculus I	4	(4-0)	
M E 160L	Mechanical Engineering Design I	3	(3-0)	
Engl 101	Composition I: Exposition	3	(3-0)	
	Core Humanities Elective ¹	3	(3-0)	
		17	(16-3)	

Second Semester		Hrs.	Cr.	Lect/Lab
C S 151L	Computer Programming Fundamentals for Non-Majors	3	(3-1)	
Physcs 160	General Physics	3	(3-0)	
Math 163	Calculus II	4	(4-0)	
Engl 102	Composition II: Analysis and Argument	3	(3-0)	
Chem 122L	General Chemistry	4	(3-3)	
		17	(16-4)	

Second Year—First Semester		Hrs.	Cr.	Lect/Lab
Physcs 161	General Physics	3	(3-0)	
Math 264	Calculus III	4	(4-0)	
C E 202	Engineering Statics	3	(3-0)	
	Core Communications Elective ¹	3	(3-0)	
	Core Humanities Elective ¹	3	(3-0)	
		16	(16-0)	

Second Semester		Hrs.	Cr.	Lect/Lab
Stat 345	Elements of Mathematical Statistics and Probability Theory	3	(3-0)	
E CE 203L	Circuit Analysis I	3	(3-0)	
M E 306	Dynamics	3	(2-3)	
C E 302	Mechanics of Materials	3	(3-0)	
Econ 105	Introductory Macroeconomics	3	(3-0)	
	Core Social/Behavioral Sciences Elective ¹	3	(3-0)	
		18	(17-3)	

Third Year—First Semester		Hrs.	Cr.	Lect/Lab
Math 316	Applied Ordinary Differential Equations	3	(3-0)	
M E 370L	Engineering Materials Science	3	(3-0)	
E CE 238L	Computer Logic Design	4	(3-3)	
M E 301	Thermodynamics	3	(3-0)	
M E 317L	Fluid Mechanics	3	(3-0)	
		16	(15-3)	

Second Semester		Hrs.	Cr.	Lect/Lab
M E 380	Analysis and Design of Mechanical Control Systems	3	(3-0)	
M E 314	Design of Machinery	3	(3-0)	
M E 318L	Mechanical Engineering Laboratory	2	(0-6)	
M E 356	Industrial Engineering	3	(3-0)	
	Technical Elective ²	6	(6-0)	
		17	(15-6)	

Fourth Year ³ —First Semester		Hrs.	Cr.	Lect/Lab
M E 459	Mechanical Engineering Design IV	3	(3-0)	
M E 350	Engineering Economy	3	(3-0)	
M E 470	Microprocessors in Mechanical Systems	3	(3-0)	
	Core Second Language Elective ³	3	(3-0)	
	Technical Elective ²	3	(6-0)	
		15	(18-0)	

Second Semester		Hrs.	Cr.	Lect/Lab
M E 460	Mechanical Engineering Design V	4	(2-3)	
M E 481	Digital Control	3	(3-0)	
M E 482L	Robot Engineering	4	(4-0)	
	Core Fine Arts Elective ¹	3	(3-0)	
	Technical Elective ²	3	(3-0)	
		17	(15-3)	

¹ See the general University of New Mexico core curriculum requirements.

² Technical electives: These electives will be developed in consultation with an option advisor to comprise a meaningful sequence for specialization. They may be chosen from among appropriate courses in management, computer software, computer hardware, engineering and robotics.

³ Students are encouraged to take the Fundamentals of Engineering Examination (FE) during their senior year. This is in preparation for professional registration.

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 (ENGR-N)

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 (ENGR)

116. [ENGR-F 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. [ENGR-F 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.

III. Cooperative Education Program (E COOP)

Engineering Coop allows students the opportunity to pursue work in engineering or computer science as part of their academic program. 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:

ENGINEERING

- Coop programs for School of Engineering (SOE) students are approved by the Associate Dean for Academic Affairs.
- Coop 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.
- Coop experiences are supervised by an engineer or computer scientist, or someone with equivalent experience. A short resume of the proposed supervisor should be submitted to the Associate Dean with the Coop application.
- 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 Coop starts.

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.
- The Coop work should mostly be performed at the sponsor's site. Telecommuting does not meet this requirement.
- Coop jobs located on the UNM campus are allowed only under unusual circumstances.
- Normally, all paperwork, including applicable signatures and approvals for a Coop 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 Coop started up to the end of the second week of classes.

To enroll in the following courses, please 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 enrolled in the Cooperative Education Program are required to register in E Coop 105 while on work phase and encouraged to enroll in one of the appropriate evaluation courses during the semester immediately following each work phase. 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)
Offered on a CR/NC basis only.

505. Cooperative Education Work Phase. (0)
 \$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

Christopher Mead, Dean
College of Fine Arts
MSC04 2570
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2111, FAX (505) 277-0708
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, please 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* 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.

Degree Programs

Undergraduate Degrees Offered

Bachelor of Fine Arts
Major: Art Studio
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 emphasis in performance, in composition and theory, in jazz studies and in string pedagogy
Bachelor of Music Education
Major: Music Education in either instrumental track or vocal track (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

Admission Requirements

Due to limitations of facilities and faculty, enrollment in certain curricula offered by the College of Fine Arts is limited. Since the number of well-qualified students seeking admission to these curricula sometimes exceeds the number that can be accommodated, successful completion of the minimum requirements as stated below is no guarantee of admission. 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.

Admission from University College. To be eligible for transfer to the College of Fine Arts, you must meet the following requirements:

1. Completion of 26 hours of earned credit.
2. a. A grade point average of at least 2.50 on all hours attempted, or
b. A grade point average of at least 2.50 on the last 30 hours attempted.
3. Competency in English writing as demonstrated by
a. Achieving a score of 29 or higher on the English section of the ACT examination or 650 SAT verbal, or
b. Completion of English 101 with a grade of C or better.
4. Completion of 12 credit hours of course work in the major area with 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, Center for the Arts 1103, to pick up an application for admission. Applications are accepted during the fall and spring semesters.

Transfer from other colleges in this University. Transfer to the College of Fine Arts from another degree-granting college of the University of New Mexico requires a grade point average of 2.50 on all work attempted while you were enrolled in the other degree-granting college(s), in addition to satisfaction of all requirements for transfer from University College.

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 from University College. A portfolio or audition may be required.

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:** English 101–102 and an additional course chosen from English 219, 220; Communication and Journalism 130; Philosophy 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 English 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. C & J 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: Anthropology 121L, 150 and 151L, 160 and 161L; Astronomy 101 and 101L; Biology 110 and 112L, 123 and 124L; Chemistry 111L, 121L or 131L, 122L or 132L; Earth & Planetary Sciences 101 and 105L, 201L; Environmental Science 101 and 102L; Geography 101 and 105L; Natural Sciences 261L, 262L, 263L; Physics 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: 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. [**Music Education majors: Psych 105 and 220 are required.**]
 - 5) **Humanities:** History 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: Architecture 101; Art History 101, 201, 202; 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. [**Music and Music Education majors: Music 139 and 140 will not count toward the degree.**]

A grade of C (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 1103 in the Center for the Arts, provides undergraduates with advisement services. The center is staffed by one full-time Fine Arts advisor and departmental faculty advisors who advise on a part-time basis. Appointments are required.

Advisement is required for freshman and transfer students before registration. For Art Studio transfer students, a portfolio is required 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. Transfers into the Theatre and Dance programs are required to audition for placement.

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.

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 Bainbridge Bunting Memorial Slide 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

Karl Hinterbichler, Professor, Music
 Holly Barnet-Sanchez, Director of Graduate Studies, Art and Art History
 Henry Bial, Assistant Professor, Theatre and Dance (Graduate Coordinator)
 Jennifer Predock-Linnell, Professor, Theatre and Dance (Dance)
 Jim Linnell, Professor, Theatre and Dance (Dramatic Writing)
 Susan Pearson-Davis, 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 min-

imum 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 studio art, Dramatic Writing and Dance; and the Doctor of Philosophy in art history.

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:

- a. Six hours: F A 284 and either F A 329 or Art Hi/MA/Music/Thea/Dance 487
- b. Twelve hours electives from F A 329, 384, 394, Art Hi/MA/Music/Thea/Dance 484, 487 and Phil 367

Total: 18 hours.

Fine Arts (F A)

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 Processes. (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. Prerequisite: the student must define the utility of the independent study and obtain approval from both a faculty sponsor and the CFA interdisciplinary committee.

***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. Prerequisite: permission of instructor. (Fall)

ART AND ART HISTORY

Martin Facey, Chairperson
Department of Art and Art History
MSC04 2560
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-5861, FAX (505) 277-5955

Associate Chairperson
Holly Barnet-Sanchez

Director of Graduate Studies
Holly Barnet-Sanchez

Professors

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
Martin Facey, M.F.A., University of California (Los Angeles)
Elen Feinberg, M.F.A., Indiana University
William T. Gilbert, M.F.A., University of Montana
Basia Irland, M.F.A., University of Massachusetts
Christopher Mead, Ph.D., University of Pennsylvania
Patrick Nagatani, M.F.A., University of California (Los Angeles)
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 Szabo, Ph.D., The University of New Mexico

Associate Professors

Holly Barnet-Sanchez, Ph.D., University of California (Los Angeles)
Steve Barry, M.F.A., Hunter College
Gina Bobrowski, M.F.A., University of Georgia
Kathleen Jesse, M.F.A., University of California (Berkeley)
Lydia Madrid, M.F.A., Indiana University
Jim Stone, M.F.A., Rhode Island School of Design
John H. Wenger, M.F.A., University of Arizona
Baochi Zhang, M.F.A., Florida State University

Assistant Professors

Jennifer Ahlfeldt, Ph.D., Columbia University
Susanne Anderson-Riedel, Ph.D., University of California (Los Angeles)
Laura André, Ph.D., University of North Carolina at Chapel Hill
Justine Andrews, Ph.D., University of California (Los Angeles)
Kirsten Buick, Ph.D., University of Michigan
Ray Hernández-Durán, Ph.D., The University of Chicago
Yoshiko Shimano, M.F.A., Mills College
Mary Tsiongas, M.F.A., California College of Arts and Crafts

Adjunct Professors

Marjorie Devon, B.A., University of California (Santa Barbara)
Sheila Hannah, M.L.S., University of Arizona
Kathleen Howe, Ph.D., The University of New Mexico
Charles Lovell, M.F.A., Central Washington University
Barbara Lynes, Ph.D., Indiana University
James Moore, Ph.D., Indiana University
Anne Noggle, M.A., The University of New Mexico
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
Richard Rudisill, Ph.D., University of Minnesota
Chris Taylor, M.Arch., Harvard University
Peter Walch, Ph.D., Princeton
Steven A. Yates, M.F.A., The University of New Mexico

Lecturer

James L. Jacob, M.A., The University of New Mexico

Professors Emeriti

Nick Abdalla, Painter
Jane Abrams, Printmaker
Garo Antreasian, Printmaker
Thomas F. Barrow, Photographer
J.J. Brody, Historian
Edward Bryant, Historian
Flora Clancy, Historian
Robert M. Ellis, Painter
Betty Hahn, Photographer
Christiane L. Joost-Gaugier, Historian
Wayne R. Lazorik, Photographer
Ralph Lewis, Jeweler, Painter
Howard D. Rodee, Historian
O. Joseph Rothrock, Historian

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. Please 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. Please note that one of the requirements is that at least 9 hours of instruction is 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 |
| | <i>-and-</i> | |
| 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 |
| | <i>-and-</i> | |
| 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 |
| | <i>-and-</i> | |

b. Fifty-two hours in studio courses. Required courses are art studio 106, 121 and 122. Also required are four courses chosen from 130, 157, 168, 187, 207, 213 and either 205 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

–and–

b. Thirty-three hours in studio courses, including Art Studio 106, 121 and 122; 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

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, 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 history:	
a. Thirty-nine hours in art history courses including 201, 202 and 250; also required are three courses in art history chosen from 315, 321, 322, 331, 332, 340, 352 and 261 or 262 and a course taken from among the following: 251, 343, 401, 402, 406, 411 and 412. 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 121 or 122; and 3 additional hours of studio.	9
3. Additional courses in any field, including art.	20
Total	128

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

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.

Please 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 studio or art history. Of these hours, at least 12 must be in courses numbered above 300.

The major with a concentration in studio is as follows:
 Nine hours of art history: Art Hi 201, 202 and 250.
 Twenty-four hours in art studio including Art St 106, 121 and 122.

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:
 Art Hi 201, 202 and 250. Also, one selected from 261, 262, 315, 321, 322, 331, 332 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:
 Art St 106. Also, one selected from 121 or 122.

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:
- Art St 106, 121, 122
- or–
- Art Hi 201, 202, 250

Plus 15 hour 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 M A 390 as studio credit.

Graduate Programs

Director of Graduate Studies

Holly Barnet-Sanchez, 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: Studio Art
Ph.D.
Major: Art History

The Department offers degrees in two fields: studio art and art history. In studio the degree is the Master of Fine Arts. Students can focus on painting and drawing, photography, printmaking, 3D, or electronic art; in art history the degrees are the Master of Arts and the Doctor of Philosophy with a concentration in either the Art of the Americas or the Art 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 space and individual studios.

NOTE: The art studio printmaking program and the art history programs in Native American art and Pre-Columbian art and architecture (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 13 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 will require 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

Museum Studies 507, Museum Practices (3)
Museum Studies 585, Seminar in Museum Methods (3)

3 hours of Museum Studies Topics courses

Museum Studies 529, Topics in Art History (3)

6 Hours of Internship

Museum Studies 586, Practicum: Museum Methods (3)

Studio Degree, M.F.A.

The M.F.A. is the terminal degree in studio art. 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;
- the application/transfer of these credits is approved by the Dean of Graduate Studies.

Electives	Six hours outside studio	18
	Six hours outside the department	
	Six hours any area	
Art St 699	Dissertation (solo exhibition and catalog)	12
Total		60

Admission to the Studio Program

NOTE: Studio areas of focus are: Painting and Drawing, 3D, Printmaking, Photography, and Electronic Arts.

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:

- Application for Admission, Registration Information and application fee.
- Two sets of official transcripts from all institutions previously attended.
- Three letters of recommendation.
- 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:
 - information about the major and the proposed focus (painting and drawing, 3D, printmaking, photography or electronic arts);
 - a self-evaluation of current work;
 - 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;
 - a statement of goals while attending and after completing graduate study;
 - 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.
- Slides/Portfolio. Fifteen to 20 2" X 2" color slides of work must be sent in a standard 80-slide carousel tray. Also expected are:
 - an identifying list with information on the date, medium and dimensions of each work. Each slide must be labeled with the applicant's name;
 - a check or money order (no stamps) to provide sufficient funds for the return of the carousel/portfolio via U.S. Postal Service.

NOTE: Candidates for photography and electronic arts should submit work in a form that represents them best. This can include, but is not limited to, slides, original prints, CD-Roms (please 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.

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

Art St 502 Interdisciplinary Seminar	3
Art St credits (in addition to 502)	21
Art Hi credits	6

Transfer Credits

A maximum of 12 hours of graduate work at another institution or from non-degree status at the University of New Mexico is 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 this catalog (see page 70) 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 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:

1. Chairperson of the student's Committee on Studies
2. Department Director of Graduate Studies
3. Department Graduate Committee
4. Chairperson of the Department
5. College Graduate Committee
6. Dean of the College
7. Dean of the Office of Graduate Studies
8. Faculty Senate Graduate Committee

M.F.A. Qualifying Review

1. The four-member Committee on Studies will comprise the Qualifying Examination Committee.
2. 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.
3. This examination consists of three parts:
 - a. a review of a comprehensive selection of the student's work.
 - b. 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).
 - c. an oral defense of the work by the candidate.
4. The candidate will be informed at the conclusion of the exam of the results, which must be one of the following:
 - a. Pass, granted by the exam committee.
 - b. 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.
 - c. 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. 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, the Department Director of Graduate Studies and the Department Chairperson, 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.

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 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, in writing, 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.

An original copy of the catalog and some permanent record of the visual work, i.e., slides, videotape, CD, etc., shall be deposited with the Department Graduate Office.

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.

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. Art 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.

Art 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, ancient and modern Native American arts, Spanish Colonial art history, 19th- and 20th-century Latin American and Latino art history, art of Colonial America – art of the United States, and architecture of the United States.

- II. Art 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.

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 making 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

Art Hi 500	Seminar in Philosophy and Methods of Art History	3
Art Hi graduate courses (area of concentration)		12
Art Hi graduate courses (supporting areas of emphasis)		9
Minimum course work		24
Art Hi 599	Master's Thesis	6
Total		30

Within the context of the courses listed above:
 A minimum of 6 hours of 500-level courses.
 A maximum of 6 hours of problems courses.
 All work offered toward degree requirements must fall within a five-year period.

Students seeking the M.A. degree must master the general history of art in addition to their chosen area of concentration. In cases approved by the Director of Graduate Studies, a student may elect to pursue a minor outside art history, usually in anthropology, history or literature (minors in museum practices and studio will be allowed only in special circumstances); in such rare cases, the minimum course requirements would be 9 hours in the major field and 9 hours of courses in art history outside the major (including Art History 500) and 6 hours in the minor. 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 the Committee on Studies.

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 Art Hi 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, the Department Director of Graduate Studies and the Department Chairperson.

Approval of the Program of Studies in no way implies successful completion of the M.A. degree. The program of studies must be approved by the Dean of Graduate Studies before a student can take the comprehensive exam.

Comprehensive Examination in Art History

Students must pass this 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 the Program of Studies is filed.

M.A. Thesis

The thesis is an extended research paper that demonstrates a candidate's ability to perform research and analysis at the graduate level.

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
 - Art Hi graduate courses in major concentration and supporting fields 18
- | | |
|---------------------|-----------|
| Minimum course work | 48 |
| Art Hi 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.

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: Art Hi 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 on page 74, 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.

Art History (Art Hi)

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. (Fall, Spring)

201. History of Art I. (3)

Prehistoric, Near Eastern, Egyptian, Greek, Roman, Early Christian, Byzantine, Romanesque and Gothic Art. (Fall)

202. History of Art II. (3)

Western Art from the Early Renaissance to Impressionism. (Spring)

204. Greek Civilization. (3)

(Also offered as Clscs, 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 Clscs, 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)

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)

261/567. World Architecture I: History of the Built Environment From Prehistory to 1400 CE. (3) Mead
(Also offered as Arch 261.) Survey of the architectural and urban traditions of ancient and indigenous cultures from prehistory to the late middle ages. (Fall)

262/568. World Architecture II: History of the Built Environment From 1400 CE to the Present. (3) Mead (Also offered as Arch 262.) Survey of the architectural and urban traditions of the modern world from the renaissance to the present.

Prerequisite: 261 or permission of instructor. (Spring)

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.)

***331. Early Renaissance Art.** (3)

Thirteenth- and 14th-century painting, sculpture and architecture in Italy, including interactions with Byzantium, the Islamic World, Spain and France. (Offered upon demand.)

***332. Art of the High Renaissance.** (3)

The "classical" style in painting, sculpture and architecture as developed in Italy by major figures such as Leonardo da Vinci, Michelangelo, Raphael and Titian, including a consideration of interactions with Byzantium, Persia, the Near East, Spain and France. (Offered upon demand.)

***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.

401/501. African and Oceanic Art. (3)

Traditional media of painting, sculpture and architecture, as well as such nontraditional media as mud sculpture, costuming and body decoration studied in their cultural contexts. (Offered upon demand)

402/502. Native American Art I. (3) Szabo

(Also offered as Arch 401.) Prehistoric and historic art forms of the Arctic Northwest coast and the eastern woodlands of North America. (Fall)

404. The Minor Arts. (3)

Investigates, in seminar format, the historical development and techniques of numismatics, jewelry, silver-smithing, ceramics, armor and other topics.

Prerequisites: 201 and 202 or permission of instructor.

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 Arch 403.) Prehistoric 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 Arch 402, Mus St 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.

Prerequisite: 402 or 406 or instructor's permission. (Offered periodically)

416/516. 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. S/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 422.) This experimental seminar provides a forum in which to discuss the theoretical issues and critical diversity of contemporary architecture of the last 30 years. Prerequisite: permission of instructor. (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. Prerequisite: 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.

Prerequisites: 210, 250, or permission of instructor. (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.

Prerequisites: 210, 250, or permission of instructor. (Offered upon demand)

427/527. Contemporary Photography. [Photography Since 1950.] (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.

Prerequisite: 426 or permission of instructor. {Offered upon demand}

429. Topics in Art History. (1-3) Δ

Course work determined by specific students' request or by the professor's current research. May be repeated for credit, no limit. {Offered upon demand}

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)

(Also offered as Af Am 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 Architecture. (3) Mead

(Also offered as Arch 463.) Modern architecture since the late 19th century, primarily in Europe and the Americas.

Prerequisites: 261, 262 or permission of instructor. {Spring}

464/564. 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)

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 1965–1995. (3)

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}

479/579. American Art: 1876–1940. (3)

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 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.

482/596. Early 20th-Century Art. (3)

Painting and sculpture from 1900 to 1940.

Prerequisite: 250 or permission of instructor.

***484. Evaluating the Arts.** (3)

(Also offered as Dance, Music, M A, 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.

Prerequisite: 6 hours in the College of Fine Arts, 3 of which have Fine Arts designations.

485/585. Seminar in Museum Methods. (3 to a maximum of 6) Δ

(Also offered as Mus St, Anth 485.) Theoretical and practical work in specific museum problems.

Prerequisite: 407, Anth 402 or equivalent. {Offered upon demand}

486/586. Practicum: Museum Methods. (3)

(Also offered as Mus St, Anth 486.) Practicum in museum methods and management.

Prerequisite: Anth 485 or Art Hi 485. {Offered upon demand}

487/587. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as Dance, M A, Music, Thea 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.

Prerequisite: for undergraduates, 9 hrs. of courses in the College of Fine Arts, 3 of which have Fine Arts designation. {Spring}

488/588. 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}

489/589. 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}

490/590. 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}

491/591. Late 20th-Century Art. (3)

Painting and sculpture, 1940 to the present.

Prerequisite: 250 or permission of instructor.

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-modernism examined through issues of theme, style and medium, including contemporary artistic practices such as conceptual and installation art. {Alternate Springs}

496. Undergraduate Tutorial. (3) Δ

Individual investigation or reading under faculty direction. May be repeated for credit, no limit.

Prerequisite: 6 hours upper-division art history. {Fall, Spring}

499. Honors Thesis. (3-6) Staff

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}

501/401. African and Oceanic Art. (3)

Traditional media of painting, sculpture and architecture, as well as such nontraditional media as mud sculpture, costuming and body decoration studied in their cultural contexts. {Offered upon demand}

- 502/402. Native American Art I. (3)** Szabo
(Also offered as Anth 501.) Prehistoric 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.
- 504. Seminar in Minor Arts. (3)**
Investigates the historical development and techniques of numismatics, jewelry, silver-smithing, ceramics, armor and other topics. (Offered upon demand)
- 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.) Prehistoric 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, Mus St 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.
Prerequisite: 402 or 406 or instructor's permission. (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. S/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 522.) This experimental seminar provides a forum in which to discuss the theoretical issues and critical diversity of contemporary architecture of the last 30 years.
Prerequisite: permission of instructor. (Offered upon demand)
- 523/423. Frank Lloyd Wright and American Architecture. (3)** Mead
(Also offered as Arch 523.) This seminar examines the origins, principles, practitioners, consequences of an American tradition of architecture that Frank Lloyd Wright called organic.
Prerequisite: 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. [Photography Since 1950.] (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)** Δ
May be repeated for credit, no limit. (Offered upon demand)
- 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)**
(Also offered as Af Am 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?
- 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)** Δ Szabo
(Also offered as Anth 509.)
Prerequisite: 502 and/or 506. May be repeated for credit, no limit. (Offered upon demand)
- 560. Seminar in Pre-Columbian Art. (3 for a maximum of 15)** Δ
Aspects of Pre-Columbian art, architecture, and culture in Mesoamerica and South America are examined in depth.
Prerequisites: 511, 512 or equivalent, a reading knowledge of Spanish. (Offered upon demand.)
- 561. Seminar in Ancient and Medieval Art. (3)** Δ
Prerequisite: permission of instructor. May be repeated for credit, no limit. (Offered upon demand)
- 563/463. Modern Architecture. (3)** Mead
(Also offered as Arch 563.) Modern architecture since the late 19th century, primarily in Europe and the Americas.
Prerequisites: 261, 262 or permission of instructor. (Offered upon demand)
- 564/464. 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./261. World Architecture I: History of the Built Environment From Prehistory to 1400 CE. (3)

(Also offered as Arch 541.) Survey of the architectural and urban traditions of ancient and indigenous cultures from prehistory to the late middle ages. {Fall}

568./262. World Architecture II: History of the Built Environment From 1400 CE to the Present. (3)

(Also offered as Arch 568.) Survey of the architectural and urban traditions of the modern world from the renaissance to the present.

Prerequisite: 261 or permission of instructor. {Spring}

572./472. American Art: 1675–1875. (3)

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 1965–1995. (3)

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)

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) Δ

May be repeated for credit, no limit.

Prerequisite: 450. {Offered upon demand.}

581. Seminar in Early Modern Art 1750–1900. (3 for a maximum of 12) Δ

Prerequisite: 481. {Offered upon demand.}

582. Seminar in 20th-Century Art. (3) Δ

May be repeated for credit, no limit.

Prerequisite: 482 or 491. {Offered upon demand}

583. Seminar in Modern/Contemporary Latin American Art History. (3) Δ

Barnet

Prerequisite: permission of instructor. {Offered upon demand}

584. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ

(Also offered as Music, Thea, Dance 584 and M A *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.

Prerequisite: the student must define the utility of the independent study and obtain approval from both a faculty sponsor and the CFA Interdisciplinary committee. {Fall, Spring}

585./485. Seminar in Museum Methods. (3 to a maximum of 6) Δ

(Also offered as Mus St, Anth 585.)

Prerequisite: 407 or Anth 402 or equivalent. {Offered upon demand}

586./486. Practicum: Museum Methods. (3 to a maximum of 6) Δ

(Also offered as Mus St, Anth 586.)

Prerequisite: 585 or Anth 585. {Offered upon demand}

587./487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as Dance, Music, Thea 587 and M A 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.

Prerequisite: for undergraduates, 9 hrs. of courses in the College of Fine Arts, 3 of which have Fine Arts designation. {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, 1920–1995. (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)

Painting and sculpture, 1940 to the present.

Prerequisite: 250 or permission of instructor.

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 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.

596./482. Early 20th-Century Art. (3)

Painting and sculpture from 1900 to 1940.

Prerequisite: 250 or permission of instructor.

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only. {Fall, Spring}

699. Dissertation. (3-12)

Offered on a CR/NC basis only. {Fall, Spring}

Art Studio (Art St)

Major Courses

All 100-level studio courses 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. The Department has listed suggested corequisites that it deems helpful to students enrolled in the course as well as to alert students to prerequisites for 200-level courses.

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.

Suggested corequisites: 121, Art Hi 101. {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.

Suggested corequisites: 106, Art Hi 101. {Fall, Spring}

122. Three-dimensional Design. (3)

Emphasis on materials, processes and vocabulary. Particular attention will be placed on traditional and contemporary approaches to sculpture through the consideration of spatial concepts and making three-dimensional objects.
Suggested corequisite: 123. {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}

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.
Suggested corequisite: 121. {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.
Corequisite: 122. {Fall, Spring}

168. Ceramics I. (3 to a maximum of 6) Δ

Introduction to clay forms, hand built and wheel-thrown techniques, slips, glazes and stoneware.
Suggested corequisites: 106, 122. {Fall, Spring}

187. Introduction to Photography. (3)

Introduction to photographic vision and photographic techniques. The course is a combination of 1 lecture and 1 lab meeting each week.
Suggested corequisite: 121. {Fall, Spring}

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.
Prerequisites: 106, 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.
Prerequisites: 106, 121. Pre- or corequisite: 205. {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.
Prerequisites: 122, 123. {Fall, Spring}

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.
Prerequisites: 122, 157. Corequisite: 106. {Fall, Spring}

268. Ceramics II. (3 to a maximum of 6) Δ

Continuation of 168 with emphasis placed on the mastery of ceramic processes and the development of a personal aesthetic.
Prerequisites: 122, 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.
Prerequisites: 106, 121. Corequisite: 205 or 207. {Fall, Spring}

287. Black & White Photography. (3)

Continuation of 187, with concentration on photographic techniques and the formal aspects of photographic vision.
Prerequisite: 187. Pre- or corequisite: 121. {Offered upon demand}

288. Introduction to Color Photography. (3)

The techniques and aesthetics of color photography.
Prerequisite: 187. Pre- or corequisite: 121. {Fall, Spring}

289. Introduction to Digital Photography. (3)

The techniques and aesthetics of digital imaging using PhotoShop as a primary tool.
Prerequisite: 187. Pre- or corequisite: 121. {Fall, Spring}

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}

307. 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}

308. Painting III. (3 to a maximum of 6) Δ

Extension of the concepts presented in 307, emphasizing experimentation with materials and techniques. Individual in-depth projects are assigned to encourage independent thinking with regard to contemporary painting issues.
Prerequisite: 307. {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. Topically appropriate assignments will be given according to the instructor's individual expertise as well as the current theoretical discourse.
Prerequisite: 123, 213. {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.
Prerequisite: intermediate level courses in student's area of concentration.

330. Intermediate Electronic Art. (3 to a maximum of 6) Δ

Course emphasizes art-making using evolving computer-based tools. Students work with digital content in 2-D, 3-D and time-based formats. Course draws on current work and theory, combined with classroom critique.
Prerequisites: 121, 130 and 289 or permission of instructor. {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. Recommended: 257.

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.

Prerequisite: Advanced students in area of concentration and permission of instructor. (Offered upon demand)

368. Porcelain Vessels. (1-3 to a maximum of 3) Δ

(Also offered as Art Ed 368.) History, design, processes, tools, materials and terminology of the Oriental-Japanese method of wheel-thrown porcelain ceramic vessels.

Prerequisites: 122, 268 or permission of instructor. (Summer, Fall, Spring)

369. Ceramics III. (3 to a maximum of 6) Δ

Continued investigation of technical, conceptual, historical and contemporary issues while emphasizing the development of a personal artistic vision.

Prerequisite: 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 or permission of instructor. (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 or permission of instructor. (Fall, Spring)

385. Introduction to Non-Silver Photography. (3)

The techniques and aesthetics of cyanotype and gum bichromate printing (non-silver photography) and related processes.

Prerequisites: 121, 187. (Fall)

387. Intermediate Photography. (3 to a maximum of 6)

Δ Nagatani, Salinger, Stone

Concepts of photography as applied to the development of personal vision. Students are encouraged to repeat this course with a different instructor.

Prerequisites: 288, 289. (Fall, Spring)

389. Topics in Studio Art. (1-3) Δ

Concentrated practical and historical study of specified concerns in studio art. May be repeated for credit for degree, no limit.

Prerequisites: 15 hours of studio art, 6 hours of art history. (Offered upon demand)

394. Computer Generated Imagery and Animation. (3)

(Also offered as CS 394 and M A 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.

Prerequisites: CS 131L, Art St 121 or permission of instructor.

405. Advanced Drawing. (3 to a maximum of 9) Δ

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) Δ

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 for credit) Δ Wenger

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.

Prerequisite: advanced students in photography, drawing, painting or sculpture. (Fall)

409./509. Advanced Video Art. (3 to a maximum of 6) Δ

(Also offered as M A 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.

Prerequisite: permission of instructor. (Spring)

413. Advanced Sculpture. (3 to a maximum of 12) Δ

Allows students to pursue their own individual concepts and techniques. Emphasis will be on independent projects.

Prerequisite: 313. (Fall, Spring)

414. [414./514.] Metal Fabrication. (3 to a maximum of 6) Δ

Additive processes of welding and steel fabrication.

Prerequisites: 123, 213. (Offered upon demand)

429. Undergraduate Topics in Studio Art. (1-6 to a maximum of 15) Δ

Course work determined by specific student need or by the professor's current research.

Prerequisites: 21 hours of studio art, 9 hours of art history. (Fall, Spring)

430./530. Advanced Projects in Electronic Art. (3 to a maximum of 6) Δ

Course is organized around independent and collaborative projects, building on skills and perspectives developed in Intermediate Electronic Art. Focus on topics of interactivity, time-based applications and integration of computer-based work into broader art contexts.

Prerequisite: 330 or permission of instructor. (Fall)

431./531. Multimedia, Internet Art and Beyond. (3 to a maximum of 6) Δ

Course focuses on evolution of computer-based art making, highlighting opportunities and constraints associated with evolving technologies. Special emphasis on exploring the Internet as site for artwork. Students will produce multimedia work for the World Wide Web.

Prerequisite: 330 or permission of instructor. (Spring)

457. Advanced Casting and Construction. (3 to a maximum of 12) Δ DeJong

Students must develop an individual program of studies in consultation with the instructor. Group critiques are scheduled regularly.

Prerequisites: 357, permission of instructor. (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.

Prerequisite: Advanced students in area of concentration and permission of instructor. (Offered upon demand)

461. Artifacts: production, use, apprehension. (3 to a maximum of 6) Δ

This course will investigate our relation to artifacts through an examination of production (intent, craft, realization), use (literal + conceptual), and apprehension (material + immaterial). Prerequisite: permission of instructor. Corequisites: 462, 463, 464. (Offered upon demand.)

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462. Mapping: body, landscape, memory. (3 to a maximum of 6) Δ^1

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.

Prerequisite: permission of instructor. Corequisites: 461, 463, 464. {Offered upon demand.}

463. Place: land, civilization, persona. (3 to a maximum of 6) Δ^1

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.

Prerequisite: permission of instructor. Corequisites: 461, 462, 464. {Offered upon demand.}

464. Space: expanse, thresholds, limits. (3 to a maximum of 6) Δ^1

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.

Prerequisite: permission of instructor. Corequisites: 461, 462, 463. {Offered upon demand.}

468. Ceramics IV. (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.

Prerequisites: 369, permission of instructor. {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.

Prerequisite: 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 (depending upon content). {Fall, Spring}

487. Advanced Photography. (3 to a maximum of 12)

Δ^1 Nagatani, Salinger, Stone, Nevel

Advanced concepts of photography and the development of personal expression.

Prerequisites: 387, Art Hi 425, 426. {Fall, Spring}

493. Seminar in Studio Art. (3) Δ^1

May be repeated for credit towards degree to a maximum of 6 hours. {Fall, Spring}

494/594. Advanced Topics in Computer Generated Imaging. (3) Δ

(Also offered as M A 494 and C S 494.) A continuation of Computer Science 394. Students are expected to research and make presentations on advanced topics in CGI. Significant term project required. Course may be repeated for credit, up to 6 credit hours. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.

Prerequisite: C S 394.

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.

Prerequisites: a statement of intent, a faculty recommendation, portfolio review, permission of the department.

499. Honors Thesis. (3-6) Staff

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

Prerequisite: 405, 407, permission of instructor. {Fall, Spring}

508. Graduate Outdoor Studio. (1-3, may be repeated twice for credit) Wenger

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 Wenger

(Also offered as M A 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.

Prerequisite: 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}

529. Graduate Topics in Studio Art. (1-6) Δ

Course work determined by specific student need or by the professor's current research. May be repeated for credit towards degree to a maximum of 6 hours. {Fall, Spring}

530/430. Advanced Projects in Electronic Art. (3 to a maximum of 6) Δ

Course is organized around independent and collaborative projects, building on skills and perspectives developed in Intermediate Electronic Art. Focus on topics of interactivity, time-based applications and integration of computer-based work into broader art contexts.

Prerequisites: 330 or permission of instructor. {Fall}

531/431. Multimedia, Internet Art and Beyond. (3 to a maximum of 6) Δ

Course focuses on evolution of computer-based art making, highlighting opportunities and constraints associated with evolving technologies. Special emphasis on exploring the Internet as site for artwork. Students will produce multimedia work for the World Wide Web.

Prerequisites: 330 or permission of instructor. {Spring}

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.

Prerequisite: 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.

Prerequisite: Advanced students in area of concentration and permission of instructor. {Offered upon demand}

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.

Prerequisite: permission of instructor. {Fall}

574. Graduate Printmaking. (3 to a maximum of 15) Δ
Prerequisite: 474. {Fall, Spring}

587. Graduate Photography. (3 to a maximum of 15) Δ
Concentration on student's individual image production with special attention given to the development of critical and theoretical acuity. The course is open to graduate students in the Department; others by permission of instructor.
Prerequisite: 487. {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) Δ
(Also offered as M A 494 and C S 494.) A continuation of Computer Science 394. Students are expected to research and make presentations on advanced topics in CGI. Significant term project required. Course may be repeated for credit, up to 6 credit hours. Not allowed for graduate credit for computer science majors, nor as a technical elective for undergraduate computer science majors.
Prerequisite: C S 394.

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)
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 or Arts & Sciences may enroll with permission of the department chairperson.

Museum Studies (Mus St)

311./511. Material Culture in America. (3)
(Also offered as Am St 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, Art Hi 407.) History, philosophy and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation and public relations. {Offered upon demand}

429./529. Topics in Art History. (1-3) Δ
Course work determined by specific students' request or by the professor's current research. May be repeated for credit, no limit. {Offered upon demand}

485./585. Seminar in Museum Methods. (3 to a maximum of 6) Δ
(Also offered as Art Hi, Anth 485.) Theoretical and practical work in specific museum problems.
Prerequisite: 407, Anth 402 or equivalent. {Offered upon demand}

486./586. Practicum: Museum Methods. (3)
(Also offered as Art Hi, Anth 486.) Practicum in museum methods and management.
Prerequisite: Anth 485 or Art Hi 485. {Offered upon demand}

507./407. Museum Practices. (3 to a maximum of 6) Δ
(Also offered as Anth 582, Art Hi 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 Am St 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.

529./429. Topics in Art History. (1-3) Δ
May be repeated for credit, no limit. {Offered upon demand}

585./485. Seminar in Museum Methods. (3 to a maximum of 6) Δ
(Also offered as Art Hi, Anth 585.)
Prerequisite: 407 or Anth 402 or equivalent. {Offered upon demand}

586./486. Practicum: Museum Methods. (3 to a maximum of 6) Δ
(Also offered as Art Hi, Anth 586.)
Prerequisite: Art Hi 585 or Anth 585. {Offered upon demand}

MEDIA ARTS

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Professors Emeriti
Ira Jaffe, Ph.D., University of Southern California
Ernest Rose, Ph.D., Stanford University

Fees

Course 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 Media 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.

Media 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

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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 Media 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 (M A)

110. Introduction to Mass Communication. (3)
(Also offered as C & J 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.

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. Course fee required.

210. Introduction to Film. (3)
Analysis of film as a unique art, and a survey of main trends in film history. Screenings and critical study of major films. Course 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. Course fee required.

216. Topics in Field Production. (3 to a maximum of 6) Δ
This course strengthens students' skills in video technology while helping them to write, direct, and edit video projects that begin to reflect a personal, artistic vision. Course fee required. Prerequisites: 111, 210 or permission of instructor.

310. Latin American Film. (3)
This course surveys key moments in Latin American cinema including Mexico's influential "Golden Age" in the 1940s and various "new cinemas" of the '60s and '70s. Also considered are Hollywood films about Latin America. Course fee required. Prerequisite: 210 or permission of instructor.

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: permission of instructor.

326. History of Film I. (3)
History of the motion picture from its beginnings to the era of sound. Screening and analysis of major films. Course fee required. Prerequisite: 210 or permission of instructor.

327. History of Film II. (3)
History of the motion picture from the advent of sound to the present day. Screening and analysis of major films. Course fee required. Prerequisite: 210, 326 or permission of instructor.

330. Studies in Film. (3 to a maximum of 24) Δ
Studies in film and video genres, regional and national cinemas, and careers of individual artists. Course fee required. May be repeated if subject matter varies. Prerequisite: 210 or permission of instructor.

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. Course fee required. Prerequisite: 210 or permission of instructor.

332. Documentary. (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. Course fee required. Prerequisite: 210 or permission of instructor.

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. Course fee required. Prerequisite: 210 or permission of instructor.

334. Teen Rebels. (3)

An examination of Hollywood films of the 1950s, '60s and '70s, whose youthful main characters challenge convention and authority. Course fee required. Prerequisite: 210 or permission of instructor.

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. Course fee required. Prerequisite: 210 or permission of instructor.

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. Prerequisite: 210 or permission of instructor.

337. Alfred Hitchcock. (3)

An exploration of cinematic suspense, surprise, and shock in relation to Hitchcock's cinema. Prerequisite: 210 or permission of instructor.

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.

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. Course fee required. Prerequisite: permission of instructor.

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. Prerequisite: permission of instructor.

394. Computer Generated Imagery and Animation. (3)

(Also offered as Art St 394 and C S 394.) Introduction to storyboarding, 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. Prerequisites: CS 131L, Art St 121, or permission of instructor.

***409. Advanced Video Art. (3 to a maximum of 6) Δ**

(Also offered as Art St 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. Course fee required. Prerequisite: permission of instructor.

***410. Latin American Film. (3)**

This course surveys key moments in Latin American cinema including Mexico's influential "Golden Age" in the 1940s and various "new cinemas" of the '60s and '70s. Also considered are Hollywood films about Latin America. Course fee required. Prerequisite: 210 or permission of instructor.

***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. Course fee required. Prerequisite: 210 or permission of instructor.

***426. Film History I. (3)**

History of the motion picture from its beginnings to the era of sound. Screenings and analysis of major films. Course fee required. Prerequisite: 210 or permission of instructor.

***427. Film History II. (3)**

History of the motion picture from the advent of sound to the present day. Screenings and analysis of major films. Course fee required. Prerequisite: 210 or permission of instructor.

***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. Course fee required. May be repeated if subject matter varies. Prerequisites: 111, 210 or 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 careers of individual artists. Course fee required. May be repeated if subject matter varies. Prerequisite: permission of instructor.

***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. Course fee required. Prerequisite: 210 or permission of instructor.

***432. Documentary Film. (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. Course fee required. Prerequisite: 210 or permission of instructor.

***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. Course fee required. Prerequisite: 210 or permission of instructor.

***434. Teen Rebels. (3)**

An examination of Hollywood films of the 1950s, '60s and '70s, whose youthful main characters challenge convention and authority. Course fee required. Prerequisite: 210 or permission of instructor.

***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. Course fee required. Prerequisite: 210 or permission of instructor.

***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. Prerequisite: 210 or permission of instructor.

***437. Alfred Hitchcock. (3)**

An exploration of cinematic suspense, surprise, and shock in relation to Hitchcock's cinema. Prerequisite: 210 or permission of instructor.

***484. Evaluating the Arts. (3)**

(Also offered as Art Hi, Dance, Music, 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. Prerequisite: 6 hours in the College of Fine Arts, 3 of which have Fine Arts designations.

***485. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ**

(Also offered as Music, Thea, Dance 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.

Prerequisite: the student must define the utility of the independent study and obtain approval from both a faculty sponsor and the CFA Interdisciplinary committee.

***487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ**

(Also offered as Art Hi, Dance, Music, Thea 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.

Prerequisite: for undergraduates, 9 hrs. of courses in the College of Fine Arts, 3 of which have Fine Arts designation.

***494. Advanced Topics in Computer Generated Imaging. (3 to a maximum of 6) Δ**

(Also offered as C S 494 and Art St 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.

Prerequisite: C S 394 or permission of instructor.

496./596. Student 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 Media Arts faculty member.

Prerequisite: permission of instructor.

497./597. Independent Study. (2-3 to a maximum of 24) Δ

Individual investigation or reading, plus the writing of an essay, under faculty direction.

Prerequisite: 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.

596./496. Student 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 Media Arts faculty member.

Prerequisite: permission of instructor.

597./497. Independent Study. (2-3 to a maximum of 24) Δ

Individual investigation or reading, plus the writing of an essay, under faculty direction.

Prerequisite: permission of instructor.

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Panaiotis, Ph.D., University of California (San Diego)
Colleen M. Sheinberg, M.M., The University of New Mexico
Sam Shepperson, B.M., The University of New Mexico
Michele Spiro, M.M., Florida State University
Mark Tatum, M.M., University of Arizona*
Debra Taylor, B.M., Curtis Institute of Music*
Denise Reig Turner, B.A., The University of New Mexico*
Tatiana Vetrinskaya, Ed.D., Gnesin State Institute of Music Education
Arlene DeYoung Ward, M.A., University of California (Los Angeles)
Richard White, M.M., Indiana University*
Lewis Winn

Professors Emeriti

John M. Clark, M.A., Ball State University
Joanna de Keyser, B.M., University of Southern California
Thomas A. Dodson, D.M.A., University of Southern California
Artemus L. Edwards, Dipl., Curtis Institute
Leonard Felberg, M.M., Yale University
Ellen C. McCullough-Brabson, D.M.A., University of Arizona
George Robert, Student of Edward Steuermann and Anton Webern
Wesley Selby, M.M., University of Colorado
William M. Seymour, Ed.D., Washington University
Jane Snow, M.M., Cincinnati College of Music
Harold Van Winkle, M.M.E., Eastern New Mexico University
A. Scott Wilkinson, M.M., University of Arizona

* 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*, a copy of which may be obtained from the Department of Music office.

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.

All students in any program leading to the Bachelor of Music degree must complete the following curriculum:

1. **Core Curriculum (37 hours):**
 - a. All students pursuing the Bachelor of Music degree must fulfill the College of Fine Arts requirements detailed under Graduation Requirements (see page 427). 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 Psych 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

2. Concentration Curriculum as follows (91–97 hours): Performance Concentration

- a. six semesters of Music 101 *Concert Music* with a grade of CR;
- b. 22 hours of applied music in the principal instrument, including Ap Mus 391 *Junior Recital* and Ap Mus 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, page 452, for specific requirements);
- g. 2 hours in technology, chosen from 311, 380, 412 or 481;
- h. 3 hours in contemporary world music, chosen from 417, 418, 422 or 436;
- 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:
 4 additional hours in music theory, including 406 and 2 hours chosen from 309, 325, 405 or 439;
 2 hours of keyboard repertory (449);
 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, page 452, 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 Music 101 *Concert Music* with a grade of CR;
- b. 4 hours of applied music in Composition, including Ap Mus 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, page 452, for specific requirements);
- h. 2 hours in technology, chosen from 311, 380, 412 or 481;
- i. 3 hours in contemporary world music, chosen from 417, 418, 422 or 436;
- j. 6 hours of electives in Music;
- k. 3 hours of Physcs 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 Music 101 *Concert Music* with a grade of CR;
- b. 24 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 and 2 hours of 470L;
- c. 16 hours of applied music in the principal instrument, including Ap Mus 491 *Senior Recital*;
- 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. 8 hours in ensemble (see Ensemble Requirements, page 452, for specific requirements);
- g. 5 hours of Music Education courses, including Mus Ed 451 and 2 hours of Mus Ed 155 (Strings);
- h. 2 hours in conducting (363);
- i. 2 hours in technology, chosen from 311, 380, 412 or 481;
- j. 3 hours in contemporary world music, chosen from 417, 418, 422 or 436;
- 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 Music 101 *Concert Music* with a grade of CR;
- b. 16 hours of applied music in the principal instrument, including Ap Mus 391 *Junior Recital* and Ap Mus 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, page 452, 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 Mus Ed 317;
- i. 4 hours of Group Piano;
- j. 2 hours in technology, chosen from 311, 380, 412 or 481;
- k. 3 hours in contemporary world music, chosen from 417, 418, 422 or 436;
- 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
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2. Courses within the major:

- a. six semesters of Music 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
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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 Mus Ed 194 *Introduction to Music Education* 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.

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.

Please refer to the College of Fine Arts Graduation Requirements for the core curriculum guidelines. C & J 220 *Communication for Teachers* and Psych 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 Student Handbook* for further information.
5. Satisfactory completion of the vocal proficiency examination (for Vocal Concentration piano/guitar emphasis only). Consult the *Department of Music Student Handbook* for further information.
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

- 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:
C & J 130 *Public Speaking*
C & J 220 *Communication for Teachers*
- 6 hours of electives in mathematics, to be selected from the list of courses under College of Fine Arts Graduation Requirements (see page 427). Note: Math 100 and 120 *cannot* fulfill this requirement.
- 12 hours in science, including Physcs 108 *Introduction to Musical Acoustics*, Physcs 108L *Musical Acoustics Laboratory* and 8 hours of electives, to be selected from Astronomy, Biology, Chemistry, Physics or Earth and Planetary Sciences.
- 6 hours in Social and Behavioral Sciences, including Psych 105 *General Psychology* and Psych 220 *Developmental Psychology*.
- 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*
- 6 hours of electives in Fine Arts, to be selected from Art History, Art Studio, Theatre, Dance or Media Arts.
- 3 hours in foreign language (see CFA Graduation Requirements).

Subtotal **57**

2. Teaching Field: Music

- four semesters of Music 101 *Concert Music* with a grade of CR;
- 8 hours of applied music in the principal instrument (voice, piano or guitar), including Ap Mus 119, 120, 219, 220, 319, 320, 419, 420 and 491;
- 18 hours in music theory, including 150, 150L, 152, 152L, 250, 250L, 252, 252L and 453;
- 6 hours in music history (Music 361 and 362)
- 2 hours in conducting (Music 363);
- 1 hour in improvisation (Music 236);
- 3 hours of elective in contemporary world music, to be selected from 417, 418, 422 or 436;
- 2 to 4 hours in applied music in secondary instruments, as follows:
Piano Emphasis: 2 hours of 119 and 120 in voice
Vocal 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;
- 4 hours of Diction for Singers (Music 209 and 210).

Subtotal for Piano or Vocal Emphasis **44**

Subtotal for Guitar Emphasis **46**

3. Professional Education: Music Education

- 8 hours in ensemble, specifically Mus Ed 243 *Concert Choir* (see Ensemble Requirements, page 452, for specific requirements);
- 4 to 5 hours in Mus Ed 155 *Orchestral Instruments*, as follows:
Piano and Vocal Emphasis: 5 hours, including guitar and four selected from brass, woodwinds or strings
Guitar Emphasis: 4 hours, selected from brass, woodwinds or strings;
- 12 hours in music education methods, including:
Mus Ed 213 *Choral Lab* (2 semesters with a grade of CR),
Mus Ed 313 *Choral Music Methods*
Mus Ed 346 *Teaching Music in the Elementary Schools*
Mus Ed 388 *Music Pedagogy* (in vocal pedagogy)
Mus Ed 446 *Secondary School Music*;

d. 4 hours in foundations, including: Mus Ed 194 <i>Introduction to Music Education</i> Mus Ed 451 <i>Foundations of Musical Behavior</i> ;	
e. 6 hours in student teaching, including: Mus Ed 400 <i>Student Teaching in the Elementary School</i> Mus Ed 461 <i>Student Teaching in the Secondary Schools</i>	
Subtotal for Piano or Vocal Emphasis	35
Subtotal for Guitar Emphasis	34
Total for Piano or Vocal Emphasis	136
Total for Guitar Emphasis	137

Instrumental Concentration

Includes emphases in strings, wind, 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 <i>Composition I: Exposition</i> Engl 102 <i>Composition II: Analysis and Argument</i> and one of the following: C & J 130 <i>Public Speaking</i> C & J 220 <i>Communication for Teachers</i>	
b. 6 hours of electives in mathematics, to be selected from the list of courses under College of Fine Arts Graduation Requirements (see page 427). Note: Math 100 and 120 cannot fulfill this requirement.	
c. 12 hours in science, including Physcs 108 <i>Introduction to Musical Acoustics</i> , Physcs 108L <i>Musical Acoustics Laboratory</i> 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 Psych 105 <i>General Psychology</i> and Psych 220 <i>Developmental Psychology</i> .	
e. 12 hours in general history, including: Hist 101L <i>Western Civilization</i> Hist 102L <i>Western Civilization</i> Hist 161L <i>History of the United States to 1877</i> Hist 162L <i>History of the United States Since 1877</i>	
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 string emphasis only).	
Subtotal for String Emphasis	59
Subtotal for Wind, Percussion, Piano or Guitar Emphasis	57

2. Teaching Field: Music

a. four semesters of Music 101 <i>Concert Music</i> with a grade of CR;	
b. 8 hours of applied music in the principal instrument, including Ap Mus 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 (Music 361 and 362)	
e. 2 hours in conducting (Music 363);	
f. 1 hour in improvisation (Music 236);	
g. 3 hours of elective in contemporary world music, to be selected from 417, 418, 422 or 436;	
h. 2 hours vocal study, including 1 hour in either 109 or Ap Mus 119 (Voice) and 1 hour of either Music 143 or Music 243.	
Subtotal	40

3. Professional Education: Music Education

a. 8 hours in ensemble (see Ensemble Requirements, page 452, for specific requirements);	
b. 8 hours in Mus Ed 155 <i>Orchestral Instruments</i> ;	

c. 10 to 13 hours in music education methods, including: Mus Ed 215 <i>Instrumental Lab</i> (2 semesters with a grade of CR), Mus Ed 315 <i>Instrumental Music Methods</i> Mus Ed 317 <i>Jazz Methods</i> (not required of string concentrates) Mus Ed 441 <i>Marching Band Methods</i> (not required of string concentrates) Mus Ed 346 <i>Teaching Music in the Elementary Schools</i> Mus Ed 415 <i>Instrumental Repertory</i> Mus Ed 446 <i>Secondary School Music</i> ;	
d. 4 hours in foundations, including: Mus Ed 194 <i>Introduction to Music Education</i> Mus Ed 451 <i>Foundations of Musical Behavior</i> ;	
e. 6 hours in student teaching, including: Mus Ed 400 <i>Student Teaching in the Elementary School</i> Mus Ed 461 <i>Student Teaching in the Secondary Schools</i>	
Subtotal for String Emphasis	36
Subtotal for Wind, Percussion, Piano or Guitar Emphasis	39
Total for String Emphasis	135
Total for Wind, Percussion, Piano or Guitar Emphasis	136

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, 140, 172 or 271;	
c. 3 hours selected from 371, 374, 417, 418, 422 or 436;	
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 available only to students majoring in Elementary Education. Students electing this program must pass the piano proficiency examination and the vocal proficiency examination (consult the *Department of Music Undergraduate Student Handbook* for details). Students seeking a minor in music education must complete the following curriculum:

a. 8 hours in music theory (150, 150L, 152 and 152L);	
b. 4 hours in piano;	
c. 2 hours in voice;	
d. 1 hour in a major choral ensemble; (See Ensemble Requirements, for specific requirements)	
e. 2-3 hours of music education electives;	
f. 3 hours of electives in music history or music appreciation, to be selected from 139, 140, 371;	
g. 3-4 hours of free electives in music or music education.	
Total	24

**Ensemble Requirements: All
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 for 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 and Concert Choir. Las Cantantes (Women's Chorus) may satisfy a limited number of credit hours toward the major ensemble requirement with the permission of the directors of both the Concert Choir and Las Cantantes.

Bachelor of Music:

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 Music 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 Music 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 Coordinator of Keyboard Studies in consultation with the student's applied piano instructor.

Instrumental Emphasis with principal instrument other than organ, piano or guitar: 10 hours total

Eight semesters in a major instrumental ensemble
NOTE: Students who are enrolled for applied string lessons must participate in the UNM Symphony Orchestra unless their performance is judged to be not on a par with the standards of the ensemble. In this case, another ensemble may be substituted to fulfill the major ensemble requirement. Bassists may fulfill their ensemble requirement in Jazz Ensemble or other ensembles as dictated by their program and as agreed to by the string area faculty.

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).

Four semesters in a major choral ensemble (students must audition for Music 243 *Concert Choir* and participate in the choral ensemble to which they are assigned; up to four semesters of Las Cantantes

may count toward the major choral ensemble requirement).

Vocal Emphasis: 8 hours total

Eight semesters in a major choral ensemble (students must audition for Music 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 Music 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.

String Pedagogy Concentration

Seven semesters in Symphony Orchestra; plus
One semester in chamber music

Jazz Studies Concentration

Four semesters in a major ensemble NOTE: These are in addition to the four hours of Music 231 *Chamber Music* in Jazz Combo and the six hours of Music 234 *Jazz Band* that are already required for the degree.

Bachelor of Arts in Music

Four semesters in an appropriate major ensemble.

Bachelor of Music Education

Eight semesters in a major ensemble as follows:

Instrumental Concentration:

Wind 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.

String Emphasis: Students must audition for Symphony Orchestra.

Piano and Guitar Emphases: Students must participate in the ensemble appropriate for Wind 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.

Vocal Concentration:

Vocal Emphasis: Students must audition for Music 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 Vocal Emphasis.

Music Education Minor

One semester in a major choral ensemble (students must audition for Music 243 *Concert Choir* and participate in the choral ensemble to which they are assigned).

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 Music 499 *Senior Thesis*. 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.

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, or \$10 for courses offered on a variable credit basis (variable-credit courses in Applied Music are charged at the rate of \$5.00 for 1-2 hours credit and \$10 for 2-4 hours credit). 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, or \$18 for courses offered on a variable credit basis (variable-credit courses in Applied Music are charged at the rate of \$12.00 for 1-2 hours credit and \$18 for 2-4 hours credit). 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
Karl Hinterbichler

Application Information

Applications are reviewed as they are received, but a prospective student should submit all materials by:

Fall semester:	July 1
Spring semester:	November 1
Summer session:	April 24

To be eligible for financial aid the student must submit all application materials by March 1.

NOTE: Early application is recommended.

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 before their first classes begin. If the graduate placement tests reveal deficiencies, appropriate course work will be required. All entering graduate students pursuing the Concentrations in Music History and Literature, Theory and Composition, Performance, Collaborative Piano and Conducting must take placement tests in music theory and music history. A student wishing to pursue a Concentration in Performance (Voice), Conducting, Theory and Composition or Music History and Literature will also take a piano proficiency test. 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. The *Department of Music Graduate Student Handbook* and a letter, sent upon application, will advise further concerning these tests.

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.

Fees. Graduate students must pay all course fees as described above.

Graduate Minor in Music. A candidate for a graduate minor in music should consult the chairperson of the department before declaring this minor.

Graduate Recital Requirements

No graduate student may enroll for Graduate Recital prior to Admission to Candidacy (exceptions may be made for students working toward the Master of Music in Collaborative Piano). Admission to Candidacy means that the student has completed 12 hours of graduate work, including Music 531 *Bibliography and Research*, with a cumulative grade point average of at least 3.0, and has satisfied any requirements specific to his or her degree (e.g., foreign language, diction). See the *Department of Music Graduate Student Handbook* for further information.

Recital requirements:

1. The student must organize a preview performance of the recital program for the approval of his or her appropriate faculty committee not less than two weeks before the proposed recital date.
2. 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. After approval by the student's major professor and advisory committee, and no later than one month prior to the recital, the notes must be submitted to the Graduate Coordinator for approval. The student will then make corrections, if any are required, and resubmit the notes two weeks or more before the recital. The student may not perform his or her graduate recital until the notes have been approved by the Graduate Coordinator 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, so that the Graduate Coordinator can see the notes one month before the recital. Refer to the *Department of Music Graduate Student Handbook* for further information and requirements.

3. The student must deposit a recording of the Graduate Recital with the Department of Music. 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.)

Music 531 Bibliography and Research	3
Music 599 Master's Thesis	6

Music History Electives (9 hrs.)

Must be chosen from among the following courses:

Music 513 Medieval and Renaissance Music	3
Music 514 Studies in Baroque Music	3
Music 515 Studies in Classic and Romantic Music	3
Music 516 Studies in Twentieth-Century Music	3
Music 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:

Music 525 Post-Tonal Theory	3
Music 527 Theory Pedagogy	3
Music 528 Music Styles Before 1750	3
Music 529 Techniques of Twentieth-Century Composition	3
Music 539 Selected Topics in Music Theory	3
Music 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 Music 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 pursuing the Master of Music Concentration in Theory and Composition must submit, with the application, either a theoretical research paper or three original compositions, one of which is of substantial length. A theoretical research paper or a transcription or an

arrangement for instruments may substitute for one of the compositions submitted.

Program of Study (26 hrs. plus thesis)

Required Courses (17 hrs.)

Ap Mus 501 Studio Instruction in the Principal Area of Concentration—Composition	2
Music 525 Post-Tonal Theory*	3
Music 527 Theory Pedagogy	3
Music 531 Bibliography and Research	3
Music 599 Master's Thesis	6

Music Electives (9 hrs.)

Must be chosen from among the following courses:

Music 513 Medieval and Renaissance Music	3
Music 514 Studies in Baroque Music	3
Music 515 Studies in Classic and Romantic Music	3
Music 516 Studies in Twentieth-Century Music	3
Music 528 Music Styles Before 1750	3
Music 529 Techniques of Twentieth-Century Composition* (elective only for music theory emphasis)	3
Music 537 Selected Topics in Music Literature	3
Music 539 Selected Topics in Music Theory* (may be required for music theory emphasis)	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 Music 560 *Ensemble Performance*; 2 hours of ensemble credit will apply toward the degree. Two hours from Music 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 Music 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 an aria from opera or oratorio and songs in Italian, French, German and English. Please contact the Chairperson of the Music Department for audition appointments; early auditions are encouraged.

Special Prerequisites—Voice. Those 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.)

Ap Mus 501 Studio Instruction in the Principal Area of Concentration	4
Ap Mus 502 Studio Instruction in the Principal Area of Concentration	4
Music 531 Bibliography and Research	3
Music 588 Music Pedagogy—Voice (M.M. in Voice Performance only)*	2
Music 589 Music Pedagogy—Voice (M.M. in Voice Performance only)*	2
Ap Mus 591 Studio Instruction and Graduate Recital**	4

* 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:

Music 513	Medieval and Renaissance Music	3
Music 514	Studies in Baroque Music	3
Music 515	Studies in Classic and Romantic Music	3
Music 516	Studies in Twentieth-Century Music	3
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 528	Music Styles Before 1750	3
Music 529	Techniques of Twentieth-Century Composition	3
Music 537	Selected Topics in Music Literature	3
Music 539	Selected Topics in Music Theory	3

Free Electives (4–8 hrs.)

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 Music 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.

Program of Study (32 hrs.)

Required Courses (19 hrs.)

Ap Mus 501	Studio Instruction in the Principal Area of Concentration—Conducting	4
Ap Mus 502	Studio Instruction in the Principal Area of Concentration—Conducting	4
Ap Mus 519	Studio Instruction Outside the Major Area of Concentration—Voice or Instrument	1
Ap Mus 520	Studio Instruction Outside the Major Area of Concentration—Voice or Instrument	1
Music 531	Bibliography and Research	3
Music 560	Ensemble Performance	1+1
Ap Mus 591	Studio Instruction and Graduate Recital*	4

Music Electives (9 hrs.)

Must be chosen from among the following courses:

Music 513	Medieval and Renaissance Music	3
Music 514	Studies in Baroque Music	3
Music 515	Studies in Classic and Romantic Music	3
Music 516	Studies in Twentieth-Century Music	3
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 528	Music Styles Before 1750	3
Music 529	Techniques of Twentieth-Century Composition	3
Music 537	Selected Topics in Music Literature	3
Music 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 emphasis, 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. At least one month before the recital preview, the student must submit a program for the approval of the Music Graduate Committee. 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.)

Ap Mus 501	Studio Instruction in the Principal Area of Concentration—Piano	4
Ap Mus 502	Studio Instruction in the Principal Area of Concentration—Piano	4
Music 591	Studio Instruction and Graduate Recital*	4
Music 531	Bibliography and Research	3
Music 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:

Music 513	Medieval and Renaissance Music	3
Music 514	Studies in Baroque Music	3
Music 515	Studies in Classic and Romantic Music	3
Music 516	Studies in Twentieth-Century Music	3
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 528	Music Styles Before 1750	3
Music 529	Techniques of Twentieth-Century Composition	3
Music 537	Selected Topics in Music Literature	3
Music 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 Music 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) and that the student is certified to teach in the public school system.

Program of Study (Plan I: 26 hrs. plus thesis; Plan II: 32 hrs.)

Required Courses (Plan I: 15 hrs.; Plan II: 13 hrs.)

Mus Ed 532 Introduction to Research in Music Education	3
Mus Ed 534 Seminar in Music Education	3
Mus Ed 550 Philosophy of Music Education	3
For Plan I:	
Mus Ed 599 Master's Thesis	6
For Plan II:	
Mus Ed 598 Music Education Project	4

Electives in Music (12 hrs.)

Any courses in Applied Music, Conducting, Contemporary World Music, History and Literature, Pedagogy, Technology in Music, Theory and Composition, or Interdisciplinary Studies. 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 eight hours in Applied Music and Conducting, five hours of workshops, and two hours of Music 560 *Ensemble Performance* will apply toward the degree.

Music (Music)

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) Vetrinskaya
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) Staff
Group instruction.

114. Mexican Guitar. (1) Staff
Continuation of 113.

116. Group Guitar. (2) Mayne
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}

139. Music Appreciation. (3) Lau, Lombardi, Spiro, Panaiotis
A nontechnical course designed to expand the student's ability to listen actively. Repertoire includes compositions from chamber music and symphonic literature. {Summer, Fall}

140. Music Appreciation. (3) Lau, Lombardi, Spiro, Panaiotis
A nontechnical course designed to expand the student's ability to listen actively. Repertoire includes compositions from symphonic, chamber music and vocal literature and is entirely different from that presented in Music 139. {Summer, Spring}

172. Jazz History. (3) Tatum, Winn
A study of the evolution of jazz in the United States from its beginnings to the present. {Summer, Fall, Spring}

271. Music Today. (3) Pyle, Schepps
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. {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) Patrick, Block, Klemenc, Staff
A survey of important types of folk music in North America (Canada, Mexico and the United States). Music reading ability not required.

374. Music of the Southwest. (3) Staff
Survey of the musical tradition of the Southwest, with special emphasis on New Mexico. Presents history, performance practice and the effect acculturation has had upon the music. Open to majors and non-majors. Features field work, live performance and guest lecturers.

Conducting

363. Conducting. (2) ¹ Pérez-Gómez
Basic theory and techniques of conducting.
Prerequisites: 252, junior standing in the major field. {Fall}

365. Instrumental Conducting. (2) Pérez-Gómez
Instrumental conducting techniques, score reading, interpretation.
Prerequisite: 363. {Spring}

565. Advanced Instrumental Conducting. (2) Pérez-Gómez, Rombach-Kendall
{Spring}

Contemporary World Music

417/517. Native American Music. (3) Williams
(Also offered as Nat Am 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) Williams
(Also offered as Nat Am 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) Williams
(Also offered as Nat Am 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. Attendance at two traditional music/dance events is required. {Spring, alternate years}

436/536. Selected Topics in Contemporary World Music. [Selected Topics in Ethnomusicology.] **(3, no limit)**
Δ Staff
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.
Prerequisite: permission of instructor. {Offered upon demand}

FINE ARTS

444/544. Anthropology of World Beat. (3) Feld
(Also offered as Anth 444./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.

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. (E)

517/417. Native American Music. (3) 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) 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) 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. Attendance at two traditional music/dance events is required. (Spring, alternate years)

536/436. Selected Topics in Contemporary World Music. [Selected Topics in Ethnomusicology.] (3, no limit)
△ Staff
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.
Prerequisite: permission of instructor. (Offered upon demand)

544/444. Anthropology of World Beat. (3) Feld
(Also offered as Anth 544./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.

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) △² Ellingboe
Large mixed chorus. Open to all University students; no audition required. (Fall, Spring)

230. Opera Studio. (1, no limit) △ Tyler
Basic training in music theatre. Open by audition to singers, conductors, pianists, stage directors and producers. (Fall, Spring)

231. Chamber Music. (1, no limit) △
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) △ Sheinberg
A vocal and instrumental ensemble specializing in the performance of music of the Middle Ages, Renaissance and early Baroque. (Fall, Spring)

233. Symphony Orchestra. (1, no limit) △² Pérez-Gómez
(Also offered as Music Ed 233.) Study and public performance of symphonic literature. Auditions required. (Fall, Spring)

234. Jazz Band. (1, no limit) △ 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) △² Rombach, Staff
(Includes Wind Symphony, Symphonic Band, Concert Band, Marching Band, Basketball Band.)
(Also offered as Mus Ed 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. (Fall, Spring)

243. Concert Choir. (1, no limit) △² Staff
(Also offered as Mus Ed 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. (Fall, Spring)

395/595. Accompanying. (1, no limit) △ Pyle
Study and performance of accompaniment practice.
Prerequisites: junior standing in music or permission of instructor. Non-majors may enroll with permission of instructor. (Fall, Spring)

***430. Advanced Opera Studio. (1, no limit)** △¹ Tyler
Advanced performance in music theatre and opera, culminating in major performances. Open by audition to singers, conductors, pianists, stage directors, and producers.
Prerequisite: 230. (Fall, Spring)

560. Ensemble Performance. (1, no limit) △
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*. (Fall, Spring)

595/395. Accompanying. (1, no limit) △ Pyle
Study and performance of accompaniment practice. (Fall, Spring)

History and Literature

101. Concert Music. (0, no limit) △
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, Patrick
Forms, styles, schools, principal composers and representative masterworks from antiquity through Baroque.
Prerequisite: 152 with a grade of C or better or permission of instructor. (Fall)

362. History of Music II. (3) Hinterbichler, Patrick
Continuation of 361, from Pre-Classical to the present. Music majors only.
Prerequisites: 152, 361 or permission of instructor. (Spring)

413/513. Studies in Medieval and Renaissance Music. (3) Patrick
Music of Western Europe from the Christian Era to the close of the 16th century.
Prerequisites: 361, 362, music major or permission of instructor. (Spring, alternate years)

414/514. Studies in Baroque Music. (3) Patrick
Music of Western Europe, 1600–1750, with emphasis on forms, styles, principal composers and performance practices.
Prerequisites: 361, 362, music major or permission of instructor. (Spring, alternate years)

415/515. Studies in Classic and Romantic Music. (3)

Patrick

Music of Western Europe from 1750–1900.

Prerequisites: 361, 362, music major or permission of instructor. {Fall, alternate years}

416/516. Studies in Twentieth-Century Music. (3)

Patrick, Wood, Shultis

A survey of the chief musical developments in Western Europe and the Americas from 1900 with the emphasis on music composed since 1940.

Prerequisites: 361, 362; music major or permission of instructor. {Fall, alternate years}

437/537. Selected Topics in Music Literature. (3, no limit)

△ Patrick, Hinterbichler, Vigneau

May be repeated for credit, no limit, as long as topic varies.

Prerequisites: 361 and 362 or permission of instructor. {Offered upon demand}

449/549. Music Repertory. (2, no limit) †¹

Comprehensive study of solo repertory for voice or individual instruments. Specific area is announced in the class schedule when the course is offered. {Fall}

513/413. Studies in Medieval and Renaissance Music. (3)

Patrick

Music of Western Europe from the Christian Era to the close of the 16th century. {Spring, alternate years}

514/414. Studies in Baroque Music. (3)

Patrick

Music of Western Europe, 1600–1750, with emphasis on forms, styles, principal composers and performance practices. {Spring, alternate years}

515/415. Studies in Classic and Romantic Music. (3)

Patrick

Music of Western Europe from 1750–1900. {Fall, alternate years}

516/416. Studies in Twentieth-Century Music. (3)

Patrick, Wood, Shultis

A survey of the chief musical developments in Western Europe and the Americas from 1900, with the emphasis on music composed since 1940. {Fall, alternate years}

528. Music Styles Before 1750. (3)

Patrick, Vigneau

This course expects students to analyze the music of the eras being studied.

531. Bibliography and Research. (3)

Patrick

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. {Fall}

537/437. Selected Topics in Music Literature. (3, no limit)

△ Patrick, Hinterbichler, Vigneau

May be repeated for credit, no limit, as long as topic varies. {Offered upon demand}

549/449. Music Repertory. (2, no limit) △

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. {Fall}

Jazz Studies**236. Introduction to Improvisation. (1 to a maximum of 3) † 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. {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 or permission of instructor. {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 with a grade of C or better. {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 or permission of instructor. {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 or permission of instructor. {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 with a grade of C or better or by permission of instructor. {Spring, alternate years}

343. Selected Topics in Jazz Studies. (3, no limit) △

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.

Prerequisite: permission of instructor. {Offered upon demand}

Pedagogy**170. String Pedagogy Seminar I. (2 to a maximum of 4)**

△ Kempter

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) △

Kempter

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)

△ Kempter

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.

Prerequisites: 4 hours 170, 2 hours 170L. Corequisite: 270L. {Fall, Spring}

270L. String Pedagogy Lab II. (1 to a maximum of 2) △

Kempter

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, video taping and discussion in the pedagogy seminar.

Prerequisites: 4 hours 170, 2 hours 170L. Corequisite: 270. {Fall, Spring}

370. String Pedagogy Seminar III. (2 to a maximum of 4) Δ Kempter

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.

Prerequisites: four hours 270, 2 hours 270L. Corequisite: 370L. {Fall, Spring}

370L. String Pedagogy Lab III. (1 to a maximum of 2) Δ Kempter

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.

Prerequisites: 4 hours 270, 2 hours 270L. Corequisite: 370. {Fall, Spring}

388/588. Music Pedagogy. (2, no limit) †¹

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.

Prerequisite: junior standing. {Fall}

389/589. Music Pedagogy. (2, no limit) †¹

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.

Prerequisites: 388 and junior 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. Students will perform a half-recital in the community and at the University of New Mexico; an intermediate/advanced musical score will be analyzed and discussed pedagogically.

Prerequisites: 4 hours 370, 2 hours 370L. Corequisite: 470L. {Fall, Spring}

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.

Prerequisites: 4 hours 370, 2 hours 370L. Corequisite: 470. {Fall, Spring}

527. Theory Pedagogy. (3) Wood

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}

588/388. Music Pedagogy. (2, no limit) †

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. {Fall}

589/389. Music Pedagogy. (2, no limit) †

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. Prerequisite: 588. {Spring}

Piano**111. Group Piano I. (1, no limit) † Ward, Staff**

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.

Prerequisite: permission of instructor. {Fall, Spring}

112. Group Piano II. (1, no limit) † Ward, Staff

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.

Prerequisite: 111 or permission of instructor. {Fall, Spring}

211. Group Piano III. (1, no limit) † Ward, Staff

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.

Prerequisite: 112 or permission of instructor. {Fall, Spring}

212. Group Piano IV. (1, no limit) † Ward, Staff

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.

Prerequisite: 211 or permission of instructor. {Fall, Spring}

Technology in Music**311/511. Computer Applications I. (2) Repair**

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) Repair

An introductory examination of the process of gathering, processing and editing sound on a digital audio work station.

Prerequisite: permission of instructor.

481/581. Recording Techniques II. (2) Geist

Continuation of 380. This course is task-based, with emphasis on individual projects and hands-on training.

Prerequisite: 380 or permission of instructor. {Spring}

511/311. Computer Applications I. (2) Repair

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.

512/412. Computer Applications II. (2) Repair

An introductory examination of the process of gathering, processing and editing sound on a digital audio work station.

Prerequisite: permission of instructor.

580/380. Recording Techniques I. (2) Geist

Introduction to modern studio recording techniques. {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.

Prerequisite: 580 or permission of instructor. {Spring}

Theory and Composition**150. Music Theory I. (4)**

Fundamentals, part-writing and harmonic analysis: introduction to diatonic theory.

Corequisite: 150L. {Fall}

150L. Music Theory I Aural Lab. (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. (4)

Continuation of 150. Further part-writing using diatonic materials; modulation and tonicization.

Prerequisites: 150 and 150L with a grade of C or better. Corequisite: 152L. {Spring}

152L. Music Theory II Aural Lab. (0)

Continuation of 150L. Development of accurate perception of diatonic materials through more dictation, sight-singing and rhythmic studies. Greater emphasis on musicianship.
Prerequisites: 150 and 150L with a grade of C or better.
Corequisite: 152. (Spring)

250. Music Theory III. (4)

Continuation of 152. Introduction to chromaticism and modulation to remote key areas.
Prerequisites: 152 and 152L with a grade of C or better.
Corequisite: 250L. (Fall)

250L. Music Theory III Aural Lab. (0)

Continuation of 152L. Advanced singing and dictation correlated with the materials in 250.
Prerequisites: 152 and 152L with a grade of C or better.
Corequisite: 250. (Fall)

252. Music Theory IV. (4)

Continuation of 250. Continuation of chromatic harmony and analysis.
Prerequisites: 250 and 250L with a grade of C or better.
Corequisite: 252L. (Spring)

252L. Music Theory IV Aural Lab. (0)

Continuation of 250L. Advanced ear-training, mastering chromatic melodies and clefs.
Prerequisites: 250 and 250L with a grade of C or better.
Corequisite: 252. (Spring)

254. [204.] 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 with a grade of C or better. (Spring)

305. Composition I. (2) Block, Lombardi, Shultis

Beginning compositional techniques, introducing 20th-century harmony.
Prerequisite: 254 with a grade of C or better. (Fall)

306. Composition II. (2) Block, Shultis, Lombardi

Beginning compositional techniques, introducing 20th-century harmony. Continuation of 305.
Prerequisite: 305. (Spring)

309. Form and Analysis. (2)¹ 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.
Prerequisite: 252 with a grade of C or better. (Fall, alternate years)

325/525. 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 (Messaien, Cage, Carter, Stockhausen) will be discussed with some rudimentary ear-training.
Prerequisite: 250 with a grade of C or better. (Spring, alternate years)

405/505. Sixteenth-Century Counterpoint. (2)¹ Wood

Analysis and writing in the style of the 16th century.
Prerequisites: 152 with a grade of C or better. (Spring, alternate years)

406/506. Eighteenth-Century Counterpoint. (2)¹ Wood

Analysis and writing in the style of the 18th century.
Prerequisite: 250. (Spring, alternate years)

409. Composition III. (2)¹ Wood

Techniques and procedures in the composition of music. Continuation of 306.
Prerequisite: 306, 325. (Fall)

410. Composition IV. (2)¹ Wood

Continuation of 409. Composition majors only.
Prerequisite: 409. (Spring)

439/539. Selected Topics in Music Theory. (3, no limit)

△ Block, Hermann, Wood

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.

Prerequisite: permission of instructor. (Offered upon demand)

453. Orchestration. (2)¹ Block, Wood

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.

Prerequisite: 152 with a grade of C or better. (Fall)

505/405. Sixteenth-Century Counterpoint. (2) Wood

Analysis and writing in the style of the 16th century. (Spring, alternate years)

506/406. Eighteenth-Century Counterpoint. (2) Wood

Analysis and writing in the style of the 18th century. (Spring, 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. (Spring, alternate years)

529. Techniques of Twentieth-Century Composition. (3)

Wood

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. (Summer)

539/439. Selected Topics in Music Theory. (3, no limit)

△ Block, Hermann, Wood

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.

Prerequisite: permission of instructor. (Offered upon demand)

Vocal Technique**109. Group Voice I. (1, no limit)** † Staff

Open to beginners in voice except voice performance majors. (Fall, Spring)

110. Group Voice II. (1, no limit) † Staff

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 Art Hi, Dance, M A, 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. Prerequisites: for undergraduates, 6 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation.

487/587. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as Art Hi, Dance, M A, Thea 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.

Prerequisites: for undergraduates, 9 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation.

584. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ

(Also offered as Art Hi, Dance, Thea 584 and M A *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.

Prerequisite: the student must define the utility of the independent study and obtain approval from both a faculty sponsor and the CFA Interdisciplinary committee.

587/487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as Art Hi, Dance, Thea 587 and M A 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.

Prerequisites: for undergraduates, 9 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation. (Spring)

Problems and Special Topics

351. Undergraduate Problems. (1-3 to a maximum of 12) Δ

Prerequisite: junior standing. {Fall, Spring, Summer}

435/535. Special Topics in Music. (1-3, no limit) Δ Staff

May be repeated for credit, no limit as long as subject matter varies.

Prerequisite: Permission of instructor. {Offered upon demand}

535/435. Special Topics in Music. (1-3, no limit) Δ Staff

May be repeated for credit, no limit as long as subject matter varies.

Prerequisite: Permission of instructor. {Offered upon demand}

551. Graduate Problems. (1-3 to a maximum of 12) Δ

{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) †

Offered on a CR/NC basis only. {Summer, Fall, Spring}

Footnotes:

¹ Open only to graduate students and to undergraduates enrolled in B.M., B.A. in Music or B.M.E. degree programs of the Department of Music.

Exceptions may be made with permission of the chairperson of the department. Graduate credit allowed only when asterisk appears.

² 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.

Applied Music (Ap Mus)

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.

Group Instruction. Class instruction is available for students whose experience and background do not qualify them for private instruction. The Applied Music fee is not charged for these courses. Course numbers are:

Music 111, 112, 211, 212 *Group Piano I-IV*
Music 109, 110 *Group Voice I-II*

Private Instruction. Appropriate course numbers are designated in degree plan descriptions. A summary of Applied Music course numbers is given below:

101, 102, 201, 202, 301, 302, 401, 402 *Studio Instruction for the Performance Concentration:*

for study of the principal instrument (or voice) by students pursuing the Bachelor of Music in Performance

107, 108, 207, 208, 307, 308, 407, 408 *Studio Instruction for the Non-Major:*

a. for applied music study by students pursuing the Music Minor or Music Education Minor

b. for applied music study by non-music majors

118 *Basic Applied Skills:*

For applied music study by music majors whose skills have been determined to be not yet sufficient for study at the 119 level.

119, 120, 219, 220, 319, 320, 419, 420 *Studio Instruction for the Non-Performance Concentration:*

a. for study of the principal instrument (or voice) by students pursuing the Bachelor of Arts, Bachelor of Music Education or Bachelor of Music in String Pedagogy or Jazz Studies

b. for study of composition by students pursuing the Bachelor of Music in Theory and Composition

c. for study of secondary instruments by students pursuing the Bachelor of Arts, Bachelor of Music Education (all concentrations) or Bachelor of Music (all concentrations)

NOTE: These course numbers are offered for either 1 or 2 credit hours; consult degree plans regarding the number of hours that are required.

391 *Junior Recital*, 491 *Senior Recital*.

These courses may be taken only by those students whose degree plans require an undergraduate recital. They are to be taken in conjunction with the appropriate level of *Studio Instruction*. See the course descriptions for complete information.

501, 502 *Studio Instruction in the Principal Area of Concentration:*

a. for study of the principal instrument (or voice) by students pursuing the Master of Music in Performance or Collaborative Piano

b. for study of the principal area of concentration (Conducting or Composition) by students pursuing the Master of Music in Conducting or Theory and Composition

519, 520 *Studio Instruction Outside the Principal Area of Concentration:*

a. for study of the principal instrument (or voice) by students pursuing the Master of Music in Music History and Literature, Music Education, Conducting or Theory and Composition

b. for study of secondary instruments by students pursuing the Master of Music (any concentration)

591 *Studio Instruction and Graduate Recital:*

This course is to be taken only by those students whose degree plans require a graduate recital. It includes studio instruction. See the course description for complete information.

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 Bachelor of Music, Bachelor of Music Education or Master of Music degrees;
- students pursuing the Bachelor of Arts in Music, Music Minor, or Music Education Minor when the applied instruction is required by the degree program;
- full-time undergraduate and graduate students pursuing non-music degrees (these students must have the approval of the Department chairperson; instruction dependent upon the availability of faculty studio space and departmental resources).
- Additional priorities may be assigned for applied instruction in 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 the *Department of Music Undergraduate Handbook* for specific area requirements. Students who do not participate in a major ensemble as required in the *Handbook* will be withdrawn from Applied Music.

The following exemptions will be made to the above policy:

- Students pursuing the Bachelor of Music Concentration in String Pedagogy will be exempt from major ensemble participation during their final semester of Applied Music (Ap Mus 420). If the student continues to study applied music beyond the eight semesters required by the degree, he or she must then also participate concurrently in a major ensemble.
- Students pursuing the Bachelor of Music Concentration in Theory and Composition will be exempt from concurrent major ensemble participation, but major ensemble requirements must be fulfilled for completion of the degree (see Ensemble Requirements, page 458).
- 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 Music Education Minor are exempt from concurrent major ensemble participation while enrolled in applied music in piano or voice, provided the major ensemble degree requirement has been satisfied (see Ensemble Requirements, page 458). If the student continues to study applied music in piano or voice beyond the semesters required by the degree, he or she must then also participate concurrently in a major ensemble.

101. Studio Instruction for the Performance Concentration. (2 to a maximum of 6)¹ Δ

Studio instruction in the principal instrument for the freshman Bachelor of Music Performance Concentration. Prerequisite: audition and permission of instructor. {Fall, Spring}

102. Studio Instruction for the Performance Concentration. (2 to a maximum of 6)¹ Δ

Studio instruction in the principal instrument for the freshman Bachelor of Music Performance Concentration. Prerequisite: 101 and permission of instructor. {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. Prerequisite: audition and permission of instructor. {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. Prerequisite: 107 and permission of instructor. {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 Music 119 (private lessons). Scales, arpeggios, études, technical drills. Credit not applicable to a degree in Music. Prerequisite: permission of instructor. {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. Prerequisites: audition and permission of instructor. {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. Prerequisites: 119 and permission of instructor. {Fall, Spring}

201. Studio Instruction for the Performance Concentration. (2 to a maximum of 6)¹ Δ

Studio instruction in the principal instrument for the sophomore Bachelor of Music Performance Concentration. Prerequisites: 102 and permission of instructor. {Fall, Spring}

202. Studio Instruction for the Performance Concentration. (2 to a maximum of 6)¹ Δ

Studio instruction in the principal instrument for the sophomore Bachelor of Music Performance Concentration. Prerequisites: 201 and permission of instructor. {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. Prerequisite: 108 and permission of instructor. {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. Prerequisite: 207 and permission of instructor. {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. Prerequisites: 120 and permission of instructor. {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.
 Prerequisites: 219 and permission of instructor. (Fall, Spring)
- 301. Studio Instruction for the Performance Concentration. (3 to a maximum of 9) $^1 \Delta$**
 Studio instruction in the principal instrument for the junior Bachelor of Music Performance Concentration.
 Prerequisites: 202 and permission of instructor. (Fall, Spring)
- 302. Studio Instruction for the Performance Concentration. (3 to a maximum of 9) $^1 \Delta$**
 Studio instruction in the principal instrument for the junior Bachelor of Music Performance Concentration.
 Prerequisites: 301 and permission of instructor. (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.
 Prerequisite: 208 and permission of instructor. (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.
 Prerequisite: 307 and permission of instructor. (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.
 Prerequisites: 220 and permission of instructor. (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.
 Prerequisites: 319 and permission of instructor. (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; no extra lesson time is allotted for 391. Consult the *Department of Music Undergraduate Student Handbook* for requirements associated with the junior recital.
 Prerequisite: permission of instructor. Corequisite: 301 or 302 for Performance major; 319 or 320 for Jazz Studies major.
Offered on a CR/NC basis only. (Fall, Spring)
- 401. Studio Instruction for the Performance Concentration. (4 to a maximum of 12) $^1 \Delta$**
 Studio instruction in the principal instrument for the senior Bachelor of Music Performance Concentration.
 Prerequisites: 302 and permission of instructor. (Fall, Spring)
- 402. Studio Instruction for the Performance Concentration. (4 to a maximum of 12) $^1 \Delta$**
 Studio instruction in the principal instrument for the senior Bachelor of Music Performance Concentration.
 Prerequisites: 401 and permission of instructor. (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.
 Prerequisite: 308 and permission of instructor. (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.
 Prerequisite: 407 and permission of instructor. (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.
 Prerequisites: 320 and permission of instructor. (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.
 Prerequisites: 419 and permission of instructor. (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; no extra lesson time is allotted for 491. Consult the *Department of Music Undergraduate Student Handbook* for requirements associated with the senior recital.
 Prerequisite: permission of instructor. Corequisite: 401 or 402 for Performance major; 419 or 420 for String Pedagogy, Theory and Composition, Jazz Studies or B.M.E. **Offered on a CR/NC basis only.** (Fall, Spring)
- 501. [501.–502.] Studio Instruction in the Principal Area of Concentration.** [Studio Instruction in the Major Instrument.] **(2 or 4 to a maximum of 8) Δ**
 Studio instruction in the principal instrument (including voice) for students pursuing the Master of Music in Performance or Collaborative Piano. Studio instruction in the principal area of concentration for students pursuing the Master of Music in Conducting or Theory and Composition.
 Prerequisite: permission of instructor. (Fall, Spring)
- 502. [501.–502.] Studio Instruction in the Principal Area of Concentration.** [Studio Instruction in the Major Instrument.] **(2 or 4 to a maximum of 8) Δ**
 Studio instruction in the principal instrument (including voice) for students pursuing the Master of Music in Performance or Collaborative Piano. Studio instruction in the principal area of concentration for students pursuing the Master of Music in Conducting or Theory and Composition.
 Prerequisite: permission of instructor. (Fall, Spring)
- 519. [519–520.] Studio Instruction Outside the Principal Area of Concentration.** [Studio Instruction in Secondary Instrument.] **(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 degree in Conducting, Music Education, Theory and Composition, or Music History and Literature.
 Prerequisite: permission of instructor. (Fall, Spring)
- 520. [519–520.] Studio Instruction Outside the Principal Area of Concentration.** [Studio Instruction in Secondary Instrument.] **(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 degree in Conducting, Music Education, Theory and Composition, or Music History and Literature.
 Prerequisite: permission of instructor. (Fall, Spring)

591. Studio Instruction and Graduate Recital. [Graduate Recital.] **2 or 4 to a maximum of 8** [2-4 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.

Prerequisites: 502 and permission of instructor. {Fall, Spring}

Footnote:

¹ 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.

Music Education (Mus Ed)

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}

213. Choral Lab. (0) Staff

Designed to provide future choral teachers with experience conducting and rehearsing standard literature with a choral ensemble.

Prerequisites: 194, two semesters of Music 101. **Offered on a CR/NC basis only.** {Spring, 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.

Prerequisites: 194, two semesters of Music 101. **Offered on a CR/NC basis only.** {Spring, alternate years}

233. Symphony Orchestra. (1, no limit) Δ^2 Pérez-Gómez

(Also offered as Music 233.) Study and public performance of symphonic literature. Auditions required. {Fall, Spring}

241. University Band. (1, no limit) Δ^2 Rombach, Staff

(Also offered as Music 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. {Fall, Spring}

243. Concert Choir. (1, no limit) Δ^2 Staff

(Also offered as Music 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. {Fall, Spring}

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.

Prerequisite: 298 or permission of instructor. {Spring}

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. (4) Staff

Administration, organization, literature, teaching and conducting techniques appropriate for public school choral programs. Prerequisites: 346, 446, Music 363. {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.

Prerequisites: 194, successful completion of Music Ed screening. {Fall}

400. Student Teaching in the Elementary School. (3-6)

†† Carlow, Dalby

See the *Department of Music Undergraduate Student Handbook* for prerequisites. {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.

Prerequisite: 194. {Fall, alternate years}

429/529. [*429.] Workshop. (1-4, no limit) Δ

Intensive study of a particular topic related to the field of Music Education. {Summer}

438/538. [*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. {Offered upon demand}

441. Marching Band Methods. (2) Staff

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. Music for the Pre-school Child. (3)** Staff

The teacher in private pre-school institutions, church schools, kindergarten; the role of the music consultant.

Prerequisite: junior standing. {Offered upon demand}

***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}

451. Foundations of Musical Behavior. (3) Kempter

This interdisciplinary course is designed to introduce students to a variety of research findings pertinent to music teaching and learning.

Prerequisite: junior standing. {Spring}

461. Student Teaching in the Secondary Schools. (3-6)

†† Dalby, Carlow

See the *Department of Music Undergraduate Student Handbook* for prerequisites. {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. {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. {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. {Every third Summer and every third Spring}

538/438. Selected Topics in Music Education. (3, no limit) Δ Dalby, Carlow, Staff

This course allows permanent or visiting faculty to focus a course structured around their expertise or research activities. {Offered upon demand}

550. Philosophy of Music Education. (3) Dalby

An examination of relevant topics and issues in music education philosophy, aesthetics and history. {Every third Summer and every third Spring}

551. Graduate Problems. (1-3 to a maximum of 12) Δ

Dalby, Carlow
{Summer, Fall, Spring}

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. {Summer, Fall, Spring}

599. Master's Thesis. (1-6) 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. **Offered on a CR/NC basis only.** {Summer, Fall, Spring}

Footnote:

² 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.

THEATRE AND DANCE

Judith Chazin-Bennahum, Chairperson
Located in the Center for the Arts 1412
MSC04-2570

1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-4332, FAX (505) 277-8921
e-mail: theatre@unm.edu

Donna Jewell, Head of Dance
Located in Carlisle Gym 108
(505) 277-3660, FAX (505) 277-9625
e-mail: dance@unm.edu

Professors

Judith Chazin-Bennahum (Dance), Ph.D., The University of New Mexico
Eva Enciñas-Sandoval (Dance), Extensive Professional Experience
James Linnell (Theatre), Ph.D., University of California (Berkeley)
John Malolepsy (Design), M.F.A., University of Wisconsin

Susan Pearson-Davis (Theatre), M.F.A., Southern Methodist University
Jennifer Predock-Linnell (Dance), Ph.D., The University of New Mexico
Digby Wolfe (Theatre), Extensive Professional Experience

Associate Professors

Dorothy Baca (Design), M.F.A., University of California (Los Angeles)
Henry Bial (Theatre), Ph.D., New York University, Tisch School of the Arts
Eugene Douglas (Theatre), M.F.A., University of California at Irvine
Gordon Kennedy (Design), M.F.A., University of California (Los Angeles)
Denise Schulz (Theatre), M.F.A., University of Texas

Assistant Professor

Donna Jewell (Dance), M.F.A., New York University, Tisch School of the Arts
William Liotta (Theatre), M.F.A., California Institute of the Arts

Lecturer

Richard Hess (Design), M.A., Kent State University
Kent Parker (Design), M.A., Texas Woman's University

Professors Emeritus

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

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. 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 allows a student of theatre the opportunity to obtain a comprehensive background in the theatre discipline while also achieving an emphasis in a specific focus area of theatre training: acting, directing, dramatic writing, history and criticism, educational theatre, design for performance, management and musical theatre.

The B.A. is designed for students who anticipate further study at the graduate level in a university or conservatory or as apprentice to a professional company. To take full advantage of the areas of emphasis, students must seek advisement from the Department of Theatre and Dance advisors their first semester.

Acting Program emphasis: Advanced placement auditions for acting classes are held in the Fall and Spring semesters on the Saturday after the first week of classes for entrance into the 200 level acting classes and for all transfers.

1. Courses outside the major:

- a. Thirty-seven hours from courses offered by departments of the College of Arts and Sciences including the Core Curriculum (See Fine Arts graduation requirements 6.)
 - 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 second language
- b. Six hours selected from Fine Arts outside the major including 3 hours chosen from Art Hi 101, 201, 202, Media Arts 210, Music 139, 140 or one 3-credit studio course offered by the Departments of Art and Art History, Media Arts or Music.
- c. Seventeen hours of electives chosen from outside the major.

Total outside the major 60 hours

2. Courses in the major: Theatre

- a. Three hours of acting
- b. Fifteen hours of Theatre lecture
 - 223 Introduction to Script Analysis
 - 335 Theatre History I
 - 336 Theatre History II
 - 439 Performance Theories of Theatre
 - 438 Topics in Theatre History/Criticism
- c. Six hours chosen from:
 - 192 Stagecraft I
 - 194 Introduction to Costuming
 - 196 Introduction to Stage Lighting
- d. Two hours of Dance
- e. Three hours of 200 Theatre Practicum
- f. Twenty-four hours in the student's selected emphasis:

General Theatre:

- 355 Fundamentals of Playwriting
- 403 Principles of Directing
- 418 Creative Drama –or– 419 Children's Theatre
- Three hours of a 300 or 400 design course
- Twelve hours Theatre and/or Dance electives

Acting:

- 220–221 Acting Skills I and II
- 224 Voice Production
- 225 Movement
- Twelve additional hours chosen from acting/voice and movement courses (cannot be 120 and 121)

Directing:

- 403 Principles of Directing
- Six hours of 404 Topics in Directing
- Three hours chosen from
 - 415 Theatre for Educational and Social Change

–or–

- 419 Children's Theatre
- 386 Light Aesthetics
- 366 Stage Management
- Three additional hours of acting
- 496 Student Production Project (in Directing)

Drama Education:

- 403 Principles of Directing
- 415 Theatre for Educational and Social Change
- 418 Creative Drama
- 419 Children's Theatre
- 444 Outreach Company
- Three hours of 496 Student Production Project –or–
- 497 Independent Study (in educational theatre)

Three additional hours of acting

Three hours Theatre electives

Dramatic Writing:

- 355 Fundamentals of Playwriting
- 455 Seminar in Playwriting
- 457 Advanced Dramatic Writing Workshop
- 458 Screenwriting
- 460 Comedy Writing I
- 461 Comedy Writing II
- 403 Principles of Directing
- Three hours Theatre electives

History/Criticism:

- Three hours of additional sections of 438 Topics in Theatre History/Criticism
- Three hours Dance 105 Dance Appreciation
- Three hours chosen from Dance History or Dance Criticism

Nine hours chosen from:

- 355 Fundamentals of Playwriting
- 403 Principles of Directing
- 418 Creative Drama
- 419 Children's Theatre
- 300 or 400 design course

Six hours Theatre or Dance Electives

Musical Theatre:

- 220 Acting Skills I
- 221 Acting Skills II
- 224 Voice Production for Actors
- 225 Movement and Voice for Actors
- 328 Musical Theatre
- Nine hours of 428 Topics in Musical Theatre

Total Theatre 53 hours

3. Fifteen hours of free electives from any college (can include Theatre and Dance)

Total Electives 15 hours
Total For Degree 128 hours

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. In addition to theatre, dance, and opera 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. Areas of emphasis include 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.

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Courses outside the major, University requirements (37):

Thirty-seven hours in Arts and Sciences, including the Core Curriculum:

- Nine hours: Writing and speaking
- Three hours: English 352 or 353
- Three hours: Mathematics
- Seven hours: Physical and natural sciences
- Six hours: Social sciences
- Six hours: History 101L and 102L
- Three hours: Foreign language

Courses outside the major, College of Fine Arts requirements (6):

- Six hours Fine Arts outside the major
- Six hours to be chosen from Art Hi 101, 201, 202, Media Arts 210, Music 139, 140

Electives outside the major (17):

Seventeen hours of electives outside the major

Courses in the major (51):

- Twenty-seven hours: Design B.A. requirements
- Three hours: Acting or dance technique
- Nine hours: 192 Stagecraft I, 194 Introduction to Costuming, 196 Introduction to Stage Lighting
- Three hours: 223 Introduction to Script Analysis
- Six hours: 335 Theatre History I, 336 Theatre History II, Dance 462 Dance History I, Dance 463 Dance History II, Dance 464 Dance History III
- Three hours: 387 Design History and Styles
- Three hours: 403 Principles of Directing

Twenty-four hours: Design requirements

- Three hours: 292 Design Drawing Skills
- Three hours: 293 Design Computer Skills
- Three hours: 498 Design Seminar
- Fifteen hours from: 193 Stagecraft II, 200 Theatre Practicum, 296 Lighting Methods and Equipment, 297 Sound for Performance, 298 Pattern Development, 344 The Decorated Body, 370 CAD 2-D/3-D for Designers, 371 Digital Imagery and Production, 386 Light Aesthetics, 391 Advanced Scenic Techniques, 392 Scene Design I: Concept, 394 Costume Design I, 396 Lighting Design I, 398 Costume Techniques, 399 Special Problems in Theatre and Production, 470 Architectural Modeling, Visualization, and Presentation for Designers, 471 Multimedia Production for Designers, 472 3-D Modeling and Animation for Designers, 473 Interactive Design and Technology, 474 3-D Character Animation, 475 Special Topics in Computers for Design, 482 Scene Design Project, 483 Lighting Design II, 485 Costume Design Project, 486 Lighting Design Project, 491 Professional Apprenticeship, 492 Scene Design II: Theatrical, 493 Art Direction for TV/Film, 494 Costume Design II, 496 Student Production Project, 497 Independent Study

Free electives (17):

Seventeen hours including Theatre and Dance

Total hours: 128

Bachelor of Arts in Dance

In Dance, the B.A. program 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. Auditions to be accepted as a dance major in the dance program are the last Saturday in January. Faculty dance concert and guest artist auditions are mandatory for all dance majors. You are required to perform in these works if you are cast.

The Flamenco focus: The University of New Mexico Dance program is the only program in the United States to offer a fully developed curriculum in Flamenco dance technique.

Students may focus, through departmental advisement, on the art of Flamenco while fulfilling B.A. requirements. Students who choose the Flamenco focus will be advised to participate for two summers in the annual Flamenco Festival.

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 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 are intended to prepare students for further study both in and out of academia and for the task of creating their lives as artists, scholars, teachers or professionals. The M.F.A. degree is designed to serve a small and select population of emerging artists and/or professional dancers and choreographers wishing to prepare for teaching careers.

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. 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
 - or— Thea 426 Performance Art
- Subtotal 9**
- b. Thirty hours in non-studio Dance Courses:
 - Dance 105 Dance Appreciation 3
 - Dance 201 Crew Practicum 0
 - Dance 204 Stretch and Strength 3
 - Dance 212 Improvisation 3
 - Dance 250 Movement Analysis I 3
 - Dance 311 Choreography I 3
 - Dance 313 Kinesiology I 3
 - Dance 411 Choreography II 3
 - Dance 416 Dance Pedagogy 3
 - Dance 431 Dance Criticism 3
 - Three hours selected from Dance 462, 463, 464, 465 3
- Subtotal 30**
- c. 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**
- d. 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 or Fine Arts-Dance. 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

Dance 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

Dance 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:

- a. Theatre 120 and 122
- b. Three hours chosen from Theatre 192, 194, 196
- c. Three hours chosen from Theatre 223, 335, 336 or 439
- d. Three hours chosen from Theatre 355, 366, 403, 418, 419 or 415
- e. Nine hours of Theatre electives

Minor in Dance

- a. Required: Dance 105, 201, 204, 212, 250 and 3 hours selected from 462, 463, 464, 465. 15 hours
 - b. 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 Dance 416 *Dance Pedagogy*.

Minor in Flamenco

- a. Required Courses
 - Six hours chosen from:
 - Dance 169, Flamenco I 2
 - Dance 269, Flamenco II 3
 - Dance 369, Flamenco III 3

Three hours: Dance 289, T/Voices of Flamenco	3
Six hours chosen from:	
Dance 289, Topics in Flamenco	1–3
Three hours of Spanish 102 or above	3
Three hours chosen from:	
Hist 318, Spain and Portugal to 1700	3
Hist 319, Spain and Portugal since 1700	3
TOTAL–Flamenco Minor	24 hours

Minor in World Dance

a. Required Courses	
Anth 130, Cultures of the World	3
Dance 105, Dance Appreciation	3
Dance 116, Mexican Folk Dance I	3
Dance 127 or 327, African Dance I or African Dance II	3
Dance 169, 269 or 369, Flamenco I, Flamenco II or Flamenco III	2/3
Dance 170 or 370, Hip Hop I or Hip Hop II	3
Subtotal	17–18 hours
b. Elective Courses, 6–7 hours chosen from:	
Dance 118, Tap I	2
Dance 132, Jazz I	2
Dance 218, Tap II	3
Dance 232, Jazz II	3
Music 172, Jazz History	3
Mus Ed 293, Multicultural Awareness Through Music Skills	3
Music 422/552, Indigenous World Music	3
Am St 310, Topics in Culture Studies	3
Subtotal	6–7 hours
TOTAL–World Dance Minor	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, please 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:

Dr. Henry Bial
 Director of Graduate Studies
 Dept. of Theatre and Dance
 MSC04 2570
 1 University of New Mexico
 Albuquerque, NM 87131-0001

or call:
 (505) 277-4332
 (your call will be directed to appropriate advisor)
 FAX (505) 277-8921
 e-mail: hbial@unm.edu

Admission Deadlines

Semester	Domestic Applicants	International Applicants
Fall	April 15	May 1
Spring:	November 10	October 1
Summer:	None accepted	

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 form (SMA) from the University of New Mexico Office of Graduate Studies (OGS):

Call: (505) 277-2711
 Online application form: www.applyweb.com/aw?unmg
 Printable form online:
www.unm.edu/~ogshmpg/eforms/index.html

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)
- 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 department offers the M.F.A. in Dance for: 1) the student preparing to enter the dance profession as a choreographer and/or performer or 2) the professional choreographer and/or

performer preparing to become a teacher. The primary purpose is to facilitate the growth and development of the student to the highest possible level of artistic achievement, balanced with scholarship and the ability to communicate effectively. An M.F.A. graduate from our department will be prepared to serve as an example for young people in dance and related fields and to stay abreast of changes in the field. The program accepts only students who have already achieved artistic excellence and who demonstrate exceptional potential for future growth.

Core Courses:

These courses are the three "graduate core" courses required in the existing M.A. programs in Theatre and Dance.

Thea 500	Introduction to Graduate Studies	3
Thea 503	Performance Theory	3
Thea 506	Critical Issues in the Performing Arts	3
Subtotal:		9

Dance Requirements:

Dance 550	Movement Analysis III	3
Dance 504	Theories of Movement	3
Dance 510	Creative Investigations I	3
Dance 515	Creative Investigations II	3
Dance 516	Dance Pedagogy	3
Dance 549	Dance Technique for Graduate Student	24
Dance 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	6	
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 five 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, directing, theatre education and 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 emphasis in the remainder of the program and beyond.

Thea/Dance 500 Introduction to Graduate Study	3
Thea/Dance 503 Performance Theory	3
Thea/Dance 506 Critical Issues in the Performing Arts	3
Thea/Dance 512 Graduate Seminar (elective)	3

Degree Plans

(Theatre emphasis in Dramatic Writing, Directing or Theatre Education):

Plan I (Thesis):

Required core: Thea 500, 503, 506 and 512	12
Electives related to emphasis	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 emphasis:	12
Thea 598: Master's Essay	3
Other Electives	6
Total	33

Degree Plans

(Dance emphasis in History/Criticism):

A freeze on admittance to the M.A. in Dance History/Criticism will be in effect for one year beginning Fall 2005.

Dance History/Criticism

Required core: 500 and either 503 or 506	6
Dance Requirements: 6 hours from 562, 563, 564, 565	6
Dance 531 Criticism	3
Electives related to emphasis	9
Thesis	6
Total	30

Choreography (Plans I or II)

The M.A. in Theatre and Dance—Choreography (Plan I and II) is being replaced by the new M.F.A. beginning Fall 2003. Students who are currently in the M.A. in Choreography (Plan I or II), please see the graduate dance advisor in the Department of Theatre and Dance for advisement towards completion of degree.

Master's Essay

The essay subject is chosen by the student with the approval of his or her committee and reflects the major interest and direction the student is following in the M.A. program. The essay topic may develop from work in a seminar or special project. The student must choose a faculty member to act as supervisor of the essay from development of the topic through completion of the essay. The scope of the essay must conform to a seminar paper or a minimum of 20 pages.

Master's Exam (Plan II only)

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 com-



mittee 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)

120. Acting Foundations I. (3)

Beginning acting. The basic fundamentals of acting including analytical and physical skills of the actor, personal work habits and taking responsibility for the actor's craft.

121. Acting Foundations II. (3)

Continuation of 120 with emphasis on textual material. Prerequisite: 120.

122. Theatre Appreciation. (3)

For non-majors. Issues of performance, spectatorship and criticism vis-à-vis theatre and other forms of performance including (but not limited to) dance, ritual, sports and the performance of everyday life. Attendance at various performances required.

192. Stagecraft I. (3)

Basic techniques, tools and materials for construction of stage scenery. Crew assignments on departmental production required. {Fall, Spring}

193. Stagecraft II. (3)

Advanced techniques of stage crafts. Crew assignment on departmental production required. Prerequisite: 192. {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)

Basic techniques of stage lighting. Crew assignment on departmental production required. {Fall, Spring}

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 Skills I. (3)

Actor preparation. Developing the physical and emotional craft of the actor through intensive exercises, emphasis on methods of study and preparation for presentation of dramatic materials.

Prerequisite: permission/audition. {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 Production for Actors. (3)

Introduction to basic techniques of voice production and movement for actors with a focus on relaxation, breathing and freeing the voice from the body. Emphasis is on effective projection.

Prerequisite: permission of instructor. {Fall}

225. Movement and Voice for Actors. [Movement 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) \dagger

Introduction to the basic craft and experience of acting. {Summer, Fall, Spring}

292. Design Drawing Skills. (3)

Introduction to basic communication skills of the theatre designer. Emphasis on drafting and drawing. {Fall}

293. Design Computer Skills. (3)

Practical as well as artistic utilization of computers for creating artistic visions. Course useful for theatrical designers/art directors, artists, architects, etc. Involves introduction to a variety of software/hardware.

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. Prerequisite: 221. {Fall alternate years}

322. Physical Theatre. (3)

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: 221, 225. {Fall, alternate years}

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 performing in musical theatre. Prerequisite: 121. {Spring}

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.

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. CAD 2-D/3-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.

391. Advanced Scenic Techniques. (3)

Principles and practice of advanced scenic techniques including rigging, structural analysis, OSHA safety, scene painting and technical direction.

392. Scene Design I: Concept. (3)

Course covers the techniques, goals and concepts of scenic design for theatre, television and film. Theoretical, conceptual and practical issues are addressed. Students complete a series of conceptual design projects.

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.

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: 292. {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)

Intensive study and practice of special techniques and materials in theatre and production.

Prerequisite: permission of instructor. {Offered upon demand}

403. Principles of Directing. (3)

Methods and techniques for the director in script-analysis and director-actor communication through visual and oral skills.

Prerequisites: 120, 223.

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.

Prerequisite: permission of instructor.

420. [420./520.] 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, 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. {Spring, alternate years}

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.

Prerequisites: 221, 224. {Spring, alternate years}

***426. 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.

Prerequisite: permission of instructor.

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.

Prerequisites: 328, 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.

Prerequisite: 335 or 336 or Humanities equivalent.

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 or Humanities equivalent.

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.
 Prerequisite: 355 or equivalent.

***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.
 Prerequisite: 455 or equivalent.

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.
 Prerequisite: 455 or 456L. (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.
 Prerequisite: 460.

***467. Performance Study, (Acting Skills Tutorial). (1-3)**
 Emphasis on acting skills in the preparation of dramatic materials.
 Prerequisite: 221.

470/570. Architectural Modeling, Visualization, and Presentation for Designers. [Architectural Modeling and Animation 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.
 Prerequisite: 370 or equivalent experience.

471/571. 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.
 Prerequisite: 371 or permission of instructor.

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.

473/573. Interactive Design and Technology. [Interactive Design and Production.] (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.
 Prerequisite: 471 or equivalent experience.

474/574. 3-D Character Animation. (3)
 Course explores computer technology and techniques for creating animated human figures for such purposes as choreography, multimedia, video, incorporation within live performance or other applications. Computer programs such as *LifeForms*, *Poser*, etc. will be employed.
 Prerequisite: 471 or permission of instructor.

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.
 Prerequisite: permission of instructor. (Offered on demand)

482/582. 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 Art Hi, Dance, M A, Music 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.
 Prerequisites: for undergraduates, 6 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation.

485/585. Costume Design Project. (1-3 to a maximum of 3) Δ
 Advanced production work in costume design for an actual performance under the supervision of the design faculty. Grading based on adherence to schedule, collaboration and creativity. Presentation of portfolio on finished project to design committee necessary for final grade. Admission by portfolio.
 Prerequisite: 394.

486/586. 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.
 Prerequisite: 396.

487/587. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ
 (Also offered as Art Hi, Dance, M A, Music 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.
 Prerequisite: for undergraduates, 9 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation. (Spring)

491. Professional Apprenticeship. (1-6) †
 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.
 Prerequisite: 3.0 GPA or better in Theatre and Dance courses. (Summer, Fall, Spring)

492. 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.

493/593. 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.

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) †

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.

497/597. Independent Study. (2-3 to a maximum of 9) †

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)

(Summer, Fall, Spring)

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.

Prerequisite: 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)

504/404. Topics in Directing. (3) 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. (Fall)

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.

Prerequisite: permission of instructor.

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.

Prerequisite: 221.

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.

Prerequisite: 221. (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.

Prerequisites: 221, 224. (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.

Prerequisite: 335 or 336 or Humanities equivalent.

539/439. Theories of Theatre. (3) 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 or Humanities equivalent.

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 course focuses on writing this combination of opposites.

Prerequisite: 560.

570/470. Architectural Modeling, Visualization, and Presentation for Designers. [Architectural Modeling and Animation 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.

Prerequisite: 370 or equivalent experience.

571/471. 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.

Prerequisite: 371 or permission of instructor.

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.

573/473. Interactive Design and Technology.

[Interactive Design and Production.] (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.

Prerequisite: 471 or equivalent experience.

574/474. 3-D Character Animation. (3)

Course explores computer technology and techniques for creating animated human figures for such purposes as choreography, multimedia, video, incorporation within live performance or other applications. Computer programs such as *LifeForms*, *Poser*, etc. will be employed.

Prerequisite: 571 or permission of instructor.

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.

Prerequisite: permission of instructor. {Offered on demand}

582/482. 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.

584. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ

(Also offered as Art Hi, Dance, Music 584 and M A *485.) {Fall, Spring}

585/485. Costume Design Project. (1-3 to a maximum of 3) Δ

Advanced production work in costume design for an actual performance under the supervision of the design faculty. Grading based on adherence to schedule, collaboration and

creativity. Presentation of portfolio on finished project to design committee necessary for final grade. Admission by portfolio.

Prerequisite: 394.

586/486. 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.

Prerequisite: 396.

587/487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as Art Hi, Dance, Music 587 and M A 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day.

Prerequisite: for undergraduates, 9 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation. {Spring}

593/493. 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.

596/496. Student Production Project. (1-3 to a maximum of 6) †

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.

597/497. Independent Study. (2-3 to a maximum of 6) †

{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)

Offered on a CR/NC basis only.

699. Dissertation. (3-12)

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.

Dance (Dance)

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. {Fall, Spring}

110. Modern Dance I. (2 to a maximum of 6) 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. (2 to a maximum of 6) Δ

Introduction to the techniques and styles of tap dancing. Course fee required. {Offered upon demand}

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. (2 to a maximum of 6) Δ

Fundamental work for the adult beginner in technique and styles of jazz dance. Course fee required. {Fall, Spring}

149. Ballet I. (2 to a maximum of 6) Δ

Fundamental work for the adult beginner in vocabulary, technique and styles of ballet. Course fee required. {Fall, Spring}

169. Flamenco I. (2 to a maximum of 6) Δ

Fundamental work for the adult beginner in techniques and styles of Flamenco. Course fee required. {Summer, 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.

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}

208. Studies in Spanish Forms. (1-3 to a maximum of 3) Δ

Course will provide students with studio instruction in a variety of dance techniques based on or derived from Spanish classical and folk dance forms. Such styles as Escuela Bolera, Jota, Castanets and Cante will be taught. Course fee required. {Summer, Fall, Spring}

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.
Prerequisite: 118 or permission of instructor. {Offered upon demand}

220. Music for Dance. (1)

Overview of fundamental musical and rhythmic concepts with special emphasis on the practical application of these to the creation, performance and teaching of dance movement and choreographic works. Course fee required. {Fall and 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. {Fall, Spring}

250. Movement Analysis I. (3) ††

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, choreography and performing of and the writing about dance. Course fee required.

Prerequisite: 250

269. Flamenco II. (3 to a maximum of 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. {Fall, even-numbered years}

Prerequisite: 250 or equivalent.

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.

Prerequisite: permission of instructor. {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) ††

Structural analysis of movement. Basic understanding of the skeletal and neuromuscular systems of the human body in movement. Course fee required. {Fall}

318. Tap III. (3 to a maximum of 12) Δ

Tap dancing techniques and styles for the advanced-level dancer with substantial tap dance training. Course fee required.

Prerequisite: 218 or permission of instructor. {Offered upon demand}

327. African Dance II. (3 to a maximum of 12) Δ

Intermediate to advanced studies in the movement, polyrhythmic music and meanings of West and Central African Dance. Course fee required.

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. {Summer, Fall, Spring}

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.

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 or permission of instructor. {Fall}

412. Senior Performance. (2)

Guided independent work in choreography with a faculty artists, culminating in a formal or informal performance. Course fee required.

Prerequisite: 212.

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. 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 or permission of instructor. {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 out 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.

***484. Evaluating the Arts. (3)**

(Also offered as Art Hi, M A, Music, 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.

Prerequisite: for undergraduates, 6 hours of courses in College of Fine Arts, 3 of which have Fine Arts designation. Course fee required.

487/587. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as Art Hi, M A, Music, Thea 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day. Course fee required.

Prerequisite: for undergraduates, 9 hours of courses in College of Fine Arts, 3 of which have Fine Arts designation. {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}

Prerequisite: 250 or equivalent.

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}

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 of odd-numbered years.}

Prerequisite: 311 and 411 or equivalent.

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.

Prerequisite: 311 or permission of instructor. {Fall}

512. Graduate Seminar. (3 to a maximum of 12) Δ

Typical 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 or even-numbered years.}

Prerequisites: 311 and 411 or equivalent.

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.

522. Dance Repertory. (1-3) ††

Professional training in the learning and performing of a new or restaged choreography through the University of New Mexico Dance Companies. Admission by audition only. May be repeated three times for credit. Course fee required. {Fall, Spring}

531./431. Dance Criticism. (3)

Observation and written analysis of dance events with an emphasis on contemporary theories and performances. Course fee required. {Spring}

549. Dance Technique for Graduate Student. (1-4) [1] Δ

Regularly-scheduled technique course. Restricted to graduate students in Theatre and Dance. Students must enroll in appropriate section by dance genre and level. May be repeated. Credit applicable only to M.F.A. in Dance. 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 or permission of instructor. {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 out 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.

584. Problems in Interdisciplinary Studies. (3 to a maximum of 6) Δ

(Also offered as Art Hi, Music, Thea 584 and M A *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.

Prerequisite: the student must define the utility of the independent study and obtain approval from both a faculty sponsor and the CFA Interdisciplinary committee. Course fee required. {Fall, Spring}

587./487. Contemporary Interdisciplinary Topics. (3 to a maximum of 6) Δ

(Also offered as Art Hi, Music, Thea 587 and M A 487.) Analyzes major instances of interdisciplinary influence and collaboration in the present day. Course fee required.

Prerequisite: for undergraduates, 9 hours of courses in College of Fine Arts, 3 of which have Fine Arts designation. {Spring}

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}

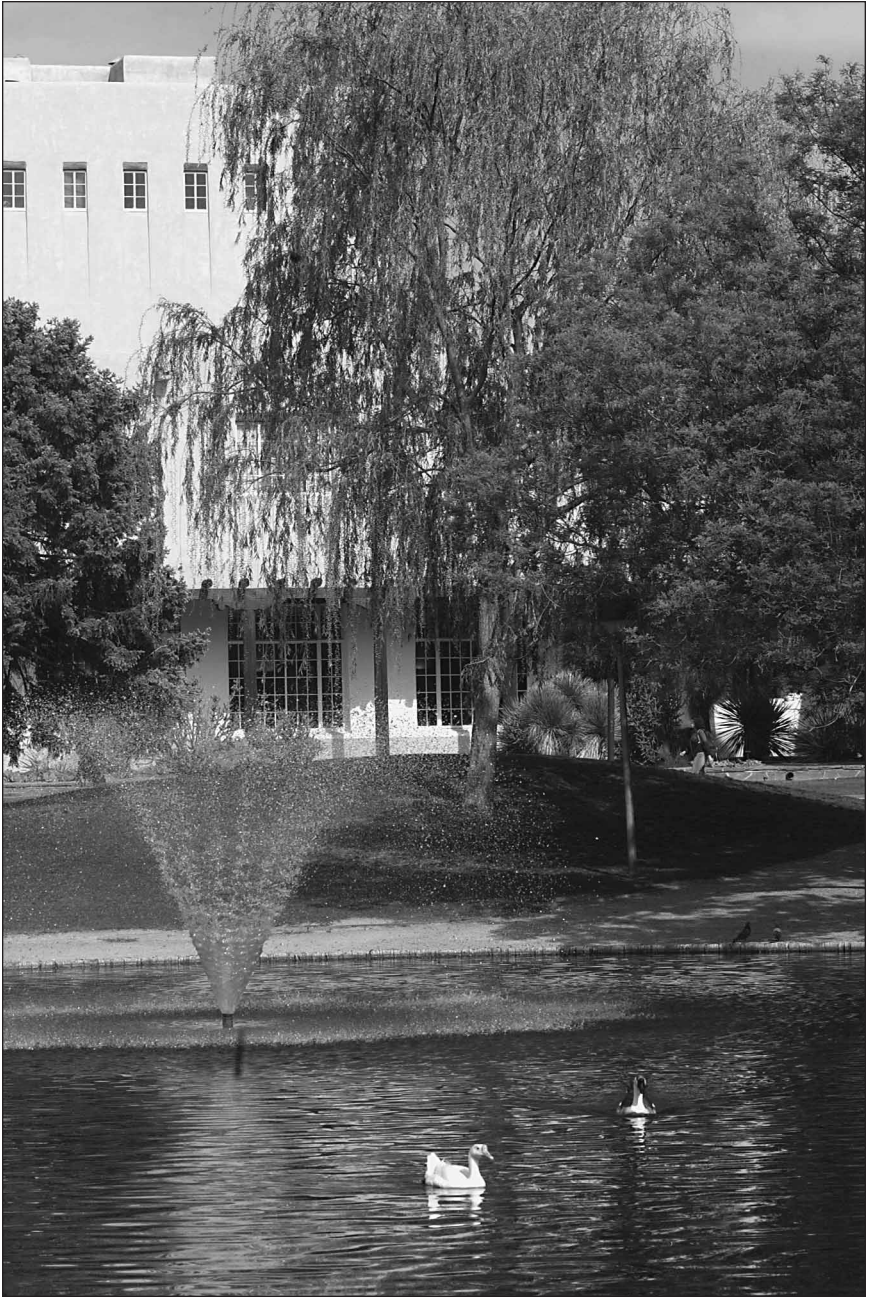
598. Master's Essay in Theatre and Dance. (3)

Offered for students who have been advance to candidacy and who have elected Plan II. {Summer, Fall, Spring}

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only.

699. Dissertation. (3-6) Δ



SCHOOL OF LAW

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Professors

Marsha Baum, M.S.L.S., Columbia University; J.D., SUNY at Buffalo

Barbara E. Bergman, J.D., Stanford University

Kenneth Bobroff, J.D., Stanford University

Michael B. Browde, J.D., Georgetown University

Sherri L. Burr, J.D., Yale 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

G. Emilen Hall, J.D., Harvard University (Editor, *Natural Resources Journal*)

Scott Hughes, LL.M., Temple University

Suedeem G. Kelly, J.D., Cornell 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 (Associate Dean Academic Affairs)

Margaret Montoya, J.D., Harvard University

J. Michael Norwood, J.D., The University of New Mexico

Mario E. Occhialino, Jr., J.D., Georgetown University

Elizabeth Rapaport, Ph.D., Case Western Reserve

University; J.D., Harvard University

Leo M. Romero, LL.M., Georgetown University

Suelyn Scarnecchia, J.D., Michigan (Dean)

Robert L. Schwartz, J.D., Harvard University (Associate

Dean for Faculty Affairs)

Antoinette Sedillo Lopez, J.D., University of California

(Los Angeles), (Associate Dean for Clinical Affairs)

Gloria Valencia-Weber, J.D., Harvard University

Peter A. Winograd, LL.M., New York University

Sheryl Wolf, LL.M., Yale University

Christine Zuni Cruz, J.D., The University of New Mexico

Associate Professors

Jose L. Martinez, J.D., University of California (Berkeley)

Assistant Professors

Norman C. Bay, J.D., Harvard University

Sergio Pareja, J.D., Georgetown University

Carol Suzuki, J.D., Columbia University

Professors Emeriti

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

W. Garrett Flickinger, J.D., University of Michigan

Richard A. Gonzales, J.D., New York University

Frederick Hart, LL.M., New York University

Michele S. G. Hermann, LL.M., Harvard University

Ruth L. Kovnat, 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

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 some 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.

Advisement

1. At the beginning of the Spring Semester of the first year, each student will be assigned to a faculty member for purposes of academic advisement. Students will retain their faculty advisors for the remainder of their time in law school. However, students may change advisors after the first year with the permission of the new advisor. The student shall notify the School of Law Registrar

of a new advisor. If an advisor becomes unavailable, then the Dean shall reassign students to a new advisor. Visiting and transfer students will be assigned to one of the Associate Deans for academic advisement. The Dean shall designate a period during the Spring Semester of each year as advisement week.

2. During advisement week, to be held near the end of the Spring Semester, each advisor will arrange appointments to meet with his or her advisees or make other appropriate arrangements. Students will receive advisement at the end of their first and second years. No student is bound by the advice received and is free to enroll in any courses subject to existing academic regulations, e.g., prerequisites.
3. In addition to the advisement outlined above, students are encouraged to seek academic advisement at any time from any faculty member they choose. All members of the faculty are committed to providing advisement to any student requesting it.

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 a one time 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 years 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. Historical Introduction to Law. (1-2)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
- 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)
- 515. Conflicts Indian Law. (1)

517. Trial Practice Workshop. (2-3)
518. Administrative Practice. (1-4)
520. Business Associations I. (3)
521. Business Associations II Topics. (1-3)
523. Commercial Transactions I. (1-3)
524. Community Property. (1-3)
525. Conflict of Laws. (3-4)
526. Constitutional Rights. (2-4)
527. Business Planning. (3-4)
529. Criminal Procedure. (1-3)
530. Federal Estate and Gift Tax. (1-3)
531. Health Law. (2-3)
532. Evidence. (3-4)
533. Family Law I. (3-4)
534. Federal Income Tax. (3-4)
535. Health Law Moot Court. (1-2 to a maximum of 3) Δ
Offered on a CR/NC basis only.
537. Labor Law. (1-3)
538. Natural Resources Journal I. (2-3)
539. Natural Resources Journal II. (2-3)
Offered on a CR/NC basis only.
541. Human Rights Law. (2-3)
544. Oil and Gas. (1-3)
545. Estate and Retirement Planning. (2-3)
546. Antitrust Law I. (2-3)
547. Water Law. (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. (3)
554. Indian Water Rights. (2-3)
555. Jurisprudence. (2-3)
557. Wills and Trusts. (1-4)
558. Construction 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.
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)
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)
573. Computer Law. (2-3)
574. Federal Public Lands and Resources Law. (1-3)
576. Energy Law. (2-3)
578. Tribal and State Relations. (2-3)
579. Tribal Courts. (2-3)
580. Environmental Law. (1-3)
581. Insurance. (2-3)
582. Economic Development in Indian Country. (2-3)
584. Indian Law. (2-3)
588. Legal History of New Mexico. (1-3)
589. Information, Technology and Law. (2-3)
593. Topics in Law. (1-9)
Offered on a CR/NC basis only.
594. Independent Research. (1-3)
Offered on a CR/NC basis only.601. Art Law. (2)
603. Jessup International Moot Court. (1-2 to a maximum of 3) Δ
Offered on a CR/NC basis only.
604. U.S.-Mexico Law Journal. (1-2 to a maximum of 3)
 Δ
606. Civil Procedure II. (3-4)
607. Employment Law. (2-3)
608. Property II. (3)
609. Comparative Employment Law. (2-3)
611. Real Estate Planning. (1-3)
613. Sexual Orientation and the Law. (2-3)
615. Energy, Mining and Oil and Gas Law. (2-3)
617. Advanced Writing in Natural Resources. (2-4)
620. American Constitutional History. (2-3)
622. Commercial Transactions Ila-Negotiability. (1-3)
623. Commercial Transactions Iie-Sales. (2-3)
625. Supreme Court Decision-Making. (2-3)
627. Criminal Procedure II. (2-3)
629. Bankruptcy. (1-3)
630. Environmental Problems. (2-3)
631. Remedies. (3)
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)
638. New Mexico Law Review I. (1-2)

490 SCHOOL OF LAW

639. New Mexico Law Review II. (2)
Offered on a CR/NC basis only.
642. Sports Law. (3)
647. Employment Discrimination. (1-3)
655. First Amendment Rights. (2-3)
658. Government Regulation of Banking. (2-3)
662. Mental Disability and Criminal Cases. (1-3)
663. Mental Health Law. (2-4)
665. First Amendment Rights: Church and State. (2-3)
667. Immigration Law. (2-3)
668. New Mexico Law Review III. (3)
669. New Mexico Law Review IV. (3)
Offered on a CR/NC basis only.
671. Advanced Tort Litigation. (2-3)
675. New Mexico Law Review III-S. (2)
679. International Business Transactions. (7)
683. Advanced Legal Research. (1-2)
686. New Mexico Law Review IV-S. (2)
690. Bioethics. (2-3)
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)
750. Ethics. (2-3) ¹
-

Footnote:

¹ Required.

Clinical Program

721. Law Extern Program. (2-3)
Offered on a CR/NC basis only.
723. District Attorney Program. (1-6) ¹
(or Law 740, 726, 727.)
725. ADR Field Experience. (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.)
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
Basic Medical Science Building, Room 177
MSC10 8000
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2321

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 639 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 M.D. 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 learning of facts to teaching students the skill 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, implemented in the Fall of 1993, incorporates the successful aspects of the school's prior educational innovations and experiments found in the Conventional Curriculum and Primary Care Curriculum tracks. 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

Please see <http://hsc.unm.edu/som/admissions> for additional and more complete information.

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 apply under the Early Decision Plan (see Early Decision Plan) to be given consideration for admission.** New Mexico residents attending college outside the state of New Mexico who change their state of residence for tuition purposes should be cognizant of this policy.

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. However, each applicant must also meet the following academic requirements:

- 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 normally should 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 normally 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 is 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 class beginning in 2004 will apply through the Web 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.
EDP application, earliest date: June 1, latest: August 1.

Clinical Science (Clin S)

- 511. **Human Structure, Function and Development.** (8)
- 511. **Mechanisms of Disease.** (11)
- 511. **Neurosciences.** (8)
- 511. **Cardiovascular/Pulmonary.** (8)
- 511. **Renal/Endocrinology/Human Sexuality and Reproduction.** (8)
- 511. **Practical Immersion Experience.** (4)
- 511. **Gastrointestinal/Nutrition.** (8)
- 511. **Research Course.**
- 511. **Transition Course.** (8)
- 511. **Perspectives in Medicine I.** (0)

- 511. **Clinical Skills.** (0)
- 511. **Perspectives in Medicine II.** (0)
- 511. **Continuity Clinic I.** (0)
- 532. **Continuity Clinic II.** (0)
- 540. **Medicine Clerkship.** (8)
- 541. **Obstetrics and Gynecology Clerkship.** (8)
- 542. **Pediatrics Clerkship.** (8)
- 543. **Neurology Clerkship.** (4)
- 543. **Psychiatry Clerkship.** (4)
- 544. **Surgery Clerkship.** (8)
- 550. **Family Practice Clerkship.** (8)
- 555. **Perspectives in Medicine III.** (0)
- 570. **Phase III (Fourth Year) Electives.** (40)

ANESTHESIOLOGY

John Wills, M.D., 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
Albuquerque, NM 87131-0001
(505) 272-2610

Professors

Kenneth Janis, M.D., (Clinical Professor), New York University
Hugh Martin, M.D., University of Kansas
David Wilks, M.D., University of Pittsburgh
John Wills, MBBS, FANZCA, MBA
John Wills, M.D., University of Adelaide (South Australia)

Associate Professors

Janet Brierley, M.D., University of Newcastle upon Tyne
Niels Chapman, M.D., Technische Universtate (Munich)
Paul Diana, M.D., Medical College of Virginia
Nivine H. Doran, M.D., University of Ottawa Medical School, Ottawa, Ontario (Canada)
Michele Moro, M.D., Tulane University
Joseph Skibba, M.D., Medical College of Wisconsin
Saul Wiesel, M.D., University of Calgary (Canada)

Assistant Professors

Ruth Burstrom, M.D., Medical College of Wisconsin
James Dunagan, M.D., University of Texas, Medical Branch at Galveston
Will Ferguson, M.D., Unviuersidad Autonoma de Ciudad Juarez
Sally Fortner, M.D., The University of New Mexico
Monica Furlong, M.D., University of Leeds, SOM, Leeds, England
James Harding, M.D., Columbia University, College of Physicians and Surgeons
Marc Horowitz, M.D., New York Medical College, Valhalla, NY
Francisco Jaime, M.D., University of Texas Health Sciences Center
Melanie McMurry, M.D., University of Texas Southwestern Medical School at Dallas
Randy Rosett, M.D., Texas Tech University, School of Medicine
Robert Rudawsky, M.D., St. George's University School of Medicine
John C. Sanders, M.D., University of London Hospital Medical College
Eva Szabo, M.D., Semmelewis University of Medical Science
Firoz Vagh, M.D., Kilpauck Medical College, Madras, India
Arpad Zoloyomi, M.D., Semmelweis University of Medicine, Budapest, Hungary
Robert Zuniga, M.D., University of Arizona

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Jeffrey K. Griffith, Chairperson
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See Arts and Sciences; Biochemistry

Professors

Robert H. Glew, Ph.D., University of California (Davis)
Jeffrey K. Griffith, Ph.D., Purdue University
John L. Omdahl, Ph.D., University of Kentucky
Tudor I. Oprea, M.D., Ph.D., University of Medicine and Pharmacy, Timisoara, Romania
David L. Vander Jagt, Ph.D., Purdue University

Associate Professor

William L. Anderson, Ph.D., University of Minnesota

Assistant Professors

Steve F. Abcouwer, Ph.D., University of Houston
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

Research Associate Professors

Andrzej Pastuszyn, Ph.D., University of Vienna
Robert E. Royer, Ph.D., The University of New Mexico
Laurel O. Sillerud, Ph.D., University of Minnesota
Dorothy J. Vander Jagt, Ph.D., The University of New Mexico

Research Assistant Professor

Marco Bisoffi, Ph.D., University of Basel

Professor Emeritus

Robert B. Lottfield, Ph.D., Harvard University
Edward Reyes, Ph.D., University of Colorado
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. Please contact the Biomedical Sciences Graduate Program Office for more information at <http://hsc.unm.edu/som/research/bsgp/> or bsgp@salud.unm.edu.

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.

January 1st is the preferred deadline for fellowship and admission applications for fall semester, although applications are

accepted until June 1st. 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 for the thesis or dissertation is conducted in faculty laboratories in the various basic science departments of the University of New Mexico School of Medicine. School of Medicine faculty from clinical departments, faculty from other University of New Mexico departments, scientific staff members at Lovelace Respiratory Research Institute and at Los Alamos National Laboratories who have appointments in one of the basic science departments of the School of Medicine may also direct research of graduate students. 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 Environmental Disease.

The time frame for completion of the degree requirements is generally four to six years for the Ph.D. degree and one and one-half 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).

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:

Biomed 501	Fundamentals for Graduate Research	(1)
Biomed 506	Special Topics in Biomedical Research	(3 credits total)
Biomed 507	Advanced Molecular Biology	(4)
Biomed 508	Advanced Cell Biology	(4)
Biomed 525	Cell and Molecular Basis of Disease Journal Club	(2)
Biomed 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:

Biomed 509	Principles of Neurobiology	(3)
Biomed 510	Physiology	(3)
Biomed 514	Immunobiology	(3)
Biomed 515	Cancer Biology	(3)
Biomed 516	Molecular Genetics and Genomics	(3)
Biomed 522	Experimental Design and Methods in Molecular and Cellular Biosciences	(3)
Biomed 576	Molecular and Cellular Pharmacology	(3)

Visit our web site at
<http://hsc.unm.edu/som/research/lyons/mdphdprogram/>
 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 strongly 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:

Biomed 501	Fundamentals for Graduate Research	1
Biomed 506	Special Topics in Biomedical Research	3 credits total
Biomed 507	Advanced Molecular Biology	
Biomed 508	Advanced Cell Biology	4
Biomed 525	Cell and Molecular Basis of Disease Journal Club	2
Biomed 530	Cell and Molecular Basis of Disease Seminar	1
Biomed 555	Problem Based Research Bioethics	2

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:

Biomed 509	Principles of Neurobiology	3
Biomed 510	Physiology	3
Biomed 514	Immunobiology	3
Biomed 515	Cancer Biology	3
Biomed 516	Molecular Genetics and Genomics	3

Other available courses offered for M.D./PhD students through the BSGP are listed under the BSGP courses.

A total of 48 credits hours plus 18 dissertation hours plus good standing throughout the SOM curriculum is required for the M.D./Ph.D degree.

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./PhD program. The amount of this financial support for 2005-2006 will be \$21,500 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.

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 fellowships for 2005-2006 will be \$21,500 plus tuition/fees and health insurance. Early application (January 1st) insures consideration for this financial package worth over \$25,000. 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.

A total of 48 credit hours plus 18 dissertation hours is required for the Ph.D. degree and a total of 24 credit hours plus 6 thesis hours is required for the M.S. degree.

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 newly structured 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.

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

Biomedical Science (Biomed)

*410. Research in Medical Sciences. (1-3 to a maximum of 9) Δ

Laboratory research in the medical sciences for undergraduate students.

Prerequisite: permission of instructor. {Offered upon demand}

*448L. Biochemical Methods. (3)

(Also offered as Biochem 448L.) Biochemical techniques including chromatographic and electrophoretic purification of enzymes, determination of enzyme parameters (V_m, K_m, E_a), fractionation of subcellular organelles, isolation of chromatin, biosynthesis of protein, analysis of DNA.

Prerequisite: concurrent registration in 512L. {Spring}

*472. General Virology. (3)

(Also offered as Biol 450.) Structure, properties and chemistry of viruses; virus-host interactions, multiplication, pathogenesis, classification.

Prerequisites: Biol 351, 352 and either Biochem 423, Biomed 511L or Biol 429.

511L. Intensive Introductory Biochemistry I. (4)

(Also offered as Biochem 545L.) An introduction into the physical and chemical properties of proteins and enzymes, enzymic catalysis, structure, synthesis and processing of nucleic acids and proteins; structure and control of genetic material.

Prerequisite: Chem 302 or 308. Corequisite: Chem 311 or 315. {Fall}

512L. Intensive Introductory Biochemistry II. (4)

(Also offered as Biochem 546L.) An introduction to intermediary metabolism and hormonal control of catabolic and anabolic pathways.

Prerequisite: 511L. {Spring}

544. Human Anatomy for Basic Scientists. (3)

A dissection course for students pursuing careers that may include teaching of human anatomy. Discussion topics will include structure-function relationship, dysfunction, embryology, and histology. Learning will be primarily student-directed with emphasis on development of teaching skills. {Spring}

Prerequisite: permission of instructor.

553. Biochemistry of Disease I. (1-3 to a maximum of 25) Δ

(Also offered as Biochem 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 to a maximum of 25) Δ

(Also offered as Biochem 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}

503. Methods in Health Science Education. (3)

A course in multiple teaching methodologies including problem-based learning, preparing high quality learning resources, preparing for and presenting a seminar, preparing and giving lectures.

Prerequisite: permission of the Director. {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.

Prerequisite: 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.

Prerequisites: 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: permission of instructor or 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.

Prerequisites: 507, 508 or permission of instructor.

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) [2] 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, even years}

576. Molecular and Cellular Pharmacology. (3)

(Also offered as Pharm 576.) 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.

Prerequisites: 507, 508, or permission of instructor. {Spring}

695. Research in Basic Medical Sciences. (1-6, unlimited repetition) Δ**699. Dissertation. (3-12)**

Offered on a CR/NC basis only.

Biomedical Science Advanced Courses

524. Electron Microscopy. (1)

A 5-week course on electron microscopy techniques in biology. {Spring, even years}

532. Neurochemistry. (3)

(Also offered as Biochem 521.) An introduction to neurochemistry and neuropharmacology, with heavy emphasis on student participation, by reading and evaluating current publications.

Prerequisite: 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 or permission of instructor. {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.

Prerequisite: permission of instructor.

547. Human Genetics. (3)

This course will discuss current topics in human genetics, ranging from classical genetic analysis to recent revolutions in molecular biology that have made feasible fine structure mapping of human chromosomes. The use of mice as models for human disease will be discussed.

Prerequisite: advanced molecular biology course. {Offered upon demand}

548. Biochemistry and Molecular and Cellular Biology Seminar. (1 to a maximum of 10) Δ

{Fall, Spring}

549. Cell Biology and Physiology Seminar. (1 to a maximum of 10) Δ

{Fall and Spring}

571. Anatomy/Pharmacology Seminar. (1) Δ

Weekly presentations of current topics in anatomy and pharmacology research. May be repeated for credit. {Summer, Fall, Spring}

580. General Toxicology I. (3)

(Also offered as Pharm 580.) 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.

Prerequisite: graduate standing.

583. Pathology Seminar. (1) Δ

Weekly presentations of current topics in pathology. May be repeated for credit. {Summer, Fall, Spring}

590. Topics in Biochemistry. (1-3 to a maximum of 9) ††

Prerequisite: permission of instructor.

594. Topics in Environmental Disease. (1-3)

(Also offered as Pharm 594.) 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: Pharm 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) Δ

Weekly presentation of current topics in signal transduction and cell adhesion research. Repetition unlimited. {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 corequisites: 511, Biol 450, Biol 456 and permission of instructor. {Fall, odd years}

620. Molecular Genetics and Microbiology Seminar. (1) Δ

Weekly presentations of current topics in Immunology and Microbiology. May be repeated for credit. {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.

Prerequisites: 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. Prerequisites: biochemistry, general microbiology or equivalent. {Offered upon demand}

630. Functional Assessment of Brain by Magnetic Resonance Methods. (3)

Functional assessment of human brain using non-invasive MR Spectroscopy and functional imaging. Techniques introduced at qualitative conceptual level. Investigation of brain's function illustrated using mental disorders and sensory/cognitive activation of normal brain.

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. Prerequisite: permission of instructor. {Summer, Fall, Spring}

643. Advanced Virology. (3)

An in-depth study of any of several topics in virology such as: the composition and structure of viruses, viral replication, viral pathogenesis, the use of viruses in genetic engineering or other areas of emphasis in virology depending on the demand. Prerequisites: biochemistry, immunology, virology or equivalent, permission of instructor.

644. Mechanisms of Gene Expression. (3)

(Also offered as Biol 644.) Molecular mechanisms of gene expression. Topics include: mechanisms of protein-nucleic acid recognition, transcription and regulation, messenger RNA and translation.

Prerequisites: 507, 508. (Spring, even years)

645. Molecular and Cellular Developmental Biology. (3)

A research oriented advanced course in the molecular biology of oogenesis, embryogenesis and morphogenesis.

Prerequisite: Biol 425 or equivalent.

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.

Prerequisite: permission of instructor. (Summer, Fall, Spring)

650. Biological Membrane-Structure and Function. (3)

This course focuses on the current understanding of cellular and epithelial membrane composition and structure. Extensive consideration is given to the mechanisms by which electrolytes and water are transported across these structures.

Prerequisite: Biol 429 or permission of instructor.

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. [Special Topics in Regulatory & Systems Biology.] (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.

Prerequisite: 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.

Prerequisite: an upper division undergraduate or graduate course in cell biology or biochemistry, or permission of the instructor, and written permission of the student's advisor. Students must reserve a place in the course by contacting the instructor.

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.

Prerequisite: permission of instructor.

701. Post Doctoral Research. (1-6) 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)

Masters in Public Health (MPH)

The purpose of the Masters in 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 Masters in Public Health for admissions information, course requirements and course descriptions.

Masters in Public Health

The Masters in Public Health (MPH) in Community and Preventive Health is granted through the Biomedical Sciences Graduate Program. The Masters 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 with advanced-level degrees in a health-related field may qualify for a 32 credit hour degree. Students may enroll either full time or part time and have seven years to complete the degree.

MPH Faculty Core Faculty

Lisa Cacari-Stone, Ph.D., Lecturer III, Department of Family & Community Medicine
Bonnie Duran, Dr. P.H., Associate Professor, Department of Family and Community Medicine
Jo Fairbanks, Ph.D., Assistant Professor, Department of Family and Community Medicine
Celia Iriart, Ph.D., Assistant Professor, Department of Family and Community Medicine
Lorraine Halinka Malcoe, Ph.D., Associate Professor, Department of Family and Community Medicine
Andrew S. Rowland, Ph.D., Assistant Professor, Department of Family and Community Medicine
Kristine Tollestrup, Ph.D., Assistant Professor, Department of Family and Community Medicine
Lily Velarde, Ph.D., Assistant Professor, Practicum Director, Department of Family and Community Medicine
Howard Waitzkin, Ph.D., M.D., Professor, Department of Family and Community Medicine
Nina B. Wallerstein, Dr. P.H., Director, Professor, Department of Family and Community Medicine
William H. Wiese, M.D., M.P.H., Professor, Department of Family and Community Medicine

Other Teaching Faculty

Sherri Alderman, M.D., Instructor
William Athas, Ph.D., Research Assistant Professor, Department of F & CM
Nicola Baptiste, B.A., Instructor
Rick Baumgartner, Ph.D., Professor, Medicine
David Bennahum, M.D., Professor, Medicine
John Booker, Ph.D., Assistant Professor, Pediatrics
David Broudy, Ph.D., Department of Health
James Cheek, M.D., M.P.H., Indian Health Service
Roberto Chene, M.A., Instructor
Nathaniel Cobb, M.D., Indian Health Service

Cameron Crandall, M.D., Assistant Professor, Emergency Medicine
 Jon Eldredge, M.L.S., Ph.D., Associate Professor, Health Sciences Library
 David Espey, M.D., Indian Health Service
 Cheryl Ferguson, M.P.H., Instructor
 John Fogarty, M.D., M.P.H., Instructor, Family and Community Medicine
 Robert Greenberg, M.D., Professor Emeritus, Pediatrics
 Jana Gunnell, M.D., M.P.H., Department of Health
 Marianna Kennedy, M.P.H., Instructor
 Naomi Kisten, M.D., M.P.H., Department of Health
 Sarah Kotchian, Ph.D., M.P.H., Assistant Research Professor, Family and Community Medicine
 Beth Leopold, M.P.P., Department of Health
 Harvey Licht, M.A., Department of Health
 Deborah McFarlane, Ph.D., Professor, Political Science
 Margaret Menache, Ph.D., Instructor
 Susan Nalder, Ed.D., M.P.H., Department of Health
 Paul Nathanson, J.D., Research Professor, Law School
 Chris Percy, M.D., Instructor, Shiprock Indian Health Service
 Frankie Perry, M.A., Instructor
 Gilbert Quintero, Ph.D., Assistant Research Professor, Pediatrics
 Julian Rowe, M.D., M.P.H., Instructor
 Corinne Shefner-Rogers, Ph.D., Instructor
 Gary Simpson, M.D., Ph.D., Department of Health
 Rob Schwartz, J.D., Professor, School of Law
 Kristine Suozzi, Ph.D., Department of Health
 Betsy Van Leit, Ph.D., Assistant Professor, Pediatrics
 Ron Voorhees, M.D., M.P.H., Department of Health
 Cathleen Willging, Ph.D., Behavioral Health Research Center for Southwest
 Francis Varela, M.A.L.A.S., M.S.N., Instructor

Minimum Requirements for Admission Include:

- B.S., B.A. or equivalent from an accredited U.S. institution or a recognized international institution.
- GPA must be at least 3.0.
- G.R.E. or M.C.A.T. required except for M.D. or doctoral-level candidates. G.R.E. exam total is 1,500 or more.
- International students must take the TOEFL examination and score at least 560.
- Two years of experience in the health field is required, e.g. in a health care setting, in community development, research, educational or other health-related work.
- Applicant's essay should describe their public health experience and reasons for pursuing the MPH program.

Students are admitted for the Fall Semester only. Applications are due in the **Office of Graduate Studies 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. A large white envelope is provided for the Office of Graduate Studies, located in the Humanities Building, Room 107, Main Campus. **THE APPLICATIONS ARE MAILED TO THE OFFICE OF GRADUATE STUDIES, NOT TO THE MPH PROGRAM.** 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 prerequi-

sites 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 half these credits as a non-degree 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>

Masters in Public Health Program
 The University of New Mexico
 Family Practice Building, Room 145
 MSC09 5060
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 Phone (505) 272-4173
 FAX (505) 272-4494
 or e-mail: dmeier@salud.unm.edu

Degree Requirements for the Masters 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 504	Rural Health	(3) (F)
PH 505	Cultural, Social and Behavioral Theory and Health	(3) (Sp)
4. Additional required courses:

PH 598	Public Health Practicum	(2)
PH 508	Theory and Practice Seminar I	(1) (F)
(Mandatory in 1st semester, CR/NC.)		
PH 511	Writing for Public Health Professionals (CR/NC)	(1-2) (F)
PH 509	Theory and Practice Seminar II	(1) (Sp)
(Mandatory in 2nd semester, CR/NC.)		
PH 560	Special Topics in Public Health	(1) (F)
(Proposal Writing Workshop: Mandatory for Professional Paper or Thesis Students only.)		
5. Choice of one of three culminating experience options:

PH 597	Public Health Integrative Experience	(3)
-or-		
PH 596	Professional Paper	(3)
-or-		
PH 599	Master's Thesis	(6)

Electives—The balance of credits toward the 32 or 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 MPH advisor. Students taking courses in other departments must do so in consultation with their faculty advisor and with approval by the MPH Program Director.

Joint Degrees:

- MPH/MSN
- MPH/MD

Concentrations:

- Epidemiology
- Community Health Intervention

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 MPH core courses. Two other MPH 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 MPH Core Courses (3 credit hours)

- PH 505 Cultural/Social Theory
PH 504 Rural Health
PH 506 Environmental/Occupational Health
PH 510 Public Health and Health Care Management
PH 507 Health Care Systems and Policy

Electives (6 credit hours)

Students may choose other MPH 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 MPH Minors

Masters 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 MPH Degree

Public health minor classes can transfer into graduate classes if students are admitted into the MPH Program.

Community Health Intervention Concentration

Mission: The mission of the Community Health Intervention Concentration (CHI) is to prepare students for leadership positions in the field of Public Health prevention in multiple public and private settings. The philosophical foundation of the concentration relies on a community capacity building, empowerment approach and the tenets of the socio-ecologic framework. The concentration is appropriate for students with prior experience, education or interest in community-focused public health practice or research that values diversity, self-reflection and an evidence-based approach.

Description: The Community Health Intervention Concentration will emphasize training in the basic principles and skills of community needs and assets assessment, policy development, program planning, implementation and evaluation and their application to a broad array of health and social issues in population and community based public health prevention. The purpose of this concentration is to provide students with the multi-disciplinary knowledge and skills necessary to conduct prevention and intervention programs at multiple levels of the socio-ecologic framework within the public health infrastructure of New Mexico, the border region and the Americas.

Requirements:

Students completing the Community Health Intervention Concentration will have taken the core MPH requirements plus at least 13 credits specific to the concentration. The Concentration course requirements follow:

1. MPH Core Curriculum: Total Credits-20

PH 506	Environmental/ Occupational Health	3
PH 501	Principles of Public Health	3

PH 502	Epidemiologic Methods I	3
STAT 538	Biostatistical Methods I	3
PH 510	Public Health & Health Care Management	3
PH 505	Cultural and Social Theory and Health	3
PH 508	Theory and Practice Seminar I	1
PH 509	Theory and Practice Seminar II	1

2. Community Intervention Oriented Practicum Experience:

PH 598	Public Practicum	Minimum 2 credits
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3. Community Health Intervention Required Curriculum: Total Credits - 9

PH 552	Public Health Program Planning	3
PH 555	Public Health Evaluation Methods	3
PH 564	Public Health & Health Care Communication	3

4. Community Health Intervention core courses, choose two courses among the following

PH 580	Public Health & Community Assessment	3
PH 572	Community Intervention Models: Best Practices	2
PH 504	Rural Health	3
PH 568	Popular and Empowerment Education	2

5. Culminating Experience- Minimum 3 Credits

PH 597	PH Integrative Experience	3
-or-		
PH 596	Professional Paper	3
-or-		
PH 599	Thesis	6

Epidemiology Concentration

The concentration in Epidemiology 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. Lorraine Halinka Malcoe, Andy Rowland, and Kristine Tollestrup.

Requirements:

In addition to the PH core curriculum (which includes STAT 538–*Biostatistical Methods I* and PH 502–*Epidemiologic Methods I*) the Epidemiology concentration requires:

1. Completion of **15-16 credits** in graduate-level course 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 (9-10 credits)

• PH 520	Epidemiologic Methods II	3
• PH 522	Seminar in Epidemiology	1
• PH 534	Epidemiology Data Analysis	2-3
• STAT 539	Biostatistical Methods II	3

Elective Courses (6 credits)

• PH 523	Applied Epidemiology Lab	2
• PH 524	Visual Display of Epidemiologic Data	1

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• PH 525	Epidemiology Surveillance	2
• PH 526	Epidemiology of HIV Infection and Aids	2
• PH 527	Chronic Disease Epidemiology	2
• PH 528	Infectious Disease Epidemiology	2
• PH 529	Nutritional Epidemiology	2
• PH 530	Environmental and Occupational Epidemiology	2
• PH 531	Perinatal Epidemiology	2
• PH 532	Cancer Epidemiology	2
• PH 533	Public Health Research Methods	2-3
• PH 560	SAS® Module	2
• PH 560	Epidemiologic Field Methods	2
• PH 560	Applied Public Health Epidemiology	2
• PH 560	Thinking Critically in Epidemiology	2
• Stat 574	Biostatistical Methods: Survival Analysis and Logistic Regression	3

(Additional elective epidemiology courses may be developed.)

Likely to be offered at least once every two years.

Masters in 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}

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.

Prerequisite: B or better in college algebra, a basic statistics course or permission of instructor. {Fall}

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 or permission of instructor. {Fall}

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.

Prerequisite: students must be familiar/have experience in health care delivery system/public health. {Fall}

505. Cultural, Social and Behavioral Theory and Health. (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 meth-

ods 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.

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}

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}

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.

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.**

560. Special Topics in Public Health. (1-3) Δ

May be repeated for credit, no limit.

Prerequisite: permission of instructor. {Summer, Fall, Spring}

596. Professional Paper. (3)

The professional paper allows the student to engage in analyzing or solving a real public health problem. **Offered on CR/NC basis only.** {Summer, Spring, Fall}

597. Public Health Integrative Experience. (3)

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.

598. Public Health Practicum. (1-6) Δ

Individually arranged field experience to develop and refine professional public health skills. **Offered on CR/NC basis only.** {Summer, Spring, Fall}

599. Master's Thesis. (1-6 hours per semester)

Offered on a CR/NC basis only.

Masters in Public Health Courses—Required 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.

Prerequisites: Biostat I, 502 or permission of instructor. {Spring}

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 or permission of instructor. {Spring}

522. Seminar in Epidemiology. (0-1)

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}

534. Epidemiology Data Analysis. (2-3)

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.

Epidemiology Elective Courses**523. Applied Epidemiology Lab. (2)**

A practical application of epidemiologic methods and principles using computerized statistical programs. Students will develop hypotheses, complete data, analysis, interpret results and prepare a written and oral presentation using available health data sets.

Prerequisites: completion of or concurrent enrollment in 502 and completion of a basic graduate biostatistics course or permission of instructor. {Offered on demand}

524. Visual Display of Epidemiologic Data. (1)

Explores the visual presentation of health related data. Considers all types of charts, figures, graphs and tables and addresses both substantive issues and technical issues, like the use of color, patterns, line types; how data are used by scientists, policy makers and the public; and how each audience has its own needs. {Offered on demand}

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.

Prerequisites: 502, Biostat I or permission of instructor. {Offered on demand}

526. Epidemiology of HIV Infection and AIDS. (2)

Deals with the epidemiology of infection with human immunodeficiency virus (HIV). Current knowledge of the biology, virology, public health and clinical aspects of AIDS will be reviewed. Particular emphasis on the global epidemiology and impact of the HIV pandemic. {Offered on demand}

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. {Offered on demand}

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. {Offered on demand}

529. Nutritional Epidemiology. (2)

This course considers complex issues related to the quantification of dietary intake and nutritional status and associations with disease as either exposures or outcomes. Current topics in nutritional epidemiology will be critically reviewed. {Offered on demand}

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.

Prerequisites: 502, Stat 538 or permission of instructor. {Offered on demand}

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 or permission of instructor. {Offered on demand}

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, causal mechanisms, etiologic factors, screening issues, cancer prevention and control, and intervention studies.

Prerequisites: successful completion of both 502 and Biostat I. An understanding of research methodology and biology will be assumed. {Offered on demand}

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.

Prerequisites: 502, Biostat I or permission of the instructor. {Offered on demand}

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 or permission of instructor.

Other 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.**

521. Web-Based Introduction to Epidemiology. (1-3)

Designed for students pursuing an MPH 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.

550. The Political Economy of Health. (3)

Examines economic policies associated with health and well-being. Critically reviews economic theories and arguments and analyzes indicators of economic growth and income distribution. Introduces theories and tools of policy analysis to explore public health issues on the political agenda. {Spring}

551. Health Care Strategic Management. (2)

Designed to provide an overview of human resources in areas such as supervision and teamwork, financial management to include budgeting and other management issues in health care organizations. Taught using case-study method.

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. {Spring}

553. Practical Health Policy. (2)

Covers the process of legislation and advocacy in producing health policy and analysis of New Mexico Medicaid Managed Care as a template in the creation of health policy.

554. Health Care and Public Health Policy. (2)

Explores the private and public aspects of health care and public health. Emphasis is placed upon understanding the role of private initiatives like HMOs versus public initiatives like Medicare/Medicaid and Public Health in the U.S. (Offered on demand)

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. (Fall)

556. Tobacco Control. (2)

Comprehensive background history of tobacco; epidemiology of tobacco use; health effects of tobacco; individual, school, worksite and community interventions in tobacco control; and the role of public policy and advocacy in tobacco control.

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. **Offered on CR/NC basis only.**

558. Community Organizing for Health. (3)

This class emphasizes community organization as a major educational approach to change community dynamics and creation of healthier communities. It examines the role of public health practitioners as change agents and the values and ethical issues which arise within this context.

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. (Spring)

560. Special Topics in Public Health. (1-3) Δ

May be repeated for credit, no limit.

Prerequisite: permission of instructor. (Summer, Fall, Spring)

561. Maternal Child Health Issues. (3) [2-3]

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.

Prerequisite: 501 or comparable work or educational experience with permission of instructor. (Every other year)

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. (Every other year)

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.

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.

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. (Fall)

566. Injury/Violence Prevention. (3)

Considers the causes, consequences and preventive strategies of unintentional and intentional injury within developmental, social and economic contexts. Examines dilemmas and methodologic concerns in injury research and prevention.

567. The Role of the Lay Health Worker in Community-based Health Systems. (2)

Examines practical models for the training and utilization of nonprofessional, community-based health care promoters and providers. Emphasis on lessons from developing countries and rural settings, primary health care tasks, health promotion and prevention, and education for health.

568. Popular and Empowerment Education. (2) [2-3]

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. (Spring)

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.

570. Tuberculosis Control. (2) [1]

Will cover the basics of tuberculosis and its management. Develop an understanding of the principles of TB control as executed in the U.S. and in other countries, developed and less developed ones.

571. Adolescent Social Action Program (ASAP). (2-3)

Provides a multi-cultural, multi-disciplinary approach to primary prevention of health-related high-risk behaviors among adolescents. The ASAP Program offers course credit for University students to work with adolescents in New Mexico's communities. (Fall and Spring)

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 communication 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.

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.

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.

580. Public Health Community Health Assessment. (1-3)

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.

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. {Offered on demand}

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. {Offered on demand}

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. {Offered on demand}

595. Critical Integrative Literature Review (CIRL). (3)

The CIRL guides students through a critical integrative literature review on a public health problem of their choosing. Required: proposal approval by Culminating Experience Committee.

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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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Lawrence J. Gibel, M.D., Jefferson College
Thomas Howdieshell, M.D., Medical College of Georgia
School of Medicine
James Kelly, Ph.D., Washington University School of
Medicine
Mark Langsfeld, M.D., Medical College of Georgia
John Oldershaw, M.D., Loyola University
Stuart B. Pett, Jr., M.D., University of Utah
David E. Pitcher, M.D., The University of New Mexico
Carol R. Schermer, M.D., The University of New Mexico
Mark L. Schluter, M.D., The University of New Mexico
Paul Turner, M.D., Hahnemann Medical College
Jon Wagner, M.D., University of Missouri (Kansas City)
Philip H. Watkins, M.D., University of Kansas

Assistant Professors

Robert Avery, M.D., Baylor College of Medicine
George Azzie, M.D., University of Toronto
Stephen M. Beetstra, D.D.S., Baylor College of Dentistry
Albert M. Brettner, D.D.S., Temple University
Karen Chun, M.D., California College of Medicine
Gary Cuttrel, D.D.S., University of Texas at Houston
Michael Davis, M.D., University of New Mexico
Charles A. Dietl, M.D., University of Buenos Aires, Argentina
Ralph Stuart Ford, M.D., University of Arkansas
Glenroy Heywood, M.D., State University of New York
Health Sciences Center at Syracuse.
Carey Hill, M.D., Albany Medical College
Marcus Keep, M.D., Medical University of South Carolina
David G. Lemon, M.D., University of Washington School of
Medicine
Stephen Lu, M.D., The George Washington University
School of Medicine
Bruce Mathis, M.D., University of Texas Health Sciences
Center at San Antonio
Brian Matteson, M.D., University of Minnesota
John M. Marek, M.D., University of Cincinnati
Daniel H. Morrison, M.D., Temple University School of
Medicine
Garth Olson, M.D., University of Arizona
Kenneth Padilla, D.D.S., Marquette University

Frank Peacock, D.D.S., Baylor College of Dentistry
 Alejandro Sos, M.D., University of Madrid, Spain
 Michael F. Spafford, M.D., University of Illinois College of
 Medicine
 Marvin J. Stroschein, Jr., D.D.S., University of Michigan
 School of Dentistry
 Charles D. Tatlock, D.D.S., Baylor College of Dentistry
 Maria Terry, M.D., Medical College of Wisconsin
 Anthony Vigil, M.D., University of New Mexico
 Anne Marie Wallace, M.D., University of Arizona
 Michael Wilson, M.D., University of Texas Health Sciences
 Center at San Antonio
 Mark Wood, M.D., University of Minnesota

**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

Demetra Logothetis, M.S., Director
 Division of Dental Hygiene, Novitski Hall
 MSC09 5020
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 272-4513

Professor
 Demetra Logothetis, M.S., University of Missouri (Kansas City)

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Assistant Professors
 Elaine Dils, R.D.H., M.A., The University of New Mexico

Professors Emeritus
 M. Louise du Fault, M.S., Boston University
 Clara Miera, M.S., The University of New Mexico
 Irene O'Connor Navarre, R.D.H., University of Minnesota
 Glenna Taylor, B.S., M.S., The University of New Mexico
 Eli Yudkowsky, Ph.D., DDS, Northwestern University

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.

Dental hygienists are licensed preventive oral health professionals who provide educational, clinical and therapeutic services in dentistry. 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 the 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 \$1000.00 annually cover dental supplies, clinic and laboratory, uniforms, graduation fees and Student American Dental Hygienists' Association membership. Fees are subject 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
Psych 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
C & J 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

D Hygn 205	Introduction to Dental Hygiene	2
D Hygn 210	Head and Neck Anatomy	3
D Hygn 211	Dental Anatomy	2
D Hygn 250	Gen/Oral Hist and Embry Two Electives (Humanities Core Curriculum)	2
		<hr/> 6
		15

* Only 6 hrs. of P E-NP are allowed towards graduation.

Semester 5 Professional—Junior

D Hygn 301	Clinical Dental Hygiene Lecture I	3
D Hygn 302	Clinical Dental Hygiene I	2
D Hygn 330	Dental Health Education I	2
D Hygn 312	Dental Radiology/Lab	3
D Hygn 340	General and Oral Pathology	3
D Hygn 335	Dental Office Emergencies	2
		<hr/> 15

Semester 6 Professional

D Hygn 303	Clinical Dental Hygiene Lecture II	2
D Hygn 304	Clinical Dental Hygiene II	3
D Hygn 331	Dental Health Education II	2

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D Hygn 320 Dental Bio-Materials	2
D Hygn 360 Pharmacology	3
D Hygn 370 Special Care in Dental Hygiene	2
D Hygn 470 Periodontology I	3
	<hr/>
	17
Summer Semester Professional	
D Hygn 440 Extramural Experience	3
Semester 7 Professional —Senior	
D Hygn 401 Clinical Dental Hygiene Lecture III	2
D Hygn 402 Clinical Dental Hygiene III	3
D Hygn 475 Periodontology II	2
D Hygn 422 Dental Public Health	3
D Hygn 410 Dental Hygiene Research Methodology	3
D Hygn 480 Local Anesthesia and Pain Control	3
	<hr/>
	16
Semester 8 Professional	
D Hygn 403 Clinical Dental Hygiene Lecture IV	2
D Hygn 404 Clinical Dental Hygiene IV	4
D Hygn 442 Principles of Practice	2
D Hygn 400 Current Issues	3
D Hygn 423 Dental Pub Health II	1
D Hygn 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: Duplicate Division of Dental Hygiene applications must be completed. Return one to the Office of Admissions and the other to the Division of Dental Hygiene. Applications are available from the Division of Dental Hygiene.
 - Academic Credentials (submit a copy to the office of Admissions and one to the Division of Dental Hygiene).
 - Official transcripts from all previous institutions of higher education
 - Official listing of courses in progress and those to be taken
- 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. 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 October 1. Admission is for the Spring semester only. Those applicants who are provisionally selected will be notified in November.

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 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 concentration 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 these requirements:

Bachelor of Science Degree Completion Program Admission Requirements

- Graduation from an accredited Dental Hygiene Program.
- Dental hygiene license in any state.
- Admissibility to the University of New Mexico as described in the Admissions section of this catalog.
- A 2.50 grade point average on a 4.0 scale for all previous college training.
- To be considered for the Program, the following must be submitted to the Office of Admissions.
 - Official copies of all college transcripts.
 - Official current enrollment information.
 - Application for admission to the Division of Dental Hygiene.

Bachelor of Science Degree Completion Requirements

- Satisfactory completion of 12 hours of 400 level Dental Hygiene core courses, to include 6 hours of Field Experience in an area of concentration 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

D Hygn 400 Current Issues	3
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D Hygn 440 Extramural Experience	3
Areas of concentration: (education, advanced clinic, management, public health, research) additional related electives (such as D Hygn 407 1-3) (as approved by program coordinator)	6-12
	12-18
Second Semester	
D Hygn 410 Dental Hygiene Research Methodology	3
D Hygn 440 Extramural Experience	3
Areas of concentration: (education, advanced clinic, management, public health, research) additional related electives (such as D Hygn 407 1-3) (as approved by program coordinator)	6-12
	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, student fees of \$250.00 annually cover dental 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.

Plan I: Thesis Option

Semester 1	
D Hygn 510 Dental Hygiene Research	3
D Hygn 502 Instructional Strategies	3
D Hygn 505 Clinical Teach/Admin	4
Semester 2	
D Hygn 500 Current Issues	3
D Hygn 501 Dental Hygiene Manag/Admin	3
Math 559 Selected Topics in Stats	3
Semester 3	
D Hygn 599 Thesis	3
D Hygn 503 Oral Medicine	3
Semester 4	
D Hygn 504 Dental Hygiene Internship	6
D Hygn 599 Thesis	3
TOTAL	34

Plan II: Nonthesis Specialty

Semester 1	
D Hygn 510 Dental Hygiene Research	3
D Hygn 502 Instructional Strategies	3
D Hygn 505 Clinical Teach/Admin	4
Semester 2	
D Hygn 500 Current Issues	3
D Hygn 501 Dental Hygiene Manag/Admin	3
Math 559 Selected Topics in Stats	3
Semester 3	
D Hygn 560 Non-Thesis Project	3
D Hygn 503 Oral Medicine	3
(Graduate Course from Specialty)	3
Semester 4	
D Hygn 504 Dental Hygiene Internship	6
(Graduate Course from Specialty)	3
TOTAL	37

*Satisfactory completion of Master's Exam Mandatory for Graduation.

Plan II: Nonthesis Dental Hygiene Practitioner Option

Semester 1	
D Hygn 510 Dental Hygiene Research	3
D Hygn 502 Instructional Strategies	3
D Hygn 505 Clinical Teach/Admin	4
Semester 2	
D Hygn 500 Current Issues	3
D Hygn 501 Dental Hygiene Manag/Admin	3
Math 559 Selected Topics in Stats	3
Semester 3	
D Hygn 561 Advanced Dental Hygiene Clinic	6
D Hygn 503 Oral Medicine	3
Semester 4	
D Hygn 504 Dental Hygiene Internship	6
D Hygn 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) Self-Managed Application (SMA) Process through the Office of Graduate Studies.
 - a. Two copies of official transcripts from all institutions of higher education the student has attended, with the exception of UNM when only one unofficial transcript is needed.
 - b. The Registration Information Form.
 - c. The application form.
 - d. A letter of intent.
 - e. \$40 dollar application fee.
- 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.
- 5) Evidence of an undergraduate overall quality point average of at least 3.0 on a 4.0 scale.
- 7) Three letters of recommendation.

Deadline: Both applications are due no later than January 15th. Admission is for the fall semester. 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 coursework 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 (D Hygn)

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}

210. Head and Neck Anatomy. (3)

Anatomy of head and neck with emphasis on oral structures and their function. Three lectures. {Spring}

250. Gen/Oral Hist and Embrey. (2)

Study of cells, tissues, organ systems and embryology with emphasis on the oral structure.

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.

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.

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.

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.

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.

320. Dental Bio-Materials. (2)

A survey of materials used in dentistry and dental hygiene and dental laboratory procedures.

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.

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}

340. General and Oral Pathology. (3)

Pathology of the head and neck and the major diseases that affect the oral cavity. Two lectures. {Spring}

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.

Prerequisite: Chem 212. Pre- or corequisites: Biol 237-238. {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.

400/500. Current Issues in Dental Hygiene. (3)

In depth discussions focusing on current issues facing the dental hygiene discipline.

401. Clinical Dental Hygiene Lecture III. (2)

Advanced clinical concepts and procedures.

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.

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.

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.

407. Problems. (1-3)

Topical research and new procedures that cannot be accommodated in the regular dental hygiene curriculum. Hours arranged. Offered on a CR/NC basis only.

410/510. Dental Hygiene Research Methodology. (3)

Developing of research in regard to special areas in dental hygiene with emphasis on writing reports.

Prerequisite: 400 or permission of instructor.

422. Dental Public Health. (3)

Study of the dental care delivery system in the world today and a global perspective of the science of oral disease prevention.

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.

440. Extramural Experience. (1-6) Δ

Provides the student with the opportunity to achieve educational and clinical skills and in depth knowledge in various dental care delivery systems.

442. Principles of Practice. (2)

Introduction to dental hygiene professional ethics, professional association, principles, laws, regulations and office management.

450. Dental Hygiene Board Review. (1)

This course is designed to prepare the dental hygiene student for National Boards. Discussions will enable the student to review material for boards while developing skills in decision making and problem solving which will help the student successfully master boards. This course will utilize all instructors

in the program to review their subject matter expertise. The course director will coordinate all reviews, course materials, assignments and examinations.

470. Periodontology I. (3)

Didactically covers basic biological principles and the prevention and treatment of periodontal disease. Three lectures. (Fall)

475. Periodontology II. (2)

Didactically covers periodontal surgeries maintenance and support periodontal services.

480. Local Anesthesia and Pain Control. (3)

Instruction and clinical practice in the administration of local anesthetic agents and other pain control treatment modalities.

500/400. Current Issues in Dental Hygiene. (3)

501. Dental Hygiene Administration. (3)

502. Dental Hygiene Instructional Strategies. (3)

503. Oral Medicine. (3)

504. Dental Hygiene Internship. (1-6 to a maximum of 6) Δ

505. Clinical Teaching and Administration. (4)

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.

510/410. Dental Hygiene Research Methodology. (3)

Developing of research in regard to special areas in dental hygiene with emphasis on writing reports. Prerequisite: 400 or permission of instructor.

560. Nonthesis Project. (2)

561. Advanced Dental Hygiene Clinic. (6)

562. Primary Dental Care. (3)

599. Clinical Teaching and Administration. (3 to a maximum of 6) Δ

Continuation of research, culminating in Master's Degree Thesis. The student is responsible for following procedures of the Office of Graduate Studies.

EMERGENCY MEDICINE

David P. Sklar, M.D., Chairperson
The University of New Mexico School of Medicine
Department of Emergency Medicine/Ambulatory Care Center
Albuquerque, NM 87131
(505) 272-5062

EMS Academy
2700 Yale SE, Suite 100
MSC11 6260
Albuquerque, NM 87106-0001
505 272-5757

Contact: Karen Wells, (505) 272-5757

Administration/Faculty

David Sklar, M.D., Chairperson of Emergency Medicine
Darren Braude, M.D., NREMT-P, Medical Director, Assistant Professor of Emergency Medicine
Paul Roth, M.D., Dean, School of Medicine
Melissa Alexander-Shook, M.S., NREMT-P, Director

Faculty and Instructors

Larry Cobb, B.S.N., EMT-P
Mary Hewett, B.S., EMT-P
Kathy Kaestner, M.A., EMT-P
Theresa (Terry) Keeney, R.N., B.U.S., EMT-P
Rick Lynn, B.S., EMT-P
Doug Gadowski, B.S., EMT-P

B.S. in Emergency Medical Services

It is recognized that most candidates for this degree will begin their post secondary education at the technical first responder and emergency medical technician levels. It is also anticipated that many of the candidates will begin their academic course work at the University of New Mexico branch campuses and other two year colleges. A seamless transition from these two year programs is intended, with full credits awarded for appropriate courses completed at those programs.

Admission and Promotion Requirements

Students interested in the program would declare EMS as their major in the University College Advisement Center and should contact the advisor at the EMS Academy to establish a student profile. There are two licensing and experience factors before entry to the 300-level paramedic program: EMT Basic and EMT-Intermediate. Pretesting is required for entry to both the Intermediate and Paramedic levels. Actual EMT field experience is a crucial component in the preparation process for entry to the program. Upon completion of the 66 hours of specified undergraduate requirements (with a minimum grade of "C"), and with proper license and field experience, students are eligible for admission to the BS EMS program to begin at the 300 level. Application and accompanying documents are due in February. Candidates must pretest and interview with a selection committee. Applicants must have a minimum cumulative GPA of 3.0 in all EMS courses. Students must have a minimum GPA of 2.33 to be eligible for promotion to the 300 level. An overall GPA of 2.5 and extrication certification is required to be eligible for graduation.

Program Options

The B.S. degree in EMS is intended to prepare graduates to meet the professional educational needs of prehospital care providers. All graduates of the B.S. EMS Program will be qualified for New Mexico licensure and national registration as paramedics. Additionally, three concentrations are offered within the degree program: clinical care, education and administration.

The Baccalaureate Degree Program Concentration in EMS Clinical Care

This concentration is intended to meet the needs of the pre-hospital care provider who is interested in advanced training and specialized care, e.g., aeromedicine or mobile intensive care. This concentration does not expand the scope of practice of the paramedic beyond the New Mexico State licensure scope of practice, nor beyond national standards for paramedic practice.

The Baccalaureate Degree Program Concentration in EMS Administration

This concentration is intended to meet the professional educational needs of individuals who are interested in careers in emergency medical services administration and management.

The Baccalaureate Degree Program Concentration in EMS Education and Training

This concentration is intended to meet the professional educational needs of those individuals who are interested in a career in prehospital emergency medical care education and training.

Application for Admission

New applicants for admission to the University of New Mexico B.S. EMS degree program must complete the standard University of New Mexico application for admission and designate their desired major as EMS. Current University of New Mexico students must indicate their interest in applying for admission to the B.S. EMS degree program by contacting the advisor at the EMS Academy.

EMS 309L	EMT-P Clinical II	3
EMS 316	EMT-P Medical Emergencies	3
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		13

Third Year—Summer Semester

EMS 317L	EMT-P Field Internship	5
		<hr/>
		5

Fourth Year—Fall Semester

	Second Language	3
	Credits in Chosen Concentration	12
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		15

Fourth Year—Spring Semester

EMS 450	EMS Research and Analysis	3
	Credits in Chosen Concentration	12
		<hr/>
		15

B.S. EMS Degree Curriculum

Core Requirements

First Year—Fall Semester

		Credits
EMS 101	EMT-Basic (or 6 credits of approved electives if licensed at EMT-B)	6
Math 121	College Algebra	3
Engl 101	Composition I: Exposition	3
Biol 123/124L	Biology for Health Related Sciences and Non-Majors/Lab	4
		<hr/>
		16

First Year—Spring Semester

EMS 120	Introduction to EMS System	3
Psych 105	General Psychology	3
Chem 111L	Elements of General Chemistry	4
—or— 121L	General Chemistry/Lab	
Engl 102	Composition II: Analysis and Argument	3
	Humanities Elective (see UNM core curriculum)	3
		<hr/>
		16

Second Year—Fall Semester

Biol 237	Human Anatomy and Physiology I for the Health Sciences	3
Biol 247L	Human Anatomy and Physiology Laboratory I	1
Stat 145	Introduction to Statistics (or equivalent)	3
C & J 130	Public Speaking	3
EMS 201	EMT-I (or 5 credits of approved electives if already licensed as an EMT-Intermediate)	5
	Humanities Elective (see UNM core curriculum)	3
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		18

Second Year—Spring Semester

Biol 238	Human Anatomy and Physiology II for the Health Sciences	3
Biol 248L	Human Anatomy and Physiology Laboratory II	1
Anth 101	Introduction to Anthropology	3
—or— Soc 101	Introduction to Sociology	
Engl 219	Technical and Professional Writing	3
—or— Engl 220	Expository Writing	
	Fine Arts Elective (see UNM core curriculum)	3
And One Course in Chosen Concentration	Approved Elective/ No Concentration Approved Elective/ EMS Clinical	
Econ 106	Introductory Microeconomics/ EMS Administration	
C & J 225	Small Group Communication/ EMS Education & Training	
		<hr/>
		16

Third Year—Fall Semester

EMS 301	EMT-P Prehospital Pharmacology	2
EMS 302	EMT-P Shock and Fluid Resuscitation	2
EMS 303	EMT-P Trauma Emergency Care	4
EMS 304	EMT-P Respiratory Emergency Care	4
EMS 308L	EMT-P Clinical I	4
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		16

Third Year—Spring Semester

EMS 305	EMT-P OB/GYN Emergencies and Care	1
EMS 306	EMT-P Cardiac Emergencies	4
EMS 307	EMT-P Pediatric Emergencies	2

Concentrations: (27 Credits Each)

B.S. EMS with No Declared Concentration

2nd year requirements (3 credits)

	Approved General Elective	3
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4th year requirements (24 credits)

	Approved Elective	3
	Approved EMS Electives (no credit at 100 level, no more than 6 credits at 200 level and a minimum of 6 credits at 400 level)	12
	Approved General Elective: EMS Related (no more than 3 credits at 100/200 level, minimum of 6 credits at 300/400 level)	9

EMS Administration

2nd year requirements: (3 credits)

Econ 106	Introductory Microeconomics	3
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4th year requirements: (24 credits)

Mgt 113	Management: An Introduction	3
CS 150L	Computing for Business Students	3
Mgt 202	Principles of Financial Accounting	3
EMS 420	EMS Administration	3
EMS 430	EMS Management Internship	3
Mgt 308	Ethical, Political and Social Environment	3
Mgt 322	Marketing Management	3
Mgt 306	Organizational Behavior and Diversity	3

EMS Education & Training

2nd year requirements: (3 credits)

C&J 225	Small Group Communication	3
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4th year requirements: (24 credits)

Phil 245	Professional Ethics	3
OLIT 421	Production and Utilization of Instructional Materials	3
OLIT 466	Principles of Adult Learning	3
OLIT 471	Designing Training	3
OLIT 472	Training Techniques	3
OLIT 473	Measuring Performance in Training	3
EMS 441	Principles of EMS Education	3
EMS 442	EMS Education Internship	3

EMS Clinical Care

2nd year requirements: (3 credits)

	Approved Elective	3
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4th year requirements: (24 credits)

Biol 239L	Microbiology for Health Sciences and Non-Majors	4
EMS 403	Advanced Assessment (Fall Only)	3
EMS	Elective	3

EMS 406	Mobile Intensive Care Paramedic (Fall Only)	3
	Upper Level EMS Clinical Elective (choose from EMS 204/205, 207, 407 or 416)	3
	Upper Level EMS Elective	3
	Approved Upper Level Electives: EMS Related (300/400 level)	5

Emergency Medicine (EMS)

101. EMT-Basic. (6)

Fulfills U.S.D.O.T. requirements for medical rescue and ambulance personnel. Prepares providers to recognize medical and traumatic emergencies and intervene and stabilize patients while in transport to advanced care facility. Required prior to EMT-I and EMT-P training.

103. EMT-Rescue. (1)

The fundamental techniques of Basic and Light Rescue are presented. The primary focus of the course is automobile extrication. An emphasis is placed upon hands on skills application. Restricted; Academy approval required.
Prerequisite: 101.

107. Wilderness Survival. (3)

This course is designed to teach the basics of survival in hostile environments. Topics covered include finding food and water and constructing temporary shelters. Two overnight field trips are included in the course.

108. Land Navigation. (3)

Course is designed to teach the basics of land navigation in a wilderness environment. Topics include: navigation theory, map interpretation, use of a compass and use of a GPS. Includes two overnight field trips.
Prerequisite: 107.

120. Introduction to EMS System. (3)

This is a survey course of EMS systems covering this history, development and management of EMS. Student performance evaluations are based on research papers, oral presentations and written examinations.

201. EMT-I. (5)

This course utilizes the standard U.S. D.O.T. curriculum and involves 108 hours of didactic and laboratory sessions. Emphasis is placed upon prehospital emergency patient assessment and care, with advanced airway management and intravenous therapy included. Required prior to EMT-P training.
Prerequisite: 101. Restricted; Academy approval required.

203. EMT-Transition. (1-3)

Course is designed to assist the out-of-state student to meet NM licensing requirements. Training will be adapted to cover individual instruction needed by participants to bring knowledge/skills up to state standards.
Prerequisite: EMT certification or equivalent. Restricted; Academy approval required.

204. Wound Management. (2)

Course is intended to provide the clinical training necessary to enhance the EMT's ability to provide care for minor superficial wounds, including minor suturing.
Prerequisite: 201. Corequisite: 205. Restricted; Academy approval required.

205. Splinting. (1)

Temporary splinting techniques will be reviewed and more permanent forms of splinting will be introduced. In addition, casting techniques will be reviewed.
Prerequisite: 201. Corequisite 204. Restricted; Academy approval required.

207. Wilderness First Responder. (3)

Designed for professionals responding to medical emergencies in remote locations. Topics include survival techniques, search and rescue operations, communications, environmental emergencies, medical and traumatic emergencies and

extended patient management in the wilderness including evacuation and transportation of patients from the wilderness.

NOTE: All paramedic courses (EMS 301-317L) require formal admittance into the Paramedic program. Admission requires successful completion of a formal pre-testing and interview process. All 300 level courses taught at the academy are based on D.O.T. curriculum.

301. EMT-P Prehospital Pharmacology. (2)

Study of the administration of drugs utilized in prehospital care including physiologic actions, pharmacodynamics and pharmacokinetic, therapeutic effects, indications, contraindications, side effects, interaction with other drugs encountered in the field, dosages and techniques.
Prerequisite: 201 or equivalent. Restricted; Academy approval required.

302. EMT-P Shock & Fluid Resuscitation. (2)

The anatomy, physiology and pathophysiology which are involved in homeostasis and the onset and progression of emergency and critical medical diseases are presented. The course also covers relevant prehospital pharmacology.
Prerequisite: 201 or equivalent. Restricted; Academy approval required.

303. EMT-P Trauma Emergency Care. (4)

Covers prehospital trauma prevention, mechanism of injury, patient assessment and patient care and transportation.
Prerequisite: 201 or equivalent. Restricted; Academy approval required.

304. EMT-P Respiratory Emergency Care. (4)

Course covers respiratory anatomy, physiology and pathophysiology and prehospital patient respiratory assessment and interventions in respiratory emergencies.
Prerequisite: 201 or equivalent. Restricted; Academy approval required.

305. EMT-P OB/GYN Emergencies and Care. (1)

Covers the reproductive anatomy and physiology, obstetrical and gynecological emergencies and prehospital assessment and management.
Prerequisite: 201 or equivalent. Restricted; Academy approval required.

306. EMT-P Cardiac Emergencies. (4)

Covers patient assessment with extensive coverage of cardiac anatomy and physiology and pathology, with an emphasis on advanced pre-hospital assessment and management.
Prerequisites: 301-305. Restricted; Academy approval required.

307. EMT-P Pediatric Emergencies. (2)

Covers the growth and development of pediatric patients from infancy to adolescence and the specialized care of patients with pediatric emergencies.
Prerequisites: 301-305. Restricted; Academy approval required.

308L. EMT-P Clinical I. (4)

Provides the student with clinical opportunities to observe and practice clinically relevant prehospital advanced life support skills in hospital clinical units under the preceptorship of clinical faculty.
Prerequisites: 301-304. Restricted; Academy approval required.

309L. EMT-P Clinical II. (3)

Provides the student with clinical opportunities to observe and practice clinically relevant prehospital advanced life support skills in hospital clinical units under the preceptorship of clinical faculty.
Prerequisite: 308L. Restricted; Academy approval required.

316. EMT–P Medical Emergencies. (3)

Covers patient assessment, A&P, pathology of non-cardiac, non-OB/Peds medical emergencies; includes but not limited to, environmental, chemical, poisoning, infectious influences and endocrine/digestive and renal systems.

Prerequisites: 301–306. Restricted; Academy approval required.

317L. EMT–P Field Internship. (1-5)

Students practice prehospital advanced emergency care on assigned regional advanced support field units under the preceptorship and supervision of program faculty.

Prerequisite: 309L. Restricted; Academy approval required.

321. EMT–P Transition. (1-3)

Course is designed to assist the out-of-state student to meet NM licensing requirements. Training will be adapted to cover individual instruction needed by participants to bring knowledge/skills up to state standards.

Prerequisite: EMT-P certification or equivalent. Restricted; Academy approval required.

398. EMS Topics. (1-3)**399. EMS Problems. (1-3)****403. Advanced Assessment. (3)**

This course is intended to provide the clinical training necessary to enhance the paramedic's patient assessment and referral skills. Patient health and wellness education topics are presented and minor wound management is included.

Prerequisite: 306. Restricted; Academy approval required.

406. Mobile Intensive Care Paramedic. (3)

Course covers inter-facility transport of critically ill adult patients. Topics include, but are not limited to, airway and ventilator management, intra-aortic balloon pumps, laboratory data and 12-Lead ECG interpretations.

Prerequisites: 306, 316. Restricted; Academy approval required.

407. Aeromedical EMS. (3)

Focuses on flight medicine. Patient care in both fixed wing and rotary environments will be covered. Topics include helicopter safety, flight physiology, clinical procedures to stabilize patients and aeromedical equipment.

Prerequisite: 306, 316. Restricted; Academy approval required.

408L. Aeromedical EMS Clinical. (1)

Practical application of the techniques learned in 407. The majority of the course will be spent providing patient care on fixed wing aircraft with an on-duty flight team.

Pre- or corequisite: 407. Restricted; Academy approval required.

416. Pediatric and Neonatal Intensive Care Paramedic. (3)

Course covers critical care and transport of young patients. Topics include, but are not limited to, assessment, airway and ventilator management, congenital heart disease, trauma and respiratory emergencies. Requires PALS Certification.

Prerequisites: 305, 307. Restricted; Academy approval required.

420. EMS Administration. (3)

Covers all the aspects of EMS administration, including political and regulatory structures, personnel management, fiscal management and overall management of EMS agencies in both the public and private sectors.

Prerequisite: 120. Restricted; Academy approval required.

430. EMS Management Internship. (3)

The student is assigned to an EMS operational unit and is involved in administrative aspects of the agency. Evaluation is based upon professionalism, productivity and evaluation of assigned projects and reports.

Pre- or corequisite: 420. Restricted; Academy approval required.

432. EMS Administration Independent Study. (1-4)

A formal proposal must be submitted to the department on a topic of current interest in the field of EMS. The proposal must indicate the specific goals and objectives of the project. Restricted; Academy approval required.

441. Principles of EMS Education. (3)

This course covers the development, design, administration, coordination, presentation and evaluation of EMS training. An emphasis is placed on special aspects of EMS training, especially the critical elements of speed and proficiency.

Prerequisite: 120. Restricted; Academy approval required.

442. EMS Education Internship. (1-3)

The student is assigned to an EMS training program under the preceptorship of a staff instructor and is required to prepare and conduct various lectures, workshops and participate in all aspects of course development.

Pre- or corequisite: 441. Restricted; Academy approval required.

450. EMS Research and Analysis. (3)

Course in the critical exposition of EMS literature. The scientific process of developing research concepts, the scientific method and writing and presenting proposals will be presented.

Prerequisite: Stat 145.

451. EMS Research and Publication. (3)

Follow up to 450. The student conducts research under the preceptorship of program faculty. An emphasis is placed on analysis, writing and verbal presentation of the research.

Prerequisite: 450. Restricted; Academy approval required.

452. EMS Research—Independent Study. (1-3 to a maximum of 3) Δ

The student conducts research under the proctorship program faculty. A formal research proposal must be submitted and approved by the program faculty.

Prerequisite: 450. Restricted; Academy approval required.

455. EMS Injury Prevention. (3)

Injury ranks as one of the nation's most pressing health challenges. This course is designed to give you the tools to plan an injury prevention program in your community. The course will cover a variety of safety and health topics focusing on injury prevention in the home, motor vehicle, public, and work environments and specific populations. It will provide the necessary background to identify injury risks, plan an effective intervention, prepare a request for funding proposal for IP funding, and implement a prevention program.

461. EMS Journal Club. (1)

Seminar course involving reading and discussion of EMS literature. Course evaluation is based on verbal presentations and critical analysis of the readings. Restricted; Academy approval required.

498. EMS Topics. (1-3)**499. EMS Problems. (1-3)****Health Sciences (H Sci)****330. Patient Care. (2) George**

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.

378. Current Problems I. (3) George

Topics pertinent to management of a Radiology department including personnel relations, scheduling issues, budget and inventory, purchasing and general paperwork.

380. Human Cross Sectional Anatomy. (3) George

Course examines three dimensional relationships of skull, brain, CNS, thorax, abdomen and pelvis correlating this information with imaging modalities (CT, MRI, Nuclear Medicine).

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.

399. Current Problems II. (3) George
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.

405. Medical Imaging Theory II. (3) George
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.

406. Medical Imaging Theory III. (3 to a maximum of 6)
[3] Δ
Independent study course used for students completing upper level baccalaureate course work for the purpose of expanding on material covered in those courses.
Prerequisites: 405 and approval of instructor.

MEDICAL LABORATORY SCIENCES

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Introduction

Medical laboratory sciences, or medical technology, is the profession of clinical laboratory medicine encompassing the fields of clinical chemistry, hematology, microbiology, immunology, urinalysis and blood banking. With advances in medical research, health care has become increasingly dependent on a growing variety of complex laboratory tests and technologies to diagnose and treat disease. The medical technologist is a professional clinical laboratory scientist who, as a member of the health care team, is responsible for providing this essential service.

A medical laboratory scientist requires a broad general science background and specialized laboratory education to become proficient in performance of clinical laboratory procedures. Medical technologists may manage or supervise a clinical laboratory or may perform the testing on patient blood, other body fluids and tissues, requiring the use of complex equipment and techniques. The medical laboratory scientist is responsible for the quality and accuracy of these laboratory results, providing critical information for diagnosis and treatment of patients. The medical technologist may find challenging opportunities in hospital 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 national certification examinations given by the Board of Registry (ASCP) and by the National Certification Agency for Medical Laboratory Personnel (NCA).

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 MD LAB courses.

Admission Requirements

Minimum education requirements are 64 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 64 semester hours of credit including:

1. Chemistry—approximately 12 hours including one course in organic or biochemistry.
2. Biological Sciences—approximately 16 semester hours including courses in physiology, immunology and microbiology.
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 or the Summer session. An application must be submitted to the Director of Medical Laboratory Sciences by the **October 15** deadline for January admission or the **March 15** deadline for June 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

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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 pre-scribed curriculum outlined below and should make their intentions known to a medical laboratory sciences advisor as early in their student career as possible.

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 + 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 121L + 122L (8 hrs.) –or– Chem 131L + 132L (9 hrs.)
Organic or Biochem: Chem 301* + 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:

C & J 221 Interpersonal Communication (3 hrs.)
C & J 225 Small Group Communication (3 hrs.)

Management Theory: One course on general management theory:

Mgt 113 Management: An Introduction (3 hrs.)

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 or Summer session. 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 laboratories and reference laboratories currently used are: Eastern NM Medical Center in Roswell, San Juan Regional Medical Center in Farmington, Memorial Medical Center in Las Cruces, St. Vincent Hospital in Santa Fe, Gila Regional Medical Center in Silver City and the following Albuquerque sites: Lovelace Medical Center,

S.E.D. Medical Laboratories, New Mexico Regional Federal Medical Center and TriCore Reference Laboratories.

Medical Laboratory Sciences Program—63–65 semester hours

234	Introduction to Clinical Immunology	3
300L	Introduction to Medical Laboratory Sciences	1-3
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	1
		44–46

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	2
453	Clinical Microbiology Rotation	4
454	Clinical Immunohematology Rotation	3
499	two Alternative Experiences @ 1 each =	2
		19

Information Requests

Communications regarding information and applications should be addressed to the Director, Medical Laboratory Sciences, The University of New Mexico Health Sciences Center, 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.

Medical Laboratory Sciences (Md Lab)

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 orientation 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. (1 to a maximum of 3) Δ

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.

Prerequisite: acceptance into MLS Program.

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.
Prerequisite: acceptance into MLS Program. Corequisite: 311L.

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, augmented by the use of case studies. Development of critical thinking and problem solving techniques is emphasized.
Prerequisite: acceptance into MLS Program.

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.
Prerequisite: acceptance into MLS Program. Corequisite: 321L or permission of instructor.

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.
Prerequisite: acceptance into MLS Program. Corequisite: 331L.

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.
Prerequisite: acceptance into MLS Program.

350L. Clinical Urinalysis. (2)

A study of kidney functions and the physiochemical 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.
Prerequisite: acceptance into MLS Program.

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.
Prerequisites: C or better in 310, 311L. **Offered on a CR/NC basis only.**

352. Basic Hematology/Hemostasis Rotation. (3)

Supervised instruction in the performance of hematological and coagulation procedures in an affiliated laboratory.
Prerequisite: C or better in 320/321L. **Offered on a CR/NC basis only.**

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: C or better in 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.
Prerequisites: C or better in 310, 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.
Prerequisites: C or better in 320, 321L or permission of instructor.

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: C or better in 330, 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.
Prerequisite: C or better in 330.

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: C or better in 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.
Prerequisite: acceptance into MLS Program or permission of instructor.

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.
Prerequisites: CR in 351, a C or better in 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.
Prerequisites: CR in 352, a C or better in 420L.

453. Clinical Microbiology Rotation. (4)

Supervised instruction in the performance of microbiological procedures in an affiliated laboratory.
Prerequisites: C or better in 430, 431L.

454. Clinical Immunohematology Rotation. (3)

Supervised instruction in the performance of blood banking procedures in an affiliated laboratory.
Prerequisite: C or better in 440L.

475. Interdisciplinary Case Studies. (1)

Use of interdisciplinary case studies and group discussions for the development of critical thinking and problem solving skills.
Prerequisites: C or better in Md Lab courses taken prior to this course.

498. Research Honors. (1 to a maximum of 3) [1-3 to a maximum of 6] Δ

499. Alternative Experiences. (1 to a maximum of 3) Δ
Supervised experience in a variety of laboratory settings with increased responsibility or an independent study with tutorials as outlined by the program director.
Prerequisite: permission of instructor. **Offered on a CR/NC basis only.**

OCCUPATIONAL THERAPY

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Barbara Hooper, Ph.D., OTR/L, Michigan State University

Lecturers

Renee Soderlund, M.A., OTR/L, University of Southern California

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 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 19 months (three semesters and one summer session) 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) 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 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), 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), 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. Screening of applications for summer admission will begin January 15 each year. Applications received by this date will be given first consideration for admission and financial assistance. Applications received after this date but before the University deadline for the Summer session will be considered on a space available basis only. Students are admitted once a year, with classes begin in the summer 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. A minimum grade of 3.00 is required in all program prerequisites and courses cannot be taken more than two times. Students may apply while enrolled in undergraduate courses to complete a baccalaureate degree or prerequisite courses if all courses will be completed before summer session (late May). 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, Room 215) 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 \$25.00 application fee for the Occupational Therapy Graduate Program and \$40.00 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 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: Psych 220	3
Abnormal Behavior: Psych 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, complete an oral master's examination and a competency based 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 \$400.00 each year. Tuition is determined by the Board of Regents each April for the following school year beginning in Fall. Verify current Tuition log onto www.unm.edu/~bursar/tuition.html. For financial aid information we encourage you to contact Ed Wyckoff at (505) 272-8008 or ewyck@unm.edu.

Scheduling

The Occupational Therapy Graduate Program offers a traditional 2.25-year schedule which involves a 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. Part-time scheduling is available.

Core Professional Curriculum

- Summer Year 1 (7 credits)
- Introduction to Occupation and Health (Occ Th 514L)- 4 credits- PBL
 - Kinesiology of Occupation (Occ Th 524L)- 3 credits

- Fall Year 1(17 credits)
- Introduction to Evidence-Based Practice (Occ Th 534)- 3 credits
 - Occupation Across the Life Span (Occ Th 544L)- 5 credits
 - Person, Family and System Centered Care (Occ Th 554L) -2 credits
 - Applied Occupations I (Occ Th 564L) - 6 credits - PBL
 - Graduate Seminar (Occ Th 594/599) - 1 credit – Credit/No Credit, **,*

- Spring Year 1(15 credits)
- Applied Occupations II (Occ Th 604L) - 5 credits - PBL
 - Applied Occupations III (Occ Th 614L) - 5 credits - PBL
 - Neuroscience of Occupation (Occ Th 634L) - 1 credits
 - Neuroanatomy (Occ Th 644) 3 credits
 - Graduate Seminar (Occ Th 594/599) - 1 credit - Credit/No Credit, **,*

- Summer Year 2
- Plan II Elective (Occ Th 690) -3 credits ** May be taken in any semester.
 - Work on Thesis or Project

- Fall Year 2 (16 credits)
- Advocacy, Comm. & Leadership (Occ Th 624L)- 3 credits - Credit/No Credit
 - Organization & Administration (Occ Th 654) -2 credits
 - Applied Occupations IV (Occ Th 664L) - 6 credits - PBL
 - Community Health (Occ Th 674L) - 4 credits - PBL
 - Graduate Seminar (Occ Th 594/599) -1 credit - Credit/No Credit, **,*
 - Masters Examination: Occupational Therapy Student Performance Assessment (OTSPA)

- Spring Year 2 (12-13 credits) January, February, March
- Fieldwork Level II (Occ Th 675) - 12 credits - Credit/No Credit
 - Masters Thesis (Occ Th 599) - 2 credit - Credit/No Credit, **,*

- Summer Year 2 (12-13 credits) May, June, July
- Fieldwork Level II (Occ Th 675) - 12 credits - Credit/No Credit
 - Masters Thesis (Occ Th 599) - 1 credit - Credit/No Credit, **,*

- * Plan I Masters Thesis (6 credits, continuous enrollment in Occ Th 599)
- ** Plan II Masters Project (3 credits of Occ Th 594, plus 3 credits Elective)

Graduation Requirements

Successful completion of 82 credits including required didactic coursework, assessments, and masters examinations. Students must complete all Office of Graduate Studies requirements including Plan I or Plan II requirements and 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 Coursework
6 Credits Thesis Occ Th 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 term
- 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).

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- Students are responsible for tuition, transportation to and from the fieldwork centers and living expenses while on fieldwork. MOT 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 Coursework
3 Credits Project Occ Th 594
 - Additional Project 594 credits may be taken as needed
 - Masters Project must be completed prior to beginning Fieldwork Level II
 - Defense of the Masters Project will be the culminating event in the last term
- 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. MOT 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 Occ Th 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 (Occ Th 514L, 564L, 604L, 614L, 664L, 674L). Full-time fieldwork (Occ Th 675) follows successful completion of didactic coursework and the OTSPA.

Occupational Therapy (Occ Th)

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.

514L. [510L.] Introduction to Occupation and Health. (4) [3]

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. {Summer}

524L. [570L.] Kinesiology of Occupation. [Kinesiology and Functional Anatomy.] (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. {Fall}

534. [530.] Introduction to Evidence-Based Practice. [Evidence-Based Practice in Occupational and Physical Therapy.] (4) [3]

(Also offered as Phy Th 530.) 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 use to inform evidence-based practice. {Fall}

544L. [545L.] 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. {Summer}

554L. Person, Family, and System Centered Care.

[Person-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. {Fall}

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. {Fall}

594. [592.] Graduate Seminar. [Problems in Occupational Therapy.] (1-3 to a maximum of 4) 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. {Summer, Fall, Spring}

599. Master's Thesis. (1-6)

Develop and implement a research project relevant to occupational therapy. Offered on a CR/NC basis only.

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. {Spring}

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. {Spring}

624L. [600L.] Advocacy, Communication and Leadership. (3) [2]

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. Offered on a CR/NC basis only. {Fall}

634L. Neuroscience of Occupation. (3)

This course will provide an overview of neurosciences in the health sciences and application of human neuroanatomy, neurophysiology and motor control theory to individuals with interruptions in daily occupations. {Spring}

650L. Special Topics in Occupational Therapy. (3)

Various current topics in occupational therapy, including assistive technology are offered. Offered on a CR/NC basis only. {Spring}

654. [680.] Organization and Administration. (2)

This course will enable students to practice effectively in 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. {Spring}

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 adoles-

cence. Occupational intervention strategies for children and their families are covered. {Fall}

674L. [640L.] Community Health. (4) [3]

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. {Fall}

675. Fieldwork II. (12 to a maximum of 36) [3-12] 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. (2-4) 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. May be repeated for credit, no limit (monitored by advisors). {Fall, Spring, Summer}

PHYSICAL THERAPY

Susan A. Queen, P.T., Ph.D., Director
 The University of New Mexico School of Medicine
 Health Sciences and Service Building, Room 204
 MSC09 5230
 1 University of New Mexico
 Albuquerque, NM 87131-0001
 (505) 272-5755

Assistant Professors

Ron Andrews, P.T., Ph.D.
 Kathy Dieruf, P.T., Ph.D., N.C.S.
 Burke Gurney, P.T., Ph.D.
 Beth Provost, P.T., Ph.D.

Lecturers

Zina Daniels, P.T., M.A., MOMT
 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 course work and clinical training which leads to a Master's in Physical Therapy (MPT). The program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). Plans are being made to convert the current masters program to an entry level doctoral program (DPT) in 3 to 5 years.

Admission Requirements

It is recommended that interested students attend an advisement session in the Physical Therapy Program during the summer, spring or fall semesters. Students may call the program to sign up for one of these sessions. Students are

admitted once a year, with classes beginning in the summer. The application deadline is January 15. Applications received after this date but before April 15 will be considered on a space available basis only. Application packets may be requested from the program at any time. Students may submit an application packet to the program only if they have a degree at the baccalaureate level, taken the Graduate Record Examination and meet the minimum grade requirements; however, students may apply while still enrolled in course work if the baccalaureate degree will be completed before June of that year.

Application packets with complete instructions for applying to the Physical Therapy Program and the Office of Graduate Studies are available in the Physical Therapy Program Office. Application forms for the Physical Therapy Program and the University of New Mexico Graduate School (Office of Graduate Studies) can be downloaded directly from their respective Web sites: UNMGS: www.unm.edu/~ogshmpg/index.html and the Phy Th Program: <http://hsc.unm.edu/som/phythster/>.

Only residents of Alaska, Hawaii, Nevada, Oregon and Wyoming are eligible to apply to the program under WICHE (Western Interstate Commission for Higher Education). For more information on WICHE please call 1-800-279-9777. New Mexico residency is not required for application to our program.

Applicants who appear to be best qualified will be invited for an interview. Final selection will be made from the group of candidates interviewed and will be based on grade point average, written materials including letters of reference and interview. 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 admissions and 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
 MSC09 5230
 Chairperson, Admissions Committee
 Albuquerque, NM 87131-0001
 (505) 272-5755

Pre-professional Educational Requirements

Applicants to our program must have a degree at the baccalaureate level from an accredited university. Additionally, 36 credits of science prerequisites are required. Please contact the Program or visit the program's website for specific course requirements.

Candidates with academic records with an overall (taken from official transcript at the time bachelor's degree was awarded) grade point average of less than 3.00 on a four-point scale will not be considered.

Professional Curriculum

The professional program is eight semesters in length and begins with the summer session each year in June. Students take 105 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 admitted to the Physical Therapy Program.**

First Year—Summer Session (10 weeks)	Credits
Phy Th 521L Human Anatomy	6
Phy Th 510 Introduction to Physical Therapy	2
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Fall Semester

Phy Th 503L Orthopedics I	3
Phy Th 530 Introduction to Evidence-Based Practice	4
Phy Th 541 Survey of Medical Sciences I	2
Phy Th 551L Clinical Exercise Physiology	3
Phy Th 570L Human Physiology Lab	3
Phy Th 571L Clinical Education I and Seminar	2
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	17

Spring Semester

Phy Th 504L Orthopedics II	3
Phy Th 506L Therapeutic Procedures	3
Phy Th 522L Neuroanatomy	3
Phy Th 542 Survey of Medical Sciences II	2
Phy Th 550L Prosthetics, Orthotics and Cardiopulmonary— Principles of Patient Management	3
Phy Th 572L Clinical Education II	2
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	16

Second Year—Fall Semester

Phy Th 600 Development Across the Life Span	3
Phy Th 601L Therapeutic Exercise III	4
Phy Th 631 Research Practicum	2
Phy Th 641 Survey of Medical Sciences III	3
Phy Th 671L Clinical Education III and Seminar	4
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	16

Spring Semester

Phy Th 599 Masters Thesis —or—	1
Phy Th 690 Directed Study	
Phy Th 602L Therapeutic Exercise IV	3
Phy Th 622 Psychology of Disability	2
Phy Th 662L Evaluative Procedures II	4
Phy Th 672L Clinical Education IV	4
Phy Th 680 Organization and Administration	2
<hr/>	<hr/>
	16

Summer Session (18 weeks)

Phy Th 675L Clinical Education V	6
Phy Th 599 Master's Thesis —or—	1
Phy Th 690 Directed Study	
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	7

Third Year—Fall Semester

Phy Th 675L Clinical Education V	3
Electives Phy Th 695 (or other graduate courses as approved by faculty advisor)	6
Phy Th 599 Master's Thesis —or—	3
Phy Th 690 Directed Study	
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	12

Spring Semester

Phy Th 675L Clinical Education V	12
Phy Th 599 Master's Thesis —or—	1
Phy Th 690 Directed Study	
<hr/>	<hr/>
	13
<hr/>	<hr/>
Total Credits	105

In addition to satisfactory completion of the didactic portion of the curriculum, students must successfully prepare and present a written and oral report of a master's thesis (Plan I) or an approved independent capstone project (Plan II), as well as pass a comprehensive examination. Plan I students must complete a total of at least 6 credits of Phy Th 599, Master's Thesis, and Plan II students must complete a total of 6 credits of Phy Th 690, Directed Study. All students also must successfully complete a 24-week period of full-time clinical education before the degree may be conferred. Hospitals and health care facilities throughout New Mexico and a limited number of facilities outside the state are utilized in the final clinical education experiences.

Students in the Physical Therapy Program pay tuition based on full-time graduate status at the University of New Mexico. The total cost of books, supplies and laboratory fees while in the program is approximately \$5,000.00 (includes required personal computer). The additional costs associated with all clinical education experiences, including transportation, room and board (approximately \$1000.00/rotation), are borne by the student. Students are required to carry health and profes-

sional liability insurance. Both types are available through the University for a reasonable fee.

Physical Therapy (Phy Th)

503L. [501L.] Orthopedics I. [Therapeutic Exercise I.] (3)
Philosophy, process and techniques of patient examination and evaluation including patient interview, systems review, differential diagnosis, and neuromusculoskeletal assessment. The process of evaluation, leading to diagnosis, treatment planning and interventions is addressed. A regional approach is used via lecture and laboratory format.
Prerequisites: 510, 521L.

504L. [502L.] Orthopedics II [Therapeutic Exercise 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.
Prerequisites: 503L, 541, 570L.

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.
Prerequisites: 503L, 521L, 530, 570L.

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.

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.
Prerequisite: admission to the program.

522L. Neuroanatomy. (3)
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.

530. Introduction to Evidence-Based Practice. [Evidence-Based Practice in Occupational and Physical Therapy.] (4) [3]
(Also offered as Occ Th 534.) 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 use to inform evidence-based practice. {Fall}

541. Survey of Medical Sciences I. (2)
Pathophysiology and clinical presentation of common disease processes most likely to have manifestations requiring occupational and physical therapy. Included are trauma, shock, HIV, infectious disease, neoplastic, cardiac, pulmonary, musculoskeletal, vascular, renal, immunological, hematological and metabolic disorders.
Prerequisite: 521L.

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.
Prerequisites: 521L, 541, 570L.

550L. [552L.] Prosthetics, Orthotics and Cardiopulmonary—Principles of Patient Management. [Evaluative Procedures I.] (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.

Prerequisites: 503L, 521L, 541, 551L, 570L.

551L. Clinical Exercise Physiology. (3)

Principles and application of exercise physiology as it relates to the various systems of the body. Emphasis on designing specialized exercise programs for effective patient care. Course content is covered in a lab and lecture format including problem based clinical case studies. An understanding of current and landmark literature is also required.

Prerequisite: 521L.

570L. Kinesiology and Functional Anatomy. (3)

The introductory section will cover principles of biomechanics, arthrology, tissue mechanics and principles of measurement. Students will then be required to integrate these principles with functional anatomy to study detailed human movement by region of the body, as well as, posture and normal gait.

Prerequisite: 521L.

571L. Clinical Education I. (2)

This course includes advanced clinical communication skills, documentation, clinical Spanish, introduction to related medical disciplines and a problem-based unit on pathology.

Prerequisites: 510, 521L.

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.

Prerequisites: 503L, 571L. **Offered on a CR/NC basis only.**

599. Master's Thesis. (1-3 to a maximum of 9) 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.

Prerequisites: 530, 631.

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.

Prerequisites: 521L, 522L, 550L, 570L.

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.

Prerequisites: 503L, 504L, 506L, 522L, 551L, 550L, 570L.

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.

Prerequisites: 504L, 522L, 542, 551L, 601L, 641.

622. Psychology of Disability. (2)

The purpose of this course is to enhance the students awareness of psychosocial issues for the health professional and the patient and to integrate this knowledge with theoretical/clinical information in the curriculum.

Prerequisites: 510, 571L, 572L, 671L. Corequisite: 672L.

631. Research Practicum. (2)

Course is a continuation of Phy Th 530 with further information on research design. The focus is on development of a thesis proposal.

Prerequisite: 530.

641. Survey of Medical Sciences III: Neurology. (2-3)

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.

662L. Evaluative Procedures II. (4)

Application of the therapy process (evaluation and intervention strategies) for infants, children and adolescents with neurological, psychosocial and orthopedic conditions which interfere with the typical developmental process. Problem-based learning and clinical observation sessions are included.

Prerequisites: 503L, 504L, 522L.

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.

Prerequisites: 571L, 572L.

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.

Prerequisites: 503L, 506L, 542, 551L, 550L, 571L, 572L, 671L.

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.

Prerequisites: 571L, 572L, 671L, 672L. **Offered on a CR/NC basis only.**

680. Organization and Administration. (2)

This course will enable occupational and physical therapy students to practice 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 related to service delivery.

Prerequisites: 510, 671L, senior standing (Occ Th).

690. Directed Study. (1-3 to a maximum of 6) Δ

Supervised independent study addressing a question or topic of relevance to physical therapy. May include, but not be 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.

Prerequisites: 530, 631. **Offered on a CR/NC basis only.**

695. Topics in Physical Therapy. (1-3 to a maximum of 9)

[1-3 to a maximum of 6] Δ

Content varies, students may be registered for several sections concurrently. Registration by approval of the Physical Therapy Program director. (Offered upon demand).

PHYSICIAN ASSISTANT STUDIES PROGRAM

Nikki Katalanos, Ph.D., PA-C, Director
The University of New Mexico School of Medicine
Department of Family and Community Medicine
MSC09 5040
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 272-9678
e-mail: paprogram@salud.unm.edu

For more information about the PA profession contact:

American Academy of Physician Assistants
950 North Washington Street
Alexandria, VA 22314-1552
Phone: (703) 836-2272
FAX: (703) 684-1924
Web site: www.aapa.org

New Mexico Academy of Physician Assistants
Web site: <http://www.nmapa.com/>

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

To order a catalog of PA Educational Programs:
www.apap.org

The Physician Assistant Profession

Physician Assistants (PAs) are health professionals licensed to practice medicine with physician supervision. Physician Assistants 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, Physician Assistants exercise autonomy in medical decision-making and provide a broad range of diagnostic and therapeutic services. The clinical role of physician assistants 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 Bachelor of Science 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 completed 60 semester hours, which include the following courses, prior to applying to the PA Program. 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. The minimum grade for any prerequisite course is C or better. Course numbers listed below refer to the University of New Mexico courses.

Science:
General Biology with lab (121L or 123 and 124L) 4 hours
General Chemistry with lab
(121L and 122L or 131L and 132L) 8 hours
Human Anatomy and Physiology I for the Health
Sciences & Human Anatomy and Physiology II for
the Health Sciences with lab (Biol 237, 247L and 238,
248L) 8 hours
General Psychology (105) 3 hours

Mathematics:
College Algebra (121)
or Calculus (162 or 163) or Statistics (145) 3 hours

Communication Skills:
(all English courses must be taken in the U.S.)
English 102 Comp II 3 hours
English 219 —or— 220 Expository or Technical and
Professional Writing 3 hours

Cross Cultural
A course which focuses on a culture other than
one's own. Examples may include Asian, African,
Middle Eastern, Latin American or Native American
Studies. 3 hours

Applicants with a bachelors or graduate degree need only complete the above prerequisite courses. Applicants without a degree must meet the requirements of the University of New Mexico Core Curriculum as listed below:

Social and Behavioral Sciences (6 credit hours)
Humanities (6 credit hours)
Foreign Language (3 credit hours)
Fine Arts (3 credit hours)

Refer to the University of New Mexico Core Curriculum in this catalog for acceptable courses. The PA program requires 6 credit hours from the above categories reflect a multicultural experience.

Highly Recommended for All:
Biochemistry
Microbiology with lab
Nutrition
Organic Chemistry with lab
Spanish/Other Regional Languages
Basic Computer Skills
Advanced Statistics
Research Design

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 www.caspaonline.org. For questions or technical assistance please call CASPA at (240) 497-1895, Monday through Friday, 9:00 a.m. to 5:00 p.m. eastern time or e-mail address to apply@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. Students are admitted once a year with classes beginning in the summer. 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 a personal interview.

PA Program Professional Curriculum

SUMMER		CREDITS
PAS 301	Foundations of Medical Science I	(1-6)
	Section 001 Population Health	1
	Section 002 Foundations of Research Methodology	1
	Section 003 Clinical Skills I	1
PAS 420	Clinical Seminar I	P/F
PAS 316	Introduction to Clinical Medicine I	(0-14)
	Section 001 Dermatology	3
		6

FALL		CREDITS
PAS 302	Foundations of Medical Science II	(1-6)
	Section 001 Adolescent and Pediatric Medicine I	2
	Section 002 Adult and Geriatric Medicine I	2
	Section 003 Clinical Skills II	1
PAS 412	Clinical Seminar II	P/F
PAS 316	Introduction to Clinical Medicine I	(0-14)
	Section 002 Orthopedics	3
	Section 003 Human Structure, Function and Development	3
	Section 004 Mechanisms of Disease	5
		16

SPRING		CREDITS
PAS 303	Foundations of Medical Science III	(1-6)
	Section 001 Adolescent and Pediatric Medicine II	2
	Section 002 Adult and Geriatric Medicine II	2
	Section 003 Introduction to Pharmacology	2
PAS 422	Clinical Seminar III (0)	P/F
PAS 317	Introduction to Clinical Medicine II	(0-10)
	Section 001 Organ Systems–Neurosciences	5
	Section 003 Organ Systems–CV/Pulmonary	5
		16

SUMMER		CREDITS
PAS 401	Family Medicine Clerkship	
	Section 370 Family Medicine	4
	Section 376 General Internal Medicine	4
		8

FALL		CREDITS
PAS 303	Foundations of Medical Science III	(1-6)
	Section 004 Emergency Medicine	2
	Section 005 Adolescent and Pediatric Medicine III	2
	Section 007 Adult and Geriatric Medicine III	2
	Section 008 Pharmacology II	2
PAS 418	Introduction to Clinical Medicine III	(0-9)
	Section 001 Organ Systems–GI/Nutrition/Metabolism	3
	Section 002 Organ Systems–Renal/Endocrine	3
	Section 003 Organ Systems–Human Sexuality and Reproduction	3
		17

SPRING		CREDITS
PAS 401	Family Medicine Clerkship	
	Section 377 Elective	P/F
	Section 371 Emergency Medicine	4
	Section 374 Women's Health/Prenatal Care	4
	Section 373 Pediatrics	4
	Section 375 Behavioral Medicine/Psychiatry	4
		16

SUMMER		CREDITS
PAS 401	Family Medicine Clerkship	
	Section 372 Surgery	4
PAS 402	Primary Care Preceptorship	6
		10

Clerkships and preceptorship hours 34
 Professional curriculum hours 55 hours
 Total semester hours 89 hours

Physician Assistant Studies Program (PAS)

All courses require admission to the PA Program. No PAS course may be challenged or preempted based on clinical or academic experiences.

301. Foundations of Medical Science I. (1-6)
 This course is designed for the first year PA student. Sections of this course cover topics in: Population Health–history of community and public health, basic epidemiology and health promotion/disease prevention. Foundations of Research Methodology–medical informatics, evidence-based medicine, concept mapping and a critical review of the medical literature. Clinical Skills I–introduction to patient assessment and communication skills; includes a communication skills workshop.

302. Foundations of Medical Science II. (1-6)
 Sections of this course cover topics in: Adult and Geriatric Medicine I, Pediatric and Adolescent Medicine I, and Clinical Skills II.

303. Foundations of Medical Science III. (1-6)
 This course continues with sections in: Adult and Geriatric Medicine II and III, Pediatric and Adolescent Medicine II and III, and Clinical Skills (continuity clinic). Additional sections include Clinical Pharmacology I and II and Emergency Medicine.

316. Introduction to Clinical Medicine I. (0-14)
 This course 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. Sections include dermatology, hematology, radiology, human structure, function and development, and mechanisms of disease-focusing on genetics, neoplasia, infectious disease and immunology.

317. Introduction to Clinical Medicine II. (0-10)
 This course 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. Sections include neurology, psychiatry, cardiology and pulmonology.

401. Family Medicine Clerkship. (0-6)
 These clerkships focus on family medicine, internal medicine, pediatrics, women's health, behavioral medicine, emergency medicine, surgery and one elective. Students can expect to complete up to four of the eight clerkships in rural or underserved areas.

402. Primary Care Preceptorship. (6)
 This course focuses on clinical practice in a primary care setting. It provides opportunities for the student to function at a high level of responsibility under the supervision of an assigned preceptor.

418. Introduction to Clinical Medicine III. (0-9)
 This course 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. Topics include gastroenterology, nutrition and metabolism, renal medicine, endocrinology and human sexuality and reproduction.

420. Clinical Seminar I. (0)

Clinical Seminar I is the first in a series of classes for the Physician Assistant student focusing 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.**

421. Clinical Seminar II. (0)

Clinical Seminar II continues in the presentation of 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.**

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.**

423. Independent Study. (1-12 to a maximum of 15) Δ

This variable credit course will focus on a formal research project conducted by the PA student with faculty supervision.

RADIOLOGIC SCIENCES

Introduction

Four options are listed for students seeking certification in either Nuclear Medicine or Radiography.

- 1) Nuclear Medicine Imaging Certificate Program
- 2) Bachelor of Science in Radiologic Sciences—
Concentration in Nuclear Medicine
- 3) Associate of Science in Radiography
- 4) Bachelor of Science in Radiologic Sciences—
Concentration in Radiography

Nuclear Medicine Imaging Certificate Program

Sheldwin Yazzie, Director
The University of New Mexico School of Medicine
Nuclear Medicine Imaging Program
MSC09 5260
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(505) 272-5254, FAX (505) 272-8079

The NCAC-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 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.

Admission Requirements

1. Meet the University of New Mexico entrance requirements.
2. A minimum grade point average of 2.50 in all post-secondary courses.
3. May be required to participate in personal interview with program selection committee.

4. Application, three references and official transcripts must be received by the program selection committee.
5. Applicant must have a baccalaureate degree with course work in physics, chemistry, anatomy and physiology and 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.

Pre-professional Curriculum for Undergraduates Only

Basic Sciences (38 semester hours)

Biological:	
Biol 123/124L	4 w/lab
Anat/Phys:	
Biol 237 and 247L, 238 and 248L	8 w/lab
Algebra/Trig:	
Math 121 and 123	3-5
Physics, Gen:	
Physcs 151	3
Chemistry:	
Chem 121L	4
Chem 122L	4
Nutrition:	
Nutr 244	3
Microbiol:	
Biol 239L	4
Statistics:	
Stat 145 or Psych 200	3
	36-38

Liberal Arts (24 semester hours)

English:	
Engl 101 and 102	6
Prof Ethics:	
Phil 245 or 102	3
Gen Psychology:	
Psych 105	3
Relation/Behav:	
Psych 240	3
Computer Sci:	
C S 150L or 201	3
Sociology:	
Soc 101	3
Research Methods:	
Soc 280	3
	24
Total	60-62

Prerequisite Course Work for Baccalaureate and CAHEA Graduates¹

Chemistry 121L	General Chemistry/Lab
Philosophy 245	Professional Ethics
—or— 102	Current Moral Problems
Physics 151L ²	General Physics/Lab
Biology 237	Human Anatomy and Physiology I for the Health Sciences
—and— 247L	Human Anatomy and Physiology Laboratory I ²
Biology 238	Human Anatomy and Physiology II for the Health Sciences
—and— 248L	Human Anatomy and Physiology Laboratory II ²

Footnotes:

¹ Degree from CAHEA program accredited by North Central Association of Colleges and Secondary Schools.

² May be waived for RTs who have equivalent course work.

Nuclear Medicine Imaging Curriculum*

Summer Semester		
NMDI 315	Radiation Safety	2
H Sci 381	Medical Language Systems Review	1
		3
Fall Semester		
NMDI 320	Clinical Nuclear Technology I	4
NMDI 354	Clinical Radiopharmacy	2
NMDI 375	Nuclear Physics and Instrumentation	3
NMDI 360	Imaging Instrumentation I	3
H Sci 330	Patient Care	2
H Sci 380	Human Cross Sectional Anatomy	3
		17
Spring Semester		
NMDI 365	Clinical Nuclear Technology II	6
NMDI 385	Imaging Instrumentation II	3
NMDI 390	In Vitro Nuclear Medicine	2
NMDI 392	Pathology Seminar	2
NMDI 396	Essentials of Nuclear Medicine Imaging I	4
		17
Summer Session		
NMDI 400	Clinical Nuclear Technology III	5
NMDI 412	Nuclear Radiation Biology	1
NMDI 415	Essentials of Nuclear Medicine Imaging II	2
		8

* These courses may only be taken by students in the Nuclear Medicine Imaging program.

Special Fees

Tuition for the nuclear medicine imaging program is listed in the catalog under *Tuition and Fees* (undergraduate). In addition to tuition, required books and uniforms will cost approximately \$500.00.

Bachelor of Science in Radiologic Sciences—Concentration in Nuclear Medicine

Introduction

Nuclear Medicine Technologists require a wider base of skills with which to compete in today's job market. The goal of the Bachelor of Science degree in Radiologic Sciences—Concentration in Nuclear Medicine is to provide the technologist with skills necessary to perform the complex diagnostic procedures involved with this field. It is designed to provide the skills necessary to function as a supervisor or manager in a radiology department.

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. A selection committee will choose a maximum of eight students to enter the Nuclear Medicine portion of the curriculum.

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 and submit copies of all transcripts to the Radiologic Sciences Department.

Completed applications received no later than March 31st of each year will be considered for admission for the Fall semester of that year.

Bachelor of Science in Radiologic Sciences—Concentration in Nuclear Medicine

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 123/124L	Biology for Health Related Sciences and Non-Majors/Lab	4
Psych 105	General Psychology	3
Econ 105	Introductory Macroeconomics	3
		16

Spring Semester

Engl 102	Composition II: Analysis and Argument	3
C S 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
		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 121L	General Chemistry	4
Physcs 151	General Physics	3
	Hum/Fine Arts/Lang elective	3
	Free elective (UNM Core Curriculum)	3
		17

Spring Semester

Biol 239L	Microbiology for Health Sciences	4
Chem 122L	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
		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

H Sci 381	Medical Language Systems Review	1
NMDI 315	Radiation Safety	2
		3

Fall Semester

NMDI 320	Clinical Nuclear Technology I ¹	4
NMDI 354	Clinical Radiopharmacy ¹	2
NMDI 375	Nuclear Physics and Instrumentation ¹	3
NMDI 360	Imaging Instrumentation I ¹	3
H Sci 380	Human Cross Sectional Anatomy	3
H Sci 330	Patient Care	2
		17

Spring Semester

NMDI 365	Clinical Nuclear Technology II ¹	6
NMDI 385	Imaging Instrumentation II ¹	3
NMDI 392	Pathology Seminar ¹	2
NMDI 396	Essentials of Nuclear Medicine Imaging I ¹	4
NMDI 390	In Vitro Nuclear Medicine ¹	2
		17

Fourth Year—Summer Semester

NMDI 400	Clinical Nuclear Technology III ¹	5
NMDI 412	Nuclear Radiation Biology ¹	1
NMDI 415	Essentials of Nuclear Medicine Imaging II ¹	2
		8

NOTE: When all of the above course work 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

C & J 221	Interpersonal Communication	3
Mgt 308	Ethical, Political and Social Environment	3
H Sci 378	Current Problems I	3
Rad Sc 382	Special Procedures	3
Econ 335	Health Economics	3
		15

Spring Semester

C & J 344	Interviewing	3
H Sci 399	Current Problems II	3
H Sci 405	Medical Imaging Theory II	3
	Hum/Fine Arts/Lang elective	3
		12

Footnote:

¹ Degree from CAHEA program accredited by North Central Association of Colleges and Secondary Schools.

Nuclear Medicine Imaging (NMDI)

315. [H Sci 310.] Radiation Safety. (2)

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.

Prerequisite: permission of instructor.

320. Clinical Nuclear Technology I. (4) Yazzie

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}

354. Clinical Radiopharmacy. (2) Yazzie

Review of basic chemistry; principles of radiopharmacy/radiochemistry including radiopharmaceutical preparation dose calculation, quality control and federal/state regulations. {Fall}

360. Imaging Instrumentation I. (3) Yazzie

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.

365. Clinical Nuclear Technology II. (6) Yazzie

A continuation of student assigned rotations for clinical practicum at our affiliate facilities.

Prerequisite: 320. {Spring}

375. Nuclear Physics and Instrumentation. (3) Yazzie

Principles of nuclear physics, ionization chambers, G-M tubes, scintillation and solid state detectors, associated electronics and quality control procedures. {Fall}

385. Imaging Instrumentation II. (3) Yazzie

Foundations of single photon emission computed tomograph (SPECT), magnetic resonance imaging (MRI), positron emission tomography (PET) and magnetic source imaging (MSI).

Prerequisite: 360. {Spring}

390. In Vitro Nuclear Medicine. (2) Yazzie

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.

392. Pathology Seminar. (2)

An interactive interdisciplinary case study seminar in film interpretation integrating x-ray, CT, MRI, sonography and nuclear medicine.

396. Essentials of Nuclear Medicine Imaging I. (4) Yazzie

Basic anatomy and pathophysiology, methods of localization, radiopharmaceuticals, nuclear instrumentation and imaging techniques. {Spring}

400. Clinical Nuclear Technology III. (5) Yazzie

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.

Prerequisite: 365. {Summer}

412. Nuclear Radiation Biology. (1) Yazzie

Interaction of alpha, beta, electromagnetic and high LET particle radiations from nuclear interactions and disintegrations with biologic material. {Summer}

415. Essentials of Nuclear Medicine Imaging II. (2)

Continuation of 396.

Prerequisite: 396. {Summer}

Radiography Program

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Introduction

The Profession. Radiographers provide patient services using imaging techniques which assist the physician radiologist in disease and injury diagnosis and investigation. While performing complex radiographic procedures, they limit radiation exposure to patients, themselves and 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.

Associate of Science in Radiography

The Radiography Program at the University of New Mexico consists of a 23-month full-time curriculum of classroom and clinical training which leads to an Associate of Science degree in Radiography. The program is accredited by both the North Central Association of Colleges and Schools and the Commission on Institutions of Higher Education. Upon successful completion, students are eligible to take the national certifying exam administered by the American Registry of Radiologic Technologists (ARRT).

Twenty-six credit hours of general education courses are required in addition to the Radiography courses, and it is recommended that many of these general courses be taken before applying to the program. The courses required are:

		Credits
Biol 237+247L	Human Anatomy and Physiology I for the Health Sciences ²	4
Biol 248+248L	Human Anatomy and Physiology Laboratory II ²	4
Math 121	College Algebra ²	3
Engl 101	Composition I: Exposition ²	3
Engl 102	Composition II: Analysis and Argument ²	3
Phil 245	Professional Ethics ²	3
C S 150L	Computing for Business Students ²	3

Psych 105	General Psychology ²	3
–or– Soc 101 Introduction to Sociology ² (or approved substitute)		
Total		26

Admission Requirements

Seven to 12 students are admitted to the Radiography Program each year and preference is given to New Mexico residents. Selection criteria consist of health care experience (including radiology volunteer work), college course work completed, grade point average, references and possibly an interview with the program selection committee.

1. Applicant must meet the University of New Mexico admission requirements.
2. Applicant must have a minimum overall grade point average of 2.50 on all previous course work.
3. Completed application, three references and official transcripts must be received by the Radiography Program office by March 31 prior to August admission. ACT scores may be requested if applicant is a recent high school graduate.
4. Applicant may be required to participate in a personal interview with the program selection committee.

Admission Procedure. Students are admitted once a year, with classes beginning in the fall semester (late August). The application deadline is **March 31** of each year.

Applicants may request an application packet beginning in October which will include the required three reference forms. Application is made directly to the Radiography program; a separate application to the University of New Mexico is required only if accepted into the program. Applicants who appear to be best qualified will be invited for an interview with the Program Section Committee and final selection will be made from the group of candidates interviewed.

Program Curriculum. The first two semesters of the program consist of course work in radiographic principles and procedures, as well as any general education courses the student may still need. By the end of the first spring semester, each student will have a firm foundation in radiologic theory and be prepared to enter the clinical component of the program. Currently, the University of New Mexico Hospital and Veterans Administration Medical Center are the clinical affiliates. Continuation in the program is contingent upon a passing grade of C in each course attempted and an overall grade point average of 2.50.

Transfer from Other Accredited Programs

If you seek transfer into the Radiography Program from another accredited program, you must meet this program's admission requirements and The University of New Mexico's admission requirements. Transfer students must generally apply and be accepted at the same time as other applicants but may be considered if there is a vacancy in the program. The program faculty reserves the right to evaluate prospective transfer students through objective testing in any subject area.

Associate of Science in Radiography

First Year—Fall Semester		
Rad Sc 250	Introduction to Radiography ¹	3
Rad Sc 260	Radiographic Procedures I ¹	3
H Sci 330	Patient Care ¹	2
H Sci 381	Medical Language Systems Review	1
		9

Spring Semester		
Rad Sc 271	Radiographic Procedures II ¹	6
		6

Summer Session		
Rad Sc 275	Clinical Radiography I ¹	5
Rad Sc 290	Principles of Radiographic Imaging ¹	4
H Sci 381	Medical Language Systems Review (either Summer or Fall semester)	(1)
		9 (10)

Second Year—Fall Semester		
Rad Sc 355	Clinical Radiography II ¹	6
Rad Sc 382	Special Procedures	3
		9

Spring Semester		
Rad Sc 352	Radiologic Physics ¹	3
Rad Sc 365	Clinical Radiography III ¹	6
Rad Sc 391	Radiographic Pathology/Biology ¹	4
		13

Summer Session		
Rad Sc 390	Clinical Radiography IV ¹	5
Rad Sc 399	Comprehensive Radiography Reviews ¹	2
		7

Bachelor of Science in Radiologic Sciences—Concentration Radiography

Individuals who have completed a certified Radiography program may also apply for admission to complete the degree requirements for the Bachelor of Sciences degree. Applicants must submit copies of all transcripts to the University of New Mexico Office of Admissions.

Completed applications received no later than March 31st of each year will be considered for admission for the fall semester of that year.

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 Year²—Fall Semester		
Engl 101	Composition I: Exposition ²	3
Math 121	College Algebra ²	3
Biol 123 and 124L	Biology for Health Related Sciences and Non-Majors ²	4
Psych 105	General Psychology ²	3
Econ 105	Introductory Macroeconomics ²	3
		16

Spring Semester		
Engl 102	Composition II: Analysis and Argument ²	3
C S 150L	Computing for Business Students ²	3
Biol 237	Human Anatomy and Physiology I for the Health Sciences ²	3
Biol 247L	Human Anatomy & Physiology Laboratory I ²	1
Phil 245	Professional Ethics ²	3
–or–	Phil 102 Current Moral Problems ²	
Econ 106	Introductory Microeconomics ²	3
		16

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.

Second Year—Summer Session		
H Sci 381	Medical Language Systems Review ¹	1
		1

Second Year—Fall Semester		
Biol 238	Human Anatomy and Physiology II for the Health Sciences ²	3
Biol 248L	Human Anatomy & Physiology Laboratory II ²	1
Rad Sc 250	Introduction to Radiography ¹	3
Rad Sc 260	Radiographic Procedures I ¹	3
H Sci 330	Patient Care Assessment ¹	2
		12

534 HEALTH SCIENCES CENTER

Spring Semester

Rad Sc 271	Radiographic Procedures II ¹	6
	Hum/Fine Arts/Lang Elective	3
	Hum/Fine Arts/Lang elective	3
		<hr/>
		12

Summer Semester

Rad Sc 275	Clinical Radiography I ¹	5
Rad Sc 290	Principles of Radiographic Imaging ¹	4
		<hr/>
		9

Third Year—Fall Semester

Rad Sc 355	Clinical Radiography II ¹	6
Rad Sc 382	Special Procedures ¹	3
H Sci 380	Human Cross Sectional Anatomy ¹	3
	Hum/Fine Arts/Lang elective	3
		<hr/>
		15

Spring Semester

Rad Sc 352	Radiologic Physics ¹	3
Rad Sc 365	Clinical Radiography III ¹	6
Rad Sc 391	Radiographic Pathology/Biology ¹	4
		<hr/>
		13

Summer Session

Rad Sc 390	Clinical Radiography IV ¹	5
Rad Sc 399	Comprehensive Radiography Reviews ¹	2
		<hr/>
		7

NOTE: When all of the above course work 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.

Fourth Year—Fall Semester

C & J	(one from C & J 221, 323, 325, 330, 344) ²	3
Mgt 308	Ethical, Political and Social Environment ²	3
H Sci 378	Current Problems I ²	3
Econ 335	Health Economics ²	3
		<hr/>
		12

Spring Semester

C & J	(one from C & J 221, 323, 325, 330, 344) ²	3
H Sci 399	Current Problems II ¹	3
H Sci 405	Medical Imaging Theory II ¹	3
	Hum/Fine Arts/Lang elective	3
		<hr/>
		12

¹ These courses may be taken only by those enrolled in the Radiography program.

² 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.

Radiography (Rad Sc)

250. Introduction to Radiography. (3) Fosbinder
Principles of radiographic equipment and exposure factors; Radiation protection; medical and professional ethics; patient care concepts and techniques. {Fall}

260. Radiographic Procedures I. (3) Greer
Radiographic positioning, anatomy and topographic landmarks. Role-playing of the basic radiographic positions of the appendicular skeleton. {Fall}

271. Radiographic Procedures II. (6) Greer
Continuation of Rad Sc 260. Review of skeletal/radiographic anatomy; radiographic positioning of the structures of the human body; to include the axial skeleton and abdominal organs. {Spring}

275. Clinical Radiography I. (5) Greer
Patient care related activities; practice in the principles of radiographic technique; radiographic positioning under the direct supervision of program staff and faculty. {Summer}

290. Principles of Radiographic Imaging. (4) Fosbinder
Principles and theory of radiographic technique and imaging. Instrumentation; image processing and quality assurance concepts. {Summer}

352. Radiologic Physics. (3) Fosbinder
Basic principles of radiation physics; instrumentation of imaging systems; production and characteristics of radiation. {Spring}

355. Clinical Radiography II. (6) [5] Greer
Continuation of Rad Sc 275. {Fall}

365. Clinical Radiography III. (6) [5] Greer
Continuation of Rad Sc 355. {Spring}

382. [H Sci 404.] Special Procedures [Medical Imaging Theory I.] (3) Fosbinder
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.

390. Clinical Radiography IV. (5) Greer
Continuation of Rad Sc 365; final clinical competency testing. {Summer}

391. Radiographic Pathology/Biology. (4) Fosbinder
Study of the nature and the cause of diseases and the changes that occur with disease and injury, radiation biology concepts. {Spring}

399. Comprehensive Radiography Reviews. (2) Fosbinder
Intensive preparation for national board certifying examination; comprehensive review sessions on all aspects of radiography. Prerequisite: successful completion of radiography course work. {Summer}

COLLEGE OF NURSING

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Sandra Ferketich, Ph.D., FAAN, University of Arizona
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Eileen Thomas, Ph.D., University of Colorado
Jan Wayland, Ph.D., University of Texas at Austin

Lecturers

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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 value 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 program is accredited by the American College of Nurse-Midwives Division of Accreditation.

Degree Programs

The College of Nursing offers the B.S.N. degree through three distinct options: a four-year baccalaureate option, an RN-B.S.N. completion option, and an Accelerated option. The RN-B.S.N. Degree Completion option is offered on campus and through the Internet. The program is built upon strong articulation agreements with New Mexico's associate degree nursing programs.

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 and a Master of Arts in Latin American Studies, a Master of Science in Nursing (Administration concentration) and a Masters 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.

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 choose 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.

Scholarships. Various types of financial aid are available to University students. 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 Office of the Associate Dean for Academic Affairs at the College of Nursing and the Student Financial Aid Office of the University. Students are urged to contact the Associate Dean's Program Coordinator.

Educational Facilities. All of the University libraries are available to students. The Health Science 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 on-line.

Most nursing classes are held in the Nursing-Pharmacy Building. In addition, students have clinical experiences in a variety of settings. The nursing portion of the building contains nursing simulator laboratories, seminar rooms and additional specialized classrooms.

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 stations and centers, the Geriatric Education and Health Maintenance Clinic, the Maternity Infant and Family Health Clinic, the College of Nursing Faculty Practice Clinic and other facilities in outlying areas in New Mexico. Distance students in the RN/B.S.N. completion program 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 service described in the Student section of this catalog. Nursing students must 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.

Students must present the following documentation prior to registering for a nursing practice course:

1. Up-to-date immunizations as specified by the College of Nursing.
2. An annual tuberculin test or health provider waiver.
3. Rubella Titer or Rubella immunization.
4. Annual certification of competency in administering cardio pulmonary resuscitation (CPR).
5. Hepatitis B immunization.
6. Blood Borne pathogen certification.
7. HIPAA compliance certification.

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 Student Advisement Office 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. Other information about dress code may be found in the nursing student handbook.

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 disenrollment following appropriate due process.

Licensure Of Graduates

Graduates of the four-year baccalaureate and accelerated 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.

Applicants should submit a College of Nursing Application Form to the Student Advisement Office, College of Nursing, MSC09 5350, 1 University of New Mexico, Albuquerque, New Mexico 87131-0001. This application is in addition to the application for admission to the University.

Screening for admission to the College is conducted at periodic intervals. Please contact the College of Nursing Advisement Office for current deadline dates. 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 by the end of the semester in which the student is making application to the College.
3. Maintained a cumulative grade point average of at least 2.50 based on all college work.

4. Additional information may be utilized to rank applicants; examples may include grade point average, goal statements and life experiences.

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.

Four-Year Baccalaureate

The four-year baccalaureate is a "traditional" program of studies in which students are admitted to the College of Nursing at the end of their fourth semester of study.

RN/B.S.N. Degree Completion Option 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 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 both Engl 102, Composition II: Analysis and Argument prior to enrolling in any upper division nursing courses. Pathophysiology and the NLN Mobility Profile II exams must be completed prior to enrolling in Public Health Science/Practice, Nurs 443/444. The NLN Mobility Profile must be completed after six credit hours of nursing coursework.

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.

Accelerated Option

The Accelerated option is a new program of study that is based on the four-year baccalaureate program of study. The Accelerated option allows persons holding prior baccalaureate degrees to complete the B.S.N. in 16 months of intensive study, rather than the 24 month duration of the Four-Year Baccalaureate option.

M.S.N. Course Substitution Mechanism for Registered Nurse Students and Accelerated Students

This program allows academically qualified RN/B.S.N. completion and accelerated students to take substitution courses in the Master's program while completing the B.S.N.. 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 501, Nurs 503 or 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 as part of their course of studies for the Master's degree. If necessary, the student will take additional elective courses at the graduate level in order to have the minimum number of graduate credits applied only to the M.S.N.. 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 concentration. Students apply 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.

Departmental Honors Program

The purposes of the Departmental Honors Program are: 1) to utilize knowledge in related fields and nursing 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 expression.

Requirements for graduation with Departmental Honors are as follows: 1) a University of New Mexico grade point average of at least a 3.40; 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. Students admitted beginning Spring 2006 should consult the College of Nursing Advisement office for updates regarding criteria for departmental honors.

Dean's List. At the end of each semester 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 3.40 or better.

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 disenrollment from the College of Nursing.

College of Nursing students who withdraw from the University for three semesters or more must reapply for admission to the College of Nursing. Because of constraints in the clinical facilities, however, the student must notify the College of Nursing in writing of his or her intent to return. Notice must be received by March 1 for return in the Summer or Fall semester and by November 1 for the Spring semester.

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 clinical courses, 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 semester. Priority for clinical space is given to full-time students who are progressing satisfactorily, then to part-time progressing students and last to students who are repeating or returning after an absence from the program.

The passing grade for all nursing and core 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 semester of the probationary period.

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

Note: Students admitted beginning Spring 2006 should consult the College of Nursing Advisement Office for any changes in graduation requirements.

The Bachelor of Science in Nursing is granted to four year baccalaureate nurse students on fulfillment of the following requirements:

1. Completion of 134 semester hours of course work of the prescribed curriculum.
2. Completion of the University of New Mexico Core Curriculum.
3. Completion of at least 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.

The Bachelor of Science in Nursing is granted to RN/B.S.N. completion students on fulfillment of the following requirements:

1. Completion of 130 semester hours of course work of the prescribed curriculum.
2. Completion of the University of New Mexico Core Curriculum.
3. Completion of at least 62 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 accelerated students upon fulfillment of the following requirements:

1. Completion of 62 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.

**Curriculum
(Four-Year Baccalaureate Option)**

Note: This curriculum is for students admitted through Fall 2005. Students admitted beginning Spring 2006 will follow a different curriculum, and are advised to consult the College of Nursing Advisement Office for details.

First Year		
Engl 101	Composition I: Exposition	3
Engl 102	Composition II: Analysis and Argument	3
Soc 101	Introduction to Sociology	3
–or–	Anth 101 Introduction to Anthropology	
Phil 101	Introduction to Philosophical Problems	3
Psych 105	General Psychology	3
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 and C S 150L) may be waived by Math department	
Stat 145	Introduction to Statistics	3
C S 150L	Computing for Business Students	3
Fine Arts	(as required by core curriculum)	3
		<hr/> 32

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
Biol 247L	Human Anatomy and Physiology Laboratory I	1
Biol 248L	Human Anatomy and Physiology Laboratory II	1
Engl 219	Technical and Professional Writing	3
Foreign Language (as required by core curriculum)		3
Psych 332	Abnormal Behavior	3
Nutr 244	Human Nutrition	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
		<hr/> 36

Third Year—First Semester		
Nurs 332	Introduction to Nursing Research and Informatics	3

Nurs 341L	Nursing Process and Assessment	4
Nurs 348L	Health Promotion and Wellness Across the Life Span	4
Nurs 349L	Mental Health Issues in Nursing	5

Second Semester		
Nurs 343L	Nursing Skills	4
Nurs 344L	Care of the Adult Client	8
Nurs 345	Legal, Ethical and Health Policy Issues in Healthcare	3
		<hr/> 31

Fourth Year—First Semester		
Nurs 434L	Nursing Care of Childbearing and Childrearing Families	6
Nurs 436L	Nursing Care of Family Systems	3
Nurs 438L	Nursing Care of Complex Clients	6

Upper Division Humanities
(as required by Core Curriculum; approved on case-by-case basis by college of Nursing)

Second Semester		
Nurs 443L	Public Health Science	3
Nurs 444L	Public Health Practice	5
Nurs 446L	Care Management	6
Electives	(Upper division)	3
		<hr/> 35

Total Program Hours 134

(RN/B.S.N. Completion Option)

Note: Curriculum details are available through the College of Nursing Advisement Office. Students admitted beginning Spring 2006 will follow a revised curriculum, also available through the College of Nursing Advisement Office.

(Accelerated Option)

Note: Curriculum details are available through the College of Nursing Advisement Office. Students admitted beginning Spring 2006 will follow a revised curriculum, also available through the College of Nursing Advisement Office.

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 Associate Dean of Academic Affairs.

See the University of New Mexico *Schedule of Classes* for further information prior to registration.

It is the student's responsibility to meet all departmental requirements.

Graduate Program

All students seeking admission to graduate studies must meet the University and College of Nursing requirements set forth in this catalog. Applications are sent directly to the Office of Graduate Studies, unless otherwise stated.

Applicants are strongly encouraged to notify the College of Nursing of their intent to apply for admission and to keep personal copies of all items submitted. Students should not open the envelope of official transcripts to be sent directly to the Office of Graduate Studies.

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

The passing grade for graduate nursing courses is a "B-" (80%). Individual Graduate Nursing Concentrations may impose a more rigorous passing grade for their clinical courses. Graduate students who do not earn a passing grade or better in any graduate nursing course on the 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. 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.

Graduate Degrees Online

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 any 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, masters 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, costs of such visits will be borne by the student and not the College of Nursing.

Beginning Fall 2005, the nursing doctoral courses will be offered online. Contact the College of Nursing Advisement Office for details.

Priority for Enrollment in Capped Enrollment 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 until one week prior to the beginning of classes each semester. After this point, any remaining slots in enrollment capped web classes will be available for any other qualified student.

Drop Policy for Capped Enrollment 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 semester may be dropped to allow students from the waiting list to enroll as soon as possible. The first week of class is defined as Monday to Friday of the first week for Web-based classes.

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, clinical nurse specialist (not accepting applications at this time), acute care nurse practitioner (ACNP), family nurse practitioner (FNP), 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 concentration chosen. Although some concentrations may require many credits beyond the minimum, individual review of records may allow waiver of some of the specialty 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.

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

Fall semester (Note: the FNP, NM, and ACNP concentrations accept applications for Fall semester only):
FNP: February 1 only

Nurse-Midwifery: February 1, first consideration
April 1, final consideration

ACNP: February 1, first consideration
April 1, final consideration

Nursing Administration: June 15
Nursing Education: June 15

Community Health: June 15

Spring semester: Nursing Administration, Nursing
Education, and Community Health:
October 15

Summer session: Nursing Administration, Nursing
Education, and Community Health:
April 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

Applicants to the graduate program in nursing 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 RNs with a baccalaureate degree in non-nursing fields are considered on an individual basis.) RNs with non-nursing baccalaureate have one opportunity to pass a Community Health test prior to admission.
2. Have a minimum grade point average for baccalaureate work of B (3.0) or better.
3. Submit three letters of recommendation directly from persons knowing the applicant professionally.
4. Submit a letter stating personal goals for graduate education and specifying the desired concentration, to the Associate Dean for Academic Affairs.
5. Be registered in or eligible for nursing licensure in New Mexico, with a New Mexico RN license obtained within the first semester enrolled. A copy of current RN license should be included with the application.
6. Submit a resume identifying clinical practice experience (one to two years is recommended).
7. Interview may be required for admission.

NOTES: Physical assessment skills are required for clinical nursing courses. An upper division statistics course is required 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.

Students should expect a minimum of three hours per week per credit for clinical involvement when taking clinical nursing courses.

All students are required to complete a master's examination, typically in the last semester of their program of study. This examination emphasizes the candidates application of course work to the thesis or final paper.

Post-Master's Certificate in Nursing

This mechanism 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 Associate Dean, 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. 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 the admission and other academic requirements.

Dual Degree Program in Nursing (M.S.N.) and Latin American Studies (M.A.)

The College of Nursing and Latin American Studies (LAS) offer a dual graduate program leading to a Master of Science in Nursing and a Master of Arts in Latin American Studies. The program prepares nurses for leadership roles in health care delivery systems serving populations in Latin American countries or the cultures of the Southwest. Students choose a major concentration in both Nursing and Latin American Studies. Either the thesis or non-thesis option may be chosen. Both degrees may be completed in two to three years of full-time study, including Summers. A faculty committee on studies with a member from each department (Nursing and LAS) directs and approves the students program. The thesis option is minimally 53 credits or non-thesis option is minimally 56 credits.

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 (requiring a minimum of 56 credit hours) or the non-thesis option (requiring a minimum of 56 credit hours) may be chosen.

Doctor of Philosophy in Nursing (Ph.D.)

General requirements for the Doctor of Philosophy degree are given in earlier pages of this catalog.

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 under-served populations; the improvement of nursing care outcomes of individuals, families and systems, with a special emphasis on women of all ages and children; and the improvement of the nursing care of individuals and groups in border states and international settings, with special emphasis on the Americas.

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

Fall semester: Initially, only Fall admission will be available to students. January 15 is the deadline 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

During the first two years students will be required to complete 9 hours of prescribed courses each semester until completion of the core courses.

Admission Requirements

General requirements for a doctoral degree are set forth in the University of New Mexico catalog. The College of Nursing specifies the following requirements for its doctoral program:

1. Master's degree (M.S.N.) from an accredited nursing program (National League for Nursing Accreditation or Commission on Credentialing of Nursing Education through the American Association of Colleges of Nursing are acceptable), OR baccalaureate in nursing (B.S.N.) with a master's in a field related to nursing. Applicants with these credentials will have additional coursework to complete prior to beginning doctoral courses, as determined by the Ph.D. Subcommittee of the Graduate Committee.
2. Grade Point Average: It is desirable to have a master's grade point average of 3.5 or higher on a 4.0 scale. However, all grade points higher than 3.0 will be given consideration.
3. A graduate level statistics course completed within three years prior to the date of expected admission is desirable.
4. A signed statement of basic computer literacy skills is required for consideration for admission. Statement can be downloaded from the College of Nursing Web site.
5. An interview is the second step in the screening process. After initial screening, a select group of priority candidates will be interviewed.
6. The admission process is assisted by students submitting evidence of scholarly ability and the potential for scholarly growth. Examples include, but are not limited to: thesis, published or non-published scholarly paper or creative work.
7. Completion of a prescribed scholarly writing activity. Contact College of Nursing Advisement Office for details.
8. The admission process is also assisted by a one page statement from the individual reflecting specific experience in the discipline of nursing and outlining particular experiences with underserved or vulnerable populations.
9. A letter of intent that addresses individual professional and personal goals.
10. Brief two-to-three- page résumé that summarizes background.

11. Three letters of recommendation directly from persons who know the applicant professionally.
12. Health requirements prescribed by the College of Nursing found in the College of Nursing Graduate Student handbook and on the Web site must be in compliance by the date of enrollment.
13. Valid RN license in any U.S. state, territory or foreign country. Please note that students holding teaching or research graduate assistantships must have an active New Mexico RN license.
14. Exceptions to any program admission criteria will be considered on an individual basis and are at the discretion of the Graduate committee with recommendation to the Associate Dean for Academic Affairs or Dean of the College of Nursing.

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, education and the pedagogy of teaching, research and statistics, rural and cultural health, the environments of human health, family nursing concepts, and nursing therapeutics and outcomes. Women and children is the focus in each of the nursing substantive areas. Additionally, there will be elective courses approved in advance for the program of studies by the Committee on Studies in the student's area(s) of interest, as well as the dissertation. The total credit requirement for the program will be 66 academic semester hours beyond the master's degree in nursing. The plan of study will take approximately two years of full-time academic study (9-12 credit hours) in course work, followed by completion of the dissertation.

A full-time plan of study for the first two years would be as follows:

Year 1
Summer
 NURS 603: Developing Research in Nursing (3 credits)—This is an optional, but highly recommended course.

Fall
 NURS 600: Philosophy of Science in Nursing (3 credits)
 NURS 601: Theory I: Methods and Processes of Nursing Knowledge Development (3 credits)
 NURS 605: Advanced Health Care Statistics II (3 credits)

Total Semester Credits: 9 Credit Hours

Spring

NURS 602: Theory II: Contemporary Substantive Nursing Knowledge (3 credits)
 NURS 604: Advanced Health Care Statistics I (3 credits)
 NURS 608: Nursing Environments of Human Health (3 credits)
Total Semester Credits: 9 Credit Hours

Year 2

Summer

NURS 609: Family Nursing: Concepts, Issues and Outcomes (3 credits)
 First Elective Course (3 credits)
Total Semester Credits: 6 Credit Hours

Fall

NURS 607: Qualitative Methods in Nursing Research (3 credits)
 NURS 611: Rural and Cultural Health (3 credits)
 NURS 606: Quantitative Methods in Nursing Research (3 credits)
 Second Elective Course (3 credits)
Total Semester Credits: 12 Credit Hours

Spring

NURS 612: Clinical Nursing Therapeutics and Outcomes (3 credits)
 NURS 610: Nursing Education: Pedagogy and Roles (3 credits)
 Third Course in Data Analysis (3 credits)
 Third Elective Course (3 credits)
Total Semester Credits: 12 Credit Hours

NOTE: Elective courses may be taken after the required core if a reduced course load is needed to allow for TA/RA/GA commitments or personal needs. 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, and no more than three credits of electives may be taken in nursing.

The Application for Candidacy needs to be approved by the Committee on Studies prior to completion of the Doctoral Comprehensive Exam.

Year 3

Summer

NURS 699: Doctoral Comprehensive Examination (must enroll for 3 credits)

Fall

NURS 699: 9 Credits of Dissertation
Total Semester Credits: 9 Credit Hours

Spring

NURS 699: 9 Credits of Dissertation
Total Semester Credits: 9 Credit Hours

Total Program: 48 Credit Hours of course work
 18 Credit Hours of Dissertation
Total Credits: 66 Credit Hours

NOTE: Once the Doctoral Comprehensive Examination is completed, the student must enroll in a minimum of 9 credit hours of dissertation (i.e., N699) each semester until the dissertation is complete.

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. Workshop. (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.

224. Application of Growth and Development to Health Care. [Application of Concepts of Human Growth and Development to Health Care Delivery.] (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.

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.

Co- or prerequisites: 239, 240, Biol 237, Biol 238 or permission of the instructor.

239. Human Physiologic Function and Disease I.

[Pathophysiology I.] (2 or 4) [3]

A study of human pathophysiology integrated with structural and functional concepts as it relates to professional health care practice. Diseases studied will be those of greatest incidence, prevalence and/or importance.

Pre- or corequisites: Biol 123L, Chem 111L.

240. Human Physiologic Function and Disease II.

[Pathophysiology II.] (2 or 4) [3]

A continuation of Human Physiologic Function and Disease I. Focuses on human pathophysiology and structural and functional concepts related to professional health care practice. Diseases studied will be those of greatest incidence, prevalence and/or importance.

Pre- or corequisites: 239, Biol 123L, Chem 111L.

290. Introduction to Professional Nursing. (3)

Introduction to art and science of professional nursing. Topics covered include nursing history and philosophy; the contemporary role of nursing in health care; intellectual skills and strategies used in the practice of nursing. Writing intensive.

Prerequisites: Engl 101, 102.

297. Independent Study. (1-3) Δ

May be repeated for credit, no limit (monitored by advisors). Prerequisite: permission of instructor. (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.

Pre- or corequisites: 312L, 351, 391. The student must be admitted to the College of Nursing. Corequisite: 312.

312L. Core Nursing Practicum I. (5)

Introduction to clinical nursing care of clients in various health care settings. Clinical will include inpatient and community care and may include days, evenings, nights and/or weekend experiences.

Pre- or corequisites: 351, 391. The student must be admitted to the College of Nursing. Corequisite: 311L.

314L. Core Nursing Practicum II. (6)

Delivery of clinical nursing care of clients in various health care settings. Clinical will include inpatient and community care and may include days, evenings, nights and/or weekend experiences.

Pre- or corequisites: 352, 392. Completion of Level 1 nursing courses or permission of instructor.

332. Introduction to Nursing Research and Informatics. (3)

Introduction to nursing research and informatics. Emphasis is on the research process, designs and research utilization. Prerequisites: 224, 238, 239, 240. Corequisites: 341L, 348L, 349L.

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. Prerequisites: 225 (or exemption), Engl 101, 102.

341L. Nursing Process and Assessment. (4)

Theoretical study of the nursing process as a problem solving method in professional nursing. Concepts and skills will be applied in clinical practice. Prerequisites: 224, 238, 239, 240.

343L. Nursing Skills. (4)

Application of the nursing process in performance of psychomotor skills. Focus on nursing skills with clients based on their developmental level across the life span. Pre- or corequisites: 224, 238, 239, 240, 332, 341L, 348L, 349L. Corequisites: 344L, 345.

344L. Care of the Adult Client. (8)

Theoretical and clinical application of nursing care to the adult client with acute and chronic illness. Prerequisites: 224, 238, 239, 240, 332, 341L, 348L, 349L. Corequisites: 343L, 345.

345. Legal, Ethical and Health Policy Issues in Healthcare. (3)

Ethical, legal, political and policy issues which impact professional nurses. Application of legal and ethical principles, moral reasoning and professional nursing responsibilities for health policy development. Prerequisites: 332, 341L, 348L, 349L. Corequisites: 343L, 344L. (Fall, Spring)

346L. Nursing the Expanding Family. (6)

Theoretical and clinical application of nursing functions with clients in the childbearing cycle. Emphasis on the application of the nursing process to childbearing families in acute care and outpatient clinic settings. Prerequisites: 341L, 343L, 344L. Pre- or corequisite for part-time students: 345. Two hrs. seminar, 8 hrs. lab. (Fall, Spring)

348L. Health Promotion and Wellness Across the Life Span. (4)

Theoretical and clinical application of health promotion and wellness across the lifespan. Nursing care of individuals, within a family context, with health promotion and disease prevention issues. Prerequisites: 224, 238, 239, 240. Corequisites: 332, 341L, 349L.

349L. Mental Health Issues in Nursing. (5)

Delivery of psychosocial nursing care to individuals experiencing mental health problems. Emphasis placed on development of self-awareness, effective communication skills and therapeutic relationships. Prerequisites: 224, 238, 239, 240. Corequisites: 332, 341L, 348L.

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. Prerequisite: Student must be admitted to the College of Nursing.

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: Completion of Level 1 nursing courses, or permission of instructor.

391. Nursing Roles and Values. (3)

Addresses the roles of nursing and other health care disciplines; communication skills for working with clients and colleagues; ethical and cultural values in nursing practice; self-awareness; strategies for student self-care and success. Writing intensive. Prerequisite: Students must be admitted to the College of Nursing.

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: Completion of Level 1 nursing courses or permission of instructor.

397. Independent Study. (1-3) Δ

Upper-division standing. May be repeated for credit, no limit (monitored by advisors). Prerequisite: permission of instructor. (Fall, Spring)

405. Family, Culture and Aging. [Nursing Care of Family Systems] (3) [2]

N405 focuses on the family as client. Topics include lifespan family development and aging, transcultural nursing, abuse and violence, end of life ethical and legal issues, and public health policy development as it affects families.

406. Diagnostic Reasoning. (3)

This course will provide RN students an opportunity to explore their own learning needs and to apply concepts related to professional nursing in the analysis of the care of clients with varying diseases. The student, using problem-based learning format, will use diagnostic reasoning to identify physiological, psychological, behavioral and population problems as they relate to each case. Critical thinking will be the basis of diagnostic reasoning. The student will explore the ethical issues of decision making, confidentiality, privacy and access to health care.

***407. Problems in Clinical Nursing: Electives. (3)**

Focus on study of the theoretical bases of selected problems in clinical nursing with application in a laboratory situation. (Offered upon demand)

***410. Problems in Clinical Nursing: Electives. (2)**

Focus on study of the theoretical bases of selected problems in clinical nursing with application in a laboratory situation. (Offered upon demand)

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. Prerequisites: Completion of Level 1 & 2 courses, or enrollment in the RN-B.S.N. program and instructor approval.

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. Prerequisites: Completion of Level 1 & 2 courses or enrollment in the RN-B.S.N. program and instructor approval.

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.

Prerequisites: Completion of Level 1 & 2 courses, or enrollment in the RN-B.S.N. program and instructor approval.

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.

Prerequisites: Completion of Level 1 & 2 courses, or enrollment in the RN-B.S.N. program and instructor approval.

415L. Nursing Specialty Focus Clinical Intensive. (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.

Prerequisites: Completion of Level 1 & 2 courses, or enrollment in the RN-B.S.N. program and instructor approval.

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.

Prerequisites: Completion of Level 1 & 2 courses, or enrollment in the RN-B.S.N. program and instructor approval.

419L. Capstone Clinical. (3)

Clinical practice with preceptor in various health care settings. Clinical may include inpatient and outpatient care; and days, evenings, nights and/or weekend experiences.

Corequisites: 494, enrollment in the final semester.

***429. Workshop. (1-6) Δ**

May be repeated for credit, no limit (monitored by advisors). (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.

Prerequisites: 332 or permission of instructor. For RN students: 340 is a pre- or corequisite. 332 is strongly recommended as a pre- or corequisite. Successful completion of 447L is strongly suggested prior to enrollment in 431.

434L. Nursing Care of Childbearing and Childrearing Families. (6)

Theoretical and clinical aspects of professional nursing with childbearing and childrearing families.

Prerequisites: 332, 341L, 343L, 344L, 345, 348L, 349L. Corequisites: 436L, 438L.

436L. Nursing Care of Family Systems. (3)

Focus on the family as a unit of care. Students are introduced to a variety of theoretical frameworks used in working with families.

Prerequisites: 343L, 344L, 345. Corequisites: 434L, 438L. (Fall, Spring)

438L. Nursing Care of Complex Clients. (6)

Nursing care of complex clients in a variety of clinical settings. Students electing clinical placement in a pediatric or obstetric setting must complete Nurs 434L prior to beginning this course.

Prerequisites: 343L, 344L, 345. Corequisites: 434L, 436L.

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.

443L. Public Health Science. (3)

Primary, secondary and tertiary prevention in population groups. Using the epidemiological model and general systems theory, students apply the nursing process. Current Community Health nursing research, political and ethical implications integrated.

Prerequisite: senior status. (Fall)

444L. Public Health Practice. (6)

Focuses on primary, secondary and tertiary prevention in families in the community. Uses general systems theory as a basic framework. Students will use nursing process in providing care to families in community settings.

Prerequisite: senior status.

445L. Community Health Nursing. (8)

Theoretical and clinical application of community nursing. Emphasis is placed on assessment of community and family health status and health maintenance. Experience includes community work with individuals and groups.

Prerequisite: 434L. (Fall, Spring)

446L. Care Management. (6)

Clinical practice to develop expertise in managing patient care. Emphasis is on professional role development.

Prerequisites: 434L, 436L, 438L. Corequisites: 443L, 444L.

453. Health and Illness Concepts III. (3)

This 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. Writing intensive.

Prerequisite: Completion of Level 2 nursing courses or permission of instructor.

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.

Prerequisite: Student must be admitted to the College of Nursing or permission of instructor.

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.

Prerequisite: Student must be admitted to the College of Nursing or permission of instructor.

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.

Prerequisite: Student must be admitted to the College of Nursing or permission of instructor.

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.

Prerequisite: Participants must be licensed registered nurses or be enrolled in an Associate Degree or above nursing program. Others may be admitted upon faculty approval.

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.

Prerequisite: Student must be admitted to the College of Nursing or permission of instructor.

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.

Prerequisite: Student must be admitted to the College of Nursing or permission of instructor.

493. Analysis and Evaluation of Health Care Systems. (3)

Evaluation of health care systems, processes, and ethico-legal 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.

Pre- or corequisite: 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.

Corequisites: 419, enrollment in final semester of nursing program.

497. Independent Study. (1-3)

Prerequisites: upper-division standing and permission of instructor. {Fall, Spring}

498. Honors Study. (3)

First part of two courses in departmental honors.

Prerequisites: junior standing in the College of Nursing and a 3.4 or better University of New Mexico grade point average.

499. Honors Study. (3)

Second part of departmental honors.

Prerequisite: 498.

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.

503. Research in Nursing I. (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.

Prerequisite: upper division statistics course.

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.

509. Clinical Teaching in Nursing Education. (3)

Examination of the various roles and functions of the teacher in nursing in the clinical setting. Content will focus on teaching strategies to enhance clinical teaching and facilitate student learning.

510. Teaching in Nursing Programs. (3)

Web-based course examines relationships between overall curriculum plan, program objectives, course objectives and program evaluation of student outcomes. Other topics focus on foundations of learning, learner characteristics, teaching strategies, test and measurement, and accreditation.

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.

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 corequisites: graduate-level epidemiology course and 514. (Three hrs. lab per week.) {Offered upon demand}

517. Advanced Community Health Nursing II. (2-3)

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 hrs. 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.

Prerequisite: upper division statistics course. (Course may be taken with permission of instructor.) {Offered upon demand}

523. Advanced Health Assessment of the Neonate. (3)

This course builds on basic health assessment skills and presents a systematic approach to the advanced assessment of the physical, physiological, behavioral, social and cultural status of the neonate. (Three hrs. lab per week)

Prerequisite: admission to the Neonatal Nurse Practitioner concentration or permission of the instructor.

524. Neonatal Pathophysiology. (4)

This course focuses on the embryology, physiology, pathophysiology and growth and development of preterm and term neonates through the first year of life.

Prerequisite: admission to the Neonatal Nurse Practitioner concentration or permission of the instructor.

525. Neonatal Pharmacology. (3)

This course develops specialized knowledge of pharmacology, pharmacodynamics, pharmacokinetics and pharmacotherapeutics as applied to care of neonates. Management of selected neonatal conditions, pharmacological decision-making and critical analysis will be emphasized.

Prerequisite: admission to the Neonatal Nurse Practitioner concentration or permission of the instructor.

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.

540. Advanced Health Assessment and Diagnostic Reasoning. (4)

Presents theoretical principles of health assessment throughout the life cycle. Topics include methodologies of data-gath-

ering and data analysis essential to comprehensive health assessment. Principles of diagnostic reasoning are presented to enhance critical thinking skills.

541. FNP: Antepartum/Postpartum. (3)

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. (Nine hrs. lab per week.) Restricted for primary care concentration.

542. FNP: Well Child. (3)

Primary Care students study, analyze and apply concepts of management process to well child care. Within cultural and rural context, health maintenance preventive care and health policy throughout the life span is covered. (Nine hrs. lab per week.) Restricted for primary care concentration.

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. Primary Care: Antepartum/Postpartum. (7)

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 hrs. lab per week. Restricted for primary care concentration or with permission of instructor.

545. Primary Care: Adult Health. (6)

This course focuses on common Primary Care problems of young, middle and older adults. Issues pertaining to legal/ethical, cultural, rural practice, barriers to health care and health policy are included.
Prerequisites: 526, 540 or permission on instructor. Clinical component is specialty-specific.

546. Primary Care: Pediatrics. (3-5)

The focus is on the pathophysiology of illness, differential diagnosis of common symptoms and management of common acute/chronic health problems of children from birth through adolescence.
Prerequisites: 526, 540, 544 or permission on instructor. Clinical component is specialty-specific.

548. Women's Health. (2-4)

Theories and concepts applied in the promotion of the health of adolescent and adult women.
Prerequisites: 526, 540 or permission on instructor. Clinical component is specialty-specific.

550. Primary Care: Intrapartum. (9)

Management of labor and birth, triage of complications and cultural dimensions foundational to the nurse-midwifery model of intrapartum care is studied.
Prerequisites: 526, 540 or permission on instructor. Clinical component is specialty-specific.

551. Newborn Care. (2-3)

Study of the normal neonate within the cultural structure of the family. Common physiological, pathological problems and their management by nurse-midwife emphasized.
Prerequisites: 526, 540 or permission on instructor. Clinical component is specialty-specific.

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.
Prerequisites: 544, 548. Corequisites: 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, organizational and international issues.
Corequisite: 595.

558. Brain and Behavioral Correlates Health and Illness. (3-8)

Focuses on brain and behavior correlates of health and illness. Provides the advanced practice nursing student with a broad systems perspective of nursing practice by building upon basic bio-psycho-social aspects of health and illness.

559. Physiologic Concepts in Health and Illness. (3-8) [5-6]

This course focuses on physiologic concepts of health and illness and the role of the Advanced Practice Nurse in assisting patients, families and caregivers to manage the human responses and effects surrounding physiologic manifestations.

560. Assessment and Management of Signs and Symptoms I. (3)

This course will cover content related to various signs and symptoms seen in different disease processes. Assessment, physical exam findings and pathophysiology for each sign and/or symptom will be reviewed and differential diagnosis list will be formulated. Also covers pertinent diagnostic tests needed for each physiological system.

561. Acute Health Problems of the Adult I. (3-8)

This course will cover content related to acute health problems in hospitalized adults focusing on differential diagnosis of common acute presenting health problems.

562. Assessment and Management of Signs and Symptoms II. (3)

This course will cover content related to various signs and symptoms seen in different disease processes.

563. Acute Health Problems of the Adult II. (3-8)

This course will cover content related to acute health problems in hospitalized adults focusing on differential diagnosis of common acute presenting health problems.

564. Neonatal Management I. (6)

This course introduces students to basic foundations of neonatal care and problems of the cardiovascular, respiratory, hematological, gastrointestinal, fluid and electrolyte and metabolic systems. Specific interventions and procedures are demonstrated and applied. (Nine hours clinical per week.)
Prerequisites: admission to the Neonatal Nurse Practitioner concentration or permission of the instructor. Neonatal Pathophysiology and Perinatal/Neonatal Health Assessment. Corequisite: 525.

565. Neonatal Management II. (5)

This course covers newborn resuscitation, stabilization and transport; pain and sedation; implications of chronic health problems; and specific disorders of the genitourinary, immunologic, neurobehavioral, endocrine, integument, ENT and musculoskeletal systems. (Six hours clinical per week.)
Prerequisites: 564. Admission to the Neonatal Nurse Practitioner concentration or permission of the instructor.

566. Neonatal Management III. (5)

This course builds on content from 564 and 565. Case-based analysis incorporating ethical, legal, family and community dimensions of care across continua of acuity and levels and sites of care is used. (Six hours of clinical per week.)
Prerequisites: 564. Admission to the Neonatal Nurse Practitioner concentration or permission of the instructor. Corequisite: 565.

567. Advanced Neonatal Nurse Practitioner Seminar. (1)

This advanced course addresses the specific professional role development of the neonatal nurse practitioner in clinical settings.
Prerequisite: Admission to the Neonatal Nurse Practitioner concentration or permission of the instructor. Corequisite: 595.

591. Graduate Problems. (1-6) Δ

Independent study and research on a topic agreed upon by instructor and student. May be repeated for credit, no limit (monitored by advisors) on different topic.
Prerequisite: permission of instructor.

593. Topics. (1-6) 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. May be repeated for credit, no limit (monitored by advisors).
Prerequisite: permission of instructor.

594. Advanced Practice Seminar. [Advanced Family Nurse Practitioner Seminar.] (1)

The focus of the course is entry into practice for the advanced practice nurse.

Prerequisites: 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) 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 hrs. per week, per credit.) May be repeated for credit, no limit.

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.
Offered on a CR/NC basis only.

599. Nursing Thesis I. (1-6) Δ

May be repeated for credit, no limit (monitored by advisors).
Prerequisite: permission of instructor. **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.

Pre- or corequisite: admission to doctoral program in nursing or permission of faculty.

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.

Pre- or corequisite: 600.

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.

Pre- or corequisite: admission to doctoral program in nursing or permission of faculty.

604. Advanced Health Care Statistics I. (3)

Provides the knowledge, skills and practice in collecting, analyzing and interpreting quantitative nursing data. Regression, use of psychometric techniques (for instruments used in patient care and nursing education) and structural equation modeling are techniques examined.

Pre- or corequisite: admission to doctoral program in nursing or permission of faculty.

605. Advanced Health Care Statistics II. (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.

Prerequisite: 604.

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: 603.

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.

Prerequisite: 603.

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.

Pre- or corequisite: admission to doctoral program in nursing or permission of faculty.

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.

Pre- or corequisite: admission to doctoral program in nursing or permission of faculty.

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.

Pre- or corequisite: admission to doctoral program in nursing or permission of faculty.

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.

Pre- or corequisite: admission to doctoral program in nursing or permission of faculty.

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.

Pre- or corequisite: admission to doctoral program in nursing or permission of faculty.

699. Dissertation. (3-9)

Offered on a CR/NC basis only.

COLLEGE OF PHARMACY

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Mary Jo Zunic, Pharm.D., University of Arizona

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 2,500 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 60 hours of prerequisite coursework. 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 Radiopharmacy, Toxicology and Pharmacy Administration is offered. A Doctor of Philosophy in Pharmaceutical Sciences with Concentration in Pharmacy Administration is also offered. Inquiries should be addressed to the Chairperson of the Pharmacy Graduate Committee. A Doctor of Philosophy with an emphasis in Toxicology is offered through the Biomedical Sciences Graduate Program and inquiries should be addressed to the Program Director of the Biomedical Sciences Graduate Program.

The mission of the College of Pharmacy is to develop innovative leaders in pharmaceutical care and research who enhance the quality of life for the people of New Mexico.

Professional education is directed to the acquisition of attitudes, skills and knowledge that the pharmacist will require as a health professional now and in the future. Emphasis is also placed on instilling in the students a moral, civic and social responsibility to the public they will serve. The ethical relationship of the pharmacist to the public, to the profession and to other health professionals is emphasized, as is the role of the pharmacist as a consultant to the public on various health-related matters, and as a manager of disease states.

College of Pharmacy faculty also serve the public, the profession of pharmacy and other health professionals in the state of New Mexico. The New Mexico Poison and Drug Information Center of the College of Pharmacy provides poison information for the public and health care institutions, as well as drug information support for health professionals in the state. All services are provided 24 hours a day. Cooperative education, research and service programs exist between the College and the University of New Mexico Hospitals and clinics, as well as other city, regional and hospital health systems.

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 are 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.

Certificate Programs

Radiopharmacy

A 10-week, non-degree academic program in Radiopharmacy is available to graduates of schools/colleges of pharmacy. Students enrolled in a school/college pharmacy program may participate in the certificate program provided they have completed the second professional year with a core pharmacy curriculum GPA of 2.5. Upon satisfactory completion of 10 semester hours of prescribed course work, a certificate is awarded. The certificate program meets the didactic requirements of the Nuclear Regulatory Commission and Agreement State agencies for listing of an individual as an Authorized Nuclear Pharmacist on a radioactive materials license.

Waste Management Education and Research Consortium (WERC)

A Professional Certificate program is available to pharmacy graduate students in the field of nuclear, hazardous and solid waste management. Formed in 1990, WERC is the first consortium of institutions of higher education, industries and national laboratories addressing the needs of environmental remediation. The consortium consists of New Mexico State University; New Mexico Institute of Mining and Technology; the University of New Mexico; Diné College; and Sandia and Los Alamos National Laboratories. Funded by the U.S. Dept. of Energy, WERC has earned international recognition as an innovative model for effectively using education, technology development and technology transfer.*

* For more information on certificate programs, please contact the Graduate Program, College of Pharmacy.

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) Completed all pre-pharmacy courses* consisting of at least 60 credit hours, including:

	Credit hours
General Chemistry I and II	8
Organic Chemistry I and II	8
General Physics I	3
General Biology	4
Microbiology	4
Human Anatomy and Physiology I and II	6
Calculus I	3
Statistics	3
English Composition I and II	6
Microeconomics	3
Communications - selective	3
Critical Thinking - selective	3
Electives	6
Total	60

* 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. 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) A completed and submitted PharmCAS application (go to 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 \$125.00 to apply to one (1) school and \$30.00–\$40.00 for each additional school
- 5) A completed and submitted College of Pharmacy supplemental application, including:
 - a) Supplemental application form (available for download from <http://hsc.unm.edu/pharmacy>)
 - b) A recent passport size photograph
 - c) A \$40.00 non-refundable application fee (check or money order) payable to the University of New Mexico College of Pharmacy
- 6) 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.
- 7) If not currently enrolled at the University of New Mexico, or enrolled at the University of New Mexico in non-degree status, the following must be sent to the University of New Mexico's Office of Admissions:
 - 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.

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 Coordinator
 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, please refer to the graduate program guide.

Pharm.D. Graduation Requirements:

1. Satisfactory completion of all required and elective Pharmacy and general education courses.
2. Satisfactory completion of 201 semester hours of course work.
3. A minimum of 26 hours of general education courses to be taken from at least four of the six categories described below. No more than 9 semester hours in any one category and no more than 2 semester hours of physical education electives will count toward the degree.

- a) Communication: English writing, speech communications, linguistics or journalism (English 100, 101 or 102 are not acceptable).
 - b) Humanities: Literature (including American, English, foreign and comparative literature), history or philosophy.
 - c) Social/Behavioral Sciences: Anthropology, psychology, economics, geography, political science or sociology (the Basic Skills Social Science 100 course and Economics 106 are not acceptable).
 - d) Foreign Languages
 - e) Fine Arts: selected courses in the history, appreciation and criticism of art, music, theatre and dance.
 - f) Health Promotion: First aid, nutrition, health and physical education. Two credit hour limit on Physical Education Courses.
4. Maintain a 2.0 GPA on all University of New Mexico course work and a 2.0 GPA on all **required** courses in the professional curriculum (**all Pharmacy 700-level courses and Biochemistry**).
 5. 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.
 6. 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

I. Foundation of Pharmaceutical Care.

- A. Describe the mechanisms of homeostatic control of human organs, systems, tissue injury, and disease processes.
- B. Describe dose-response and time-response relationships, drug-receptor interactions, and the therapeutic index.
- C. Describe the processes of drug adsorption, metabolism, distribution, and elimination and factors that alter them.
- D. Describe the processes of drug discovery, development, and production.
- E. Describe the structure-activity relationships of drugs and how these properties influence their pharmacological actions.
- F. Apply the principles of pharmacogenomics to drug therapy.
- G. Know 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.

II. Patient-Centered Care.

- A. Conduct a complete patient assessment.
 1. Establish a pharmacist-patient relationship.
 2. Obtain a patient's history (medical, social, medication, and financial).
 3. Conduct a physical assessment and review of systems and interpret the results.
 4. Review a patient's medical and drug records and extract information relevant to pharmacotherapy decisions.
 5. Establish and prioritize a patient-specific problem list.
- B. Design, implement, and document a care plan for a given patient.
 1. Establish therapeutic goals and objectives for individual patients.
 2. Retrieve, manage, evaluate, and apply biomedical literature and other professional information in a critical and scientific manner.
 3. Integrate current research findings with clinical expertise and patient values in the design and implementation of patient-specific pharmaceutical care plans.

4. Apply critical thinking skills to make decisions and solve problems in the application of pharmaceutical care.
5. Collaborate with interdisciplinary teams to ensure that patient care is continuous and reliable and to encourage necessary referrals.
6. Effectively communicate and counsel diverse patient populations by addressing language, educational, and cultural barriers.
7. Counsel a patient or caregiver on medication use, drug delivery system, non-drug therapy and other components of a disease-state management care plan.
8. Provide evidence-based recommendations for the use of over-the-counter health products.
9. Assess patient adherence to a care plan.
10. Assess the effectiveness of a patient's pharmacotherapy by selecting and interpreting laboratory tests and other monitoring tools.
11. Take responsibility for the outcomes resulting from pharmaceutical care recommendations.
12. Appropriately document patient care, counseling, interventions, and outcomes.

III. Dispensing and Administration of Medications.

- A. Determine the appropriate route of administration, dosage, and drug delivery system for a patient based upon individual needs and characteristics.
- B. Determine the completeness, appropriateness, and accuracy of information in a drug order or prescription and clarify, add, and correct this information when necessary.
- C. Accurately and appropriately prepare, compound, package, and label medications.
- D. Administer immunizations and other medications when appropriate.
- E. Evaluate the bioequivalence and therapeutic equivalence of drug products.
- F. Demonstrate knowledge of automated medication dispensing systems and health care information systems.
- G. Understand drug procurement processes.
 1. Demonstrate the ability to document receipt and provide appropriate storage of all drugs in a pharmacy in accordance with state and federal regulations.
 2. Describe how to remove and document outdated and recalled medications; communicate this information to patients as necessary.
 3. Identify medication programs to meet the needs of the underinsured.

IV. Health Promotion and Disease Prevention.

- A. Provide information to patients regarding disease prevention and the importance of a healthy lifestyle.
- B. Empower patients to become involved in their own health care.
- C. Identify individuals who are abusing medications and recommend appropriate action.
- D. Directly participate in community disease prevention activities.
- E. Provide emergency first aid treatment and cardiopulmonary resuscitation.
- F. Provide patients with access to poison prevention and treatment information.
- G. Demonstrate awareness of local emergency plans and national disaster response systems as they relate to health care systems.

V. Professionalism.

- A. Make ethical professional decisions.
 1. Articulate ethical principles relevant to pharmacy practice.
 2. Maintain honesty, confidentiality, sensitivity, tolerance, and cultural appropriateness in professional interactions.
 3. Provide humane and compassionate patient care.
- B. Comply with federal, state, and local laws and regulations that affect the practice of pharmacy.
- C. Contribute to the profession of pharmacy.

1. Develop, implement, and evaluate new procedures to improve pharmaceutical care.
2. Understand the importance of participating in professional organizations and contributing to pharmacy education.
3. Promote the pharmacist as a caring, empathetic health care provider.
- D. Continue personal professional development.
 1. Self-assess personal learning needs to identify areas of deficiency and interest.
 2. Engage in life-long learning activities to promote intellectual growth and continued professional competence.
- E. Communicate clearly, accurately, and persuasively with various audiences using a variety of methods and media.

VI. Health Systems Management.

- A. Identify, report, manage, and prevent adverse drug events.
- B. Participate in and communicate findings of medication use evaluations and drug utilization review activities.
- C. Function within a health system's formulary process and use appropriate data to recommend and support formulary changes.
- D. Contribute to the managerial aspects of pharmacy operations using appropriate data and procedures.
 1. Understand staffing plans that maximize the provision of pharmaceutical care.
 2. Demonstrate knowledge of personnel management principles used to recruit, hire, train, develop, supervise, motivate, retain, and evaluate staff.
- E. Demonstrate knowledge of pharmaceutical product and service marketing.

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 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
English 101	Composition I	3
Math. 180 ¹	Calculus I	3
Chem. 121L	General Chemistry w/Lab I	4
Econ. 106	Microeconomics.	3
Gen. Elective*		3
		16

Spring Semester

English 102	Composition II	3
Chem. 122L	General Chemistry w/Lab II	4
Biol. 123 ²	Biology for Health Sciences	3
Biol 124L ²	Bio. for Health Sciences Lab	1
Gen. Elective*		3
		14

Recommended Second Pre-Professional Year

Fall Semester		Credits
Chem. 301	Organic Chemistry I	3
Chem. 303L	Organic Chemistry I Lab	1
Biol. 237	Human Anatomy & Physiology I	3

Physics 151 ³ General Physics I	3
Stat 145 ⁴ Introduction to Statistics	3
Selective A† or B%	3
	<hr/> 16

Spring Semester

Chem. 302 Organic Chemistry II	3
Chem. 304L Organic Chemistry II Lab	1
Biol. 238 Human Anatomy & Physiology II	3
Biol. 239L ⁵ Microbiology	4
Selective A† or B%	3
	<hr/> 14

First Professional Year

Fall Semester

Pharm 701 Pharmaceutics I	4
Pharm 705 Pathophysiology	4
Pharm 707 Administrative Pharmacy	2
Pharm 709 Introduction to Pharmacy Practice	1
Pharm 711 Medical Terminology	1
Biochem 423 Biochemistry	3
Non-professional Electives	3
	<hr/> 18

Spring Semester

Pharm 702 Pharmaceutics II	3
Pharm 702L Pharmaceutical Dosage Lab	1
Pharm 708 Social and Epidemiological Pharmacy	2
Pharm 710 Mechanisms of Drug Action I	5
Pharm 712 Student-Centered, Problem-Based Learning I	1
Pharm 714 Immunology and Biotechnology	3
Pharm 716 Practical Patient Experience	1
	<hr/> 16

Second Professional Year

Fall Semester

Pharm 721 Student-Centered Problem-Based Learning	1
Pharm 723 Experiential Pharmacy	1
Pharm 725 Pharmaceutics III	3
Pharm 731 Mechanisms of Drug Action II	5
Pharm 731L Mechanisms of Drug Action Lab	1
Non-professional Electives	3
	<hr/> 14

Spring Semester

Pharm 722 Student-Centered Problem-Based Learning	1
Pharm 724 Experiential Pharmacy	1
Pharm 726 Pharmacokinetics	2
Pharm 728 Pharmacy Informatics and Research	3
Pharm 732 Mechanisms of Drug Action III	5
Electives	6
	<hr/> 18

Third Professional Year

Fall Semester

Pharm 741 Student-Centered Problem-Based Learning	1
Pharm 743 Experiential Pharmacy	1
Pharm 745 Clinical Pharmacokinetics	3
Pharm 727 Pharmacy Law and Ethics	2
Pharm 751 Pharmacotherapy I	6
Electives	3
Professional Electives+	1 or 2
	<hr/> 17-18

Spring Semester

Pharm 744 Experiential Pharmacy	1
Pharm 750L Physical Assessment and Clinical Skills	4
Pharm 752 Pharmacotherapy II	6
Electives	5
Professional Electives	1 or 2
	<hr/> 17-18

Fourth Professional Year

Fall and Spring Semesters

Pharm 770 Advanced Professional Practice Experience ⁶	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 (C&J 130)
2. Interpersonal communication (C&J 221)
3. Small group communication (C&J 225)
4. Business and professional speaking (C&J 332)
5. Professional communication (C&J 333)

%Selective B from a list of courses that emphasize critical thinking and problem-solving:

1. Physical chemistry (Chem 311)
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 (Philo 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 (Phys 152)

+ 2 credits of professional electives are required for the Doctor of Pharmacy Program.

¹ Math 162 will fulfill requirements for 180.

² Biol 201 and 202 will fulfill requirements for 123 and 124L.

³ Physcs 160 will fulfill requirements for 151.

⁴ Stat 245 or Psych 200 will fulfill requirements for Stat 145.

⁵ Biol 351 and 352L will fulfill requirements for Biol 239L.

⁶ Advanced Professional Practice Experiences: nine total as follows:

Three ambulatory care, community based; three institutional; and three electives. 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.

Pharm.D. Courses (Pharm)

701. Pharmaceutics I. (Pharmaceutical Dosage Forms I) (4)

Study of pharmaceutical dosage forms and relevant physicochemical 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.

702L. Pharmaceutical Dosage Laboratory. (1)

A laboratory course designed to introduce the student to the principles and techniques of preparing non-sterile and extemporaneous dosage forms.

705. Pathophysiology. (4)

Pathological consequences of disease states, including clinical presentation and histological findings presented by organ systems. Includes an introduction to medical terminology.

707. Administrative Pharmacy. (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.

708. Social and Epidemiological Pharmacy. (2)

Social and epidemiological concepts related to pharmacy practice. Topics include: basic principles of pharmacoepidemiology, patient health and illness, behavior, basic principles of pharmacist-patient communications, pharmacy as a profession, pharmacy and its environment in the health care delivery system.

709. Introduction to Pharmacy Practice. [Basic Patient Interaction.] (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. **Offered on a CR/NC basis only.**

710. Mechanisms of Drug Action I. [Mechanisms of Drug Action.] (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.

711. Medical Terminology. [Student-Centered, Problem-Based Learning.] (1)

A self-paced examination of the word roots, prefixes and suffixes that constitute the basis for the description of human organ systems and pathologic conditions.

712. Student-Centered, Problem-Based Learning. (1)

Small group session (maximum of eight students) for eight weeks with facilitator/tutor utilizing problem-based approach integrating information gained in 708, 710, 714 and/or 709.

714. Immunology and Biotechnology. (3)

Basic principles of immunochemistry, immunoassay, humoral and cell mediated immune reactions, acute and chronic inflammation, hypersensitivity, drug reactions, immunodeficiency and autoimmune disease, and immunotherapeutic with emphasis on biotechnology-derived products such as vaccines, monoclonal antibodies, cytokines and growth factors.

716. Practical Patient Experience. (1)

Attend clinical practice site, interview patient where appropriate and collect information from medical record for formal, written and/or verbal patient presentation. Introduces role of clinical pharmacist, familiarizes with organization of medical information and demonstrates correct patient presentation. **Offered on a CR/NC basis only.**

719. Self-care Therapeutics. (2)

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.

721. Student-Centered Problem-Based Learning. (1)

Small group session (maximum of eight students) for eight weeks with facilitator/tutor utilizing problem-based approach integrating information gained in 725, 731 and/or 727. Class will be divided so that those doing 723 the first half semester will do 721 the second half and vice versa.

722. Student-Centered Problem-Based Learning. (1)

Small group session (maximum of eight students) for eight weeks with facilitator/tutor utilizing problem-based approach

integrating information gained in 726, 732 and/or 728. Class will be divided so that those doing 724 the first half semester will do 722 the second half and vice versa.

723-724. Experiential Pharmacy. (1, 1)

A directed dispensing pharmacy experience. Students will learn the top 200 drugs dispensed as well as be required to dispense a minimum number of prescriptions and prepare a minimum number of intravenous admixtures, under the direct supervision of a practicing pharmacist. **Offered on a CR/NC basis only.**

725. Pharmaceutics III. (3)

Continuation of 702.

726. Pharmacokinetics. (2)

Introduction to the basic concepts and methodologies of pharmacokinetics.

727. Pharmacy Law and Ethics. (2)

Federal and New Mexico laws and ethical principles that relate to the practice of pharmacy. Case exercises will be used to help students reason through legal and ethical dilemmas that they could face in pharmacy practice.

728. Pharmacy Informatics and Research. [Drug Information/Literature Evaluation.] (3) [2]

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.

731. Mechanisms of Drug Action II. [Mechanisms of Drug Action.] (5)

Continuation of 710 addressing pharmacology, toxicology, SAR and elimination of prototypes in specific drug classes.

731L. Mechanisms of Drug Action Lab. (1)

An interactive computer lab designed to demonstrate the principles of pharmacology and medicinal chemistry.

732. Mechanisms of Drug Action III. [Mechanisms of Drug Action.] (5)

Continuation of 710 and 731 addressing pharmacology, toxicology, SAR and elimination of prototypes in specific drug classes.

741. [741-742.] Student-Centered Problem-Based Learning. (1) [1, 1]

Small group session (maximum of eight students) for eight weeks with facilitator/tutor utilizing problem-based approach integrating information gained in all previous curriculum.

743. Experiential Pharmacy. (1)

A directed dispensing pharmacy experience, students will be required to provide at least one presentation to community (i.e., school or community center) and provide a minimum number patient counseling interventions as well as a minimum number of patient phone follow-up calls under the direct supervision of a practicing pharmacist. **Offered on a CR/NC basis only.**

744. Experiential Pharmacy. (1)

A directed dispensing pharmacy experience, students will be required to dispense a minimum number of prescriptions and provide a minimum number patient counseling interventions as well as a minimum number of patient phone follow-up calls under the direct supervision of a practicing pharmacist. **Offered on a CR/NC basis only.**

745. Clinical Pharmacokinetics. (3)

Concepts involved in providing therapeutic drug monitoring consults using computer programs. Utilizes current literature,

incorporates how disease states alter usual pharmacokinetics parameters.

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.**

750L. Physical Assessment and Clinical Skills. (4)

Provides 60-hour course of "hands on" physical assessment skills including auscultation and palpation that will provide students the ability to identify and monitor pharmacotherapy outcomes that are assessed by physical exam.

751. Pharmacotherapy I. (6) [5]

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 II. (6) [5]

Continuation of 751.

755. Seminar in Pharmacy. (1 to a maximum of 2) Δ

Offered on a CR/NC basis only.

756. Medication Errors. (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.**

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 contracting, Medicare and Medicaid, distribution systems and network management, quality improvement, health informatics.

770. Advanced Professional Practice Experience.

[Clinical Clerkships.] **(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.

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. Prerequisite: 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: Pharm 720, 729, 748, 755, 757, 758, 761, 782, 783 and 798 can be used to satisfy the pharmacy professional elective requirements.

Additional Information

Academic Advisement

The College of Pharmacy Student Services Center is located in Room 188 of the Pharmacy/Nursing Building. The Assistant Dean for Professional Education is the academic advisor for all pre-pharmacy students and pharmacy students enrolled in the College of Pharmacy. Academic Advisement is provided by the student services staff.

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. Contact the Financial Aid Officer at Frederick Hart Wing, Room 2513, North Campus. 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. Information on scholarship availability is published in the College of Pharmacy Student Newsletter and posted throughout the college during each semester. Applications can be obtained from the College of Pharmacy Student Services Office.

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 in *The University of New Mexico Catalog* and the *UNM Pathfinder*.

Rules for Progression in the Doctor of Pharmacy Program

- The College of Pharmacy expects students to complete the professional curriculum (**all Pharmacy 700-level courses and Biochemistry 423**) in four years. The Academic 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 Academic 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 Student Services 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.
 - D. The College of Pharmacy Grade Replacement Policy became effective on August 21, 2000.

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 ends 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 (Pharm 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.

Pharm 799, Non-Trad Pharm, 2 credit hours each semester, when not taking professional practice experience.

Pharm 770, Advanced Professional Practice Experience, 36 credit hours total

Graduate Programs

Pharmaceutical Sciences Graduate Committee

The College of Pharmacy Graduate 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, the Associate Dean for Research and a graduate student representative.

Inquiries and Applications

Pharmaceutical Sciences Graduate Program inquiries should be addressed to the College of Pharmacy Office of Graduate Studies. Applications can be obtained from this office and are reviewed as they are received throughout the year. International applications are directed to the Office of International Programs and Services before they are considered in the College of Pharmacy.

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, 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) Pharmacoeconomics and Outcomes Research; and
- 2) Clinical 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.

Radiopharmacy

A program leading to a M.S. degree in Pharmaceutical Sciences with emphasis in the area of 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 correspon-

dence 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 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

The Toxicology Graduate Program is dedicated to evaluating potentially harmful effects of chemicals including drugs, food additives, pesticides, industrial chemicals, etc. on humans, other organisms and the environment. Training programs are available for those wishing to work at the applied level or conduct basic research in academic, industrial or governmental institutions. Research training in this program focuses on the biochemical mechanisms by which xenobiotics mediate their toxic or harmful effects on living organisms. An individual program of course work is established for each student according to their academic background and career goals. M.S. and Ph.D. degrees are offered. The Ph.D. degree is offered through a joint graduate program with the University of New Mexico Biomedical Sciences Graduate Program (BSGP) in the School of Medicine. Applicants for the Ph.D. Program should apply directly to the University of New Mexico BSGP by January for best consideration. The College also offers a collaborative program with the Lovelace Respiratory Research Institute (LRRI), whereby students attend classes at the University of New Mexico but conduct the majority of their research studies in the laboratory of a selected LRRI scientist.

The Toxicology Program is designed to develop outstanding Ph.D. research scientists by providing a firm foundation of knowledge in biomedical sciences and toxicology augmented by an emphasis on research-based, experimental approaches to learning. During the first year, Ph.D. core courses are taken with students in the University of New Mexico School of Medicine BSGP. Course work emphasizes basic concepts in biochemistry, molecular biology, cell biology and readings in the biomedical sciences literature. In the second year, students are required to take a core course in toxicology and advanced toxicology topics, supplemented with elective courses chosen by the student. During their first and second semesters, students rotate through the laboratories of different faculty members of the program to gain first-hand knowledge of experimental approaches to research and to select a major professor to direct their dissertation research. The student and major professor then select an advisory committee responsible for approving the student's plan of study, research proposal, research progress reports, Ph.D. dissertation and for administering doctoral examinations. Collaborative dissertation research involving other faculty members in the Toxicology Program or the other programs within the Health Sciences Center or LRRI are encouraged. Toxicology

research is the major emphasis in this program, involving the study of a wide variety of drugs and environmental, industrial and agricultural toxicants. Areas of particular research emphasis include investigations of how xenobiotic metabolism affects the toxicity of model compounds; how various chemicals differentially affect the induction and expression of xenobiotic metabolizing enzymes; cellular and molecular biology of dioxin actions on rodent and human target cells; immunotoxicology, immunological and molecular biological approaches to the study of receptors and xenobiotic receptor systems; protein-protein interactions; dose-response relationships for xenobiotic-responsive genes; converging pathways of regulating gene expression; xenobiotic mediated changes in cell signaling; developmental toxicology and neuropharmacology and neurotoxicology. The M.S. Toxicology Program is offered through the College of Pharmacy. This Program involves similar course work as that in the Ph.D. Program, as well as the completion of a Master's Thesis. A non-thesis Master's program is also offered.

Minimum Admission Requirements for M.S. degree in toxicology

UNM Requirements (Baccalaureate from accredited institution, GPA \geq 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)

Students interested in the admission requirements for the PhD program in Toxicology are referred to the Biomedical Health Sciences Graduate Program described elsewhere in this catalog.

Pharmacy (Pharm)

411/511. 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.

Prerequisite: permission of instructor.

412/512. Radiopharmaceutical Chemistry. (1)

Introduces undergraduate students to inorganic chemistry as applicable to radiopharmaceuticals.

Prerequisites: Chem 302 or equivalent and permission of instructor.

*413. Radiopharmacy Health Physics 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.

Prerequisites: Physcs 152 and permission of instructor.

416/516. Radiopharmacology. (3)

Radiopharmaceuticals are discussed in detail. Topics include a review of pertinent anatomic and physiologic aspects of organ systems evaluated by nuclear medicine procedures; mechanisms and kinetics of radiotracer localization; physicochemical properties of radioactive drugs; preparation, quality control, and clinical use of a radiopharmaceutical.

Prerequisite: permission of instructor.

496. Topics in Pharmacy. (1 to a maximum 3) Δ

Prerequisite: permission of instructor.

497. Problems in Pharmacy. (1-5)

Research and library problems in some phase of pharmacy. Not for professional students in the College of Pharmacy curriculum.

Prerequisite: permission of instructor.

498. Problems in Pharmacy. (1-5)

Research and library problems in some phase of pharmacy. Not for professional students in the College of Pharmacy curriculum.

Prerequisite: permission of instructor.

511/411. 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.

Prerequisite: permission of instructor.

512/412. Radiopharmaceutical Chemistry. (2)

The details of nuclear reactions, production of radionuclides in cyclotrons and reactors, principles of synthesis of organ-specific compounds and their labeling with radionuclides for clinical use, will be discussed.

Prerequisites: Chem 302 or equivalent and permission of instructor.

516/416. Radiopharmacology. (3)

Study of the physicochemical characteristics of radiopharmaceuticals; kinetics of radiopharmaceuticals; structure-distribution relationships of radiopharmaceuticals; considerations in the design of new radiopharmaceuticals.

Prerequisite: permission of instructor.

518. In-Vitro Radiotracer Procedures. (2)

This course will provide the principles of in-vitro methods such as radioimmunoassay, autoradiography, ferrokinetics, radiometric assay, x-ray fluorescence and neutron activation analysis.

Prerequisites: 411 or 511 and permission of instructor.

519L. Instrumentation and In Vitro Lab. (2)

Practical experience in in-vitro radiotracer techniques and instrumentation in nuclear pharmacy.

Prerequisites: 411 or 511 and permission of instructor.

Corequisite: 518.

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.

Prerequisite: 516 or 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.

Prerequisites: 411 or 511, Biol 238 or equivalent, or permission of instructor.

535. Administrative Clerkship. (3-5)

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).

551. Institutional Pharmacy Practice II. (1-3)

Advanced aspects of institutional pharmacy. Students select three from a variety of special topics including drug information, pharmacokinetics, sterile products, pharmacoeconomics or pharmacoepidemiology over several semesters.

Prerequisite: enrollment in pharmacy graduate program.

553. Administrative Hospital Pharmacy. (3)

This course will outline the procedural steps involved in the justification and implementation of all hospital pharmacy departmental services. Current concepts in hospital pharmacy management will be stressed along with techniques for improving professional communications and personnel management skills.

Prerequisite: graduate status.

554. Project in Pharmaceutical Sciences Field. (2-5)

Field study off-campus.

Prerequisites: graduate student status, permission of instructor.

576. Molecular and Cellular Pharmacology. (3)

(Also offered as Biomed 576.) 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.

Prerequisites: Biomed 507, Biomed 508, or permission of instructor. {Spring}

577. Immunotoxicology. (2)

A study of the effects of potentially toxic drugs and chemicals on the immune system. Basic principles of immunoassays for chemicals will be discussed along with populations of these assays for biomedical and toxicology-related research.

Prerequisites: fifth year standing or permission of instructor.

580. General Toxicology I. (3)

(Also offered as Biomed 580.) 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.

Prerequisite: graduate standing.

581. General Toxicology II. (2)

A continuation of 580.

Prerequisite: 580.

585. Biochemical Toxicology. (3)

The interaction of drugs and other chemicals with life forms at the biochemical or molecular level. Desirable and undesirable effects, and mechanisms of metabolism and excretion will be covered. One 3-hour lab per week.

586. Toxicology Research Conference. (1)

Group discussion of issues and practices in toxicology.

587. Pollution Toxicology. (2)

The effect of the environment on health will be considered. Factors such as air, water, soil and noise pollution will be included.

Prerequisite: permission of instructor.

591. Seminar in Administrative Pharmacy. (1) 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. May be repeated for credit, no limit.

Prerequisite: graduate status.

592. Seminar in Radiopharmacy. (1) 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. May be repeated for credit, no limit.

593. Seminars in Toxicology. (1) 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. May be repeated for credit, no limit.

594. Topics in Environmental Disease. (1-3 to a maximum of 4) [1-3] Δ

(Also offered as Biomed 594.) 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. (Fall, Spring)

597. Research Problems in Pharmaceutical Sciences.

(1-5 to a maximum of 12) [1-5] Δ

Research in pharmaceutical sciences.

Prerequisites: graduate status and permission of instructor.

598. Topics in Pharmaceutical Sciences. (1-3 to a maximum of 4) [1-3] Δ

Advanced readings in topics relating to the pharmaceutical sciences in the areas of hospital pharmacy, pharmacy administration, radiopharmacy or toxicology.

Prerequisites: graduate standing and permission of instructor.

599. Master's Thesis. (1-6 to a maximum of 6) [1-6] Δ

Offered on a CR/NC basis only.

699. Dissertation. (1-9 to a maximum of 18) [1-9] Δ

Offered on a CR/NC basis only.

SCHOOL OF PUBLIC ADMINISTRATION

Bruce J. Perlman, Director
The School of Public Administration
Social Science Building, Office 3004
MSC05 3100
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2845

Professors

T. Zane Reeves, Ph.D., University of Southern California
Mario A. Rivera, Ph.D., University of Notre Dame

Associate Professors

Santa Falcone, Ph.D., Syracuse University
Constantine Hadjalambros, Ph.D., University of Delaware
Bruce J. Perlman, Ph.D., Claremont Graduate School
Roli Varma, Ph.D., Rensselaer Polytechnic Institute

Emeriti Professors

Ferrel Heady, Ph.D., Washington University
Alan B. Reed, Ph.D., University of Texas
Leonard Stitleman, Ph.D., University of Colorado

Public Administration Admission Committee

The faculty serves as the Graduate Committee for the School of Public Administration.

Application Deadlines

Fall semester:	June 1st
Spring semester:	November 1st
Summer session:	April 1st

International Deadlines

Fall semester:	March 1st
Spring semester:	August 1st
Summer session:	January 1st

Internet address:

<http://spa.mgt.unm.edu>

Introduction

The mission of The School of Public Administration is to provide graduate professional education for individuals preparing for, or engaged in, public service careers. This includes careers in public agencies at various levels of government and in organizations that contract or substantially interact with public sector institutions. This mission is accomplished through the integration of teaching, research and service pursuant to the theoretical, methodical, substantive and practical preparation of public sector managers in the administrative sciences.

The School of Public Administration offers an interdisciplinary Master Degree in Public Administration for the professional preparation of persons presently employed or interested in public service careers at all levels of government. The degree is also offered through the Santa Fe Graduate Center and at several ITV locations.

The School offers concentrations for persons interested in pursuing a particular area of public administration study. Joint degree programs are also available with other units on campus enabling students to earn both degrees on a coordinated basis.

For a description of the curriculum leading to the Master of Public Administration degree, see the General Programs section of this catalog.

Graduate Program

Degrees Offered

Master of Public Administration (M.P.A.)

Concentrations: human resources management, health services administration, public management, dispute resolution, public budgeting and financial management and justice administration.

Dual J.D./M.P.A. degree program with the School of Law

Dual M.C.R.P./M.P.A. degree program with Community and Regional Planning

Dual M.S.N./M.P.A. degree program with Nursing

Also see Individual Dual-Degree Programs.

The School offers a Master of Public Administration degree with the concentrations listed above. The degree prepares men and women interested in public service and third sector careers for professional and management policy positions at all levels of government. 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 relevant to public administration and to offer students a wide choice in their professional preparation.

Admission Requirements

The School of Public Administration uses an application process called Self-Management Application (SMA). This procedure requires each applicant to complete all the information required by the graduate unit to which she/he is applying and forward the application fee, application, registration and Official Transcripts to the Office of Graduate Studies. Forward the 3 letters of recommendation, letter of intent and current resume to the School of Public Administration. **Late and incomplete packets will be returned without processing.**

The school will admit new students to the graduate program in the Fall, Spring and Summer semesters of each year. Since admission is competitive, only applicants with strong academic and professional records will be admitted to the program. The following minimum requirements are expected of all applicants:

1. A baccalaureate degree from an accredited college or university.*
2. Undergraduate grade point average for the last two years (60 hours), or major grade point average of at least a 3.0 on a 4.0 scale, or equivalent.
3. Letter of intent and resume.
4. Three professional and/or academic references evaluating potential for graduate work.
5. The Graduate Record Exam (GRE) might be required for admission into the MPA program.
6. Successful completion of a basis statistic course, 200 level or above, equivalent to UNM Stat 245. If not, an appropriate statistics course must be completed before enrolling in the required methodology course, Pub Ad 596. The statistics course does not count toward the school's 42 credit hour requirement.

* Public Administration courses used in fulfillment of baccalaureate degree requirements cannot also be used to fulfill MPA degree requirements.

Non-Degree and Post-Degree Status

Students who take Public Administration courses in non-degree and post-degree status fall into three categories. Some applicants who are denied admission, may be advised by the admissions committee to take two courses 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 apply for admission at the next admissions review cycle.

The second non-degree category involves 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 in non-degree status and must obtain approval from the School of Public Administration Director. A maximum of 6 non-degree credit hours may be transferred to the MPA degree.

The third category are those who have already completed a graduate degree. Said students may enroll in post-degree status with approval of the SPA Director. It is anticipated that students in this category will pursue a particular concentration and enroll in a specialized course to enhance their professional degree.

Degree Requirements

Degree Curricular Requirements: All students must complete a minimum of 42 credit hours for the degree that includes the following components: 1) core curriculum; 2) concentration; and 3) a professional paper or thesis.

Core Curriculum

Before enrolling in other Public Administration courses, each student is required to complete the following core curriculum of 24 credit hours:

Pub Ad 500	Public Management and Policy
Pub Ad 521	Institutional Development and Behavior
Pub Ad 525	Human Resources Management in the Public Sector
Pub Ad 527	Employment Relations in the Public Sector
Pub Ad 544	Public Budgeting
Pub Ad 546	Public Financial Administration
Pub Ad 596	Research Methods for Public Managers
Pub Ad 597	Computer Applications for Public Managers

* Only students who have met the statistics prerequisite are permitted to enroll in either Pub Ad 596 or 597.

Degree requirements may be satisfied by two alternative plans. Under the thesis option, the student completes 36 course credit hours and 6 thesis credit hours for a total of 42 credit hours. Under the non-thesis option, the student completes 39 course credit hours and 3 professional paper credit hours for a total of 42 credit hours. The student pursuing the non-thesis plan must complete the professional paper under the guidance of a faculty advisor. Students pursuing either option must complete a minimum of 42 course credit hours.

The School of Public Administration may change curriculum, degree requirements, admission requirements and policies at any time, without notice, for all programs. Please check with the MPA Graduate Program Manager for current information and assistance with program planning.

NOTE: A special fee of \$10.00 per course is charged to students registering for Pub Ad courses.

Minor:

Pub Ad 500, *Public Management and Policy*; Pub Ad 521, *Institutional Development and Behavior*; Pub Ad 525, *Human Resources Management in the Public Sector*; Pub Ad 527,

Employment Relations in the Public Sector; Pub Ad 544, *Public Budgeting*; Pub Ad 546, *Public Financial Administration*; Pub Ad 596, *Research Methods for Public Managers*; Pub Ad 597, *Computer Applications for Public Managers*.

Public Administration (Pub Ad)

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. (Required.)

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. (Required.)

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. (Required.)

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. (Required)

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 or permission of instructor.

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.

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. (Required).

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. (Required.)

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 MPA degree.

Prerequisite: 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 MPA.

Prerequisite: permission of instructor.

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.

Prerequisite: 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.

570. Pro-seminar in Public Policy. (3)

Review of representative theories of public policy, including policy formation, implementation, impact analysis.

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)

(Also offered as CRP 575.) 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.

Prerequisites: Econ 105, 106 or permission of instructor.

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 MPA/MCRP 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.

585. Tribal Administration. (3)

Administrative and planning processes in tribal governments with particular focus on personnel practices, budgetary systems and planning.

588. Practice of Negotiation and Public Dispute Resolution. (3)

(Also offered as CRP 485/585.) Introduces students to new ways to negotiate and resolve disputes in the context of professional practice through collaborative decision making and problem solving.

590. Division Seminars. (3)

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)

Presents methods for inquiry and analysis by public managers and students of public administration. It covers strategies for the design of research projects and for collection of information in institutional and field settings. (Required)

Prerequisite: successful completion of undergraduate or graduate courses in inferential statistics.

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. (Required)

Prerequisite: 500.

599. Master's Thesis. (1-6)

Offered on a CR/NC basis only.



UNIVERSITY COLLEGE

Peter White, Ph.D., Dean
Student Services Center, Room 265
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1 University of New Mexico
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(505) 277-9302

Associate Dean for Interdisciplinary Programs
Rosalie Otero, Ph.D.

Associate Dean for University College
Charles Paine, Ph.D.

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 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 students demonstrating academic excellence by issuing a Dean's List and Honor Roll each semester.

The Dean's List of University College acknowledges students who achieved a semester grade point average of a 3.5 with a minimum of 6 credit hours in graded courses (not CR/NC). The University College's Honor Roll recognizes consistently superior academic performance. A student must maintain a cumulative grade point average of 3.25 for all University of New Mexico work to be placed on the Honor Roll. Students are not eligible for this award until they have completed at least two semesters 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, please call (505) 277-2631; walk in to Student Services Center Room 114; or e-mail at ucac@unm.edu.

UNIVERSITY COLLEGE ADVISEMENT CENTER

Student Services Center, Room 114
MSC06 3690
1 University of New Mexico
Albuquerque, NM 87131-0001
(505) 277-2631

All undergraduate students who are admitted to the University but have not yet met the requirements to enter their desired degree-granting college are supervised by the University College Advisement Center, which is responsible for applying the academic regulations of the University for these students and for their academic advisement. University College maintains this academic advisement center and collaborates with other advisement centers of the degree-granting colleges to assist students in their formulation of academic directions, goals and plans. All newly admitted students are required to meet with an academic advisor prior to registration for their first semester.

Students with an area of interest or a definite major in mind should refer to the appropriate college or the program. 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, University College maintains their records and is responsible for their general academic oversight and 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 are unsure of their academic interests or who wish to explore several possible programs of study should meet with an academic advisor in the University College. The advisor will help the student explore interests and abilities, discuss academic strengths and weaknesses and explain the applicable university regulations and policies.

Admission Requirements and Academic Regulations

University College accepts all undergraduate students who are admitted to the University of New Mexico but who have not yet met the requirements for acceptance into a degree-granting college. It operates under the admission requirements of the University and under the general academic regulations. (See appropriate sections of this catalog.)

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. A grade point average of at least 2.00 on all hours attempted; or
 - b. 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 Skipp, Director
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The faculty of the University of New Mexico offers the degree of Bachelor of University Studies (BUS). 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 BUS advisor, students will structure a 36+ credit program which builds upon required courses in the University's core curriculum. The program of study may be thematically based or specialized in two specific subject areas. Remaining courses will be selected through BUS advisement. The BUS degree is not intended for the undecided student, and it may not be undertaken either as a second degree or as part of a double major. While no official minor may be declared with the BUS degree, the use of existing departmental minors is encouraged.

Strict compliance with BUS 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 BUS advisor. The advisement of BUS students is under the supervision of the Director of BUS and the Dean of University College, both of whom consult regularly with the BUS 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 the Director of BUS or to an advisor in the BUS Office. 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*.

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., IS-English 100, IS-Math 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., Biomed, H Sci, Occ Th, Phy Th or Pharm); 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 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 9 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 BUS 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

Requirements to transfer into the University Studies program are as follows:

1. An approved program of studies developed with a BUS Advisor.
2. Twenty-six or more hours of earned credit applicable to this program.
3. A minimum cumulative grade point average of 2.00 or higher.
4. Demonstrated competence in the writing of English as evidence 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.
5. An entrance interview with a University Studies Academic Advisor.
 6. Submission of a typed comprehensive degree plan, with attached University of New Mexico "unofficial transcript" and a Transfer Evaluation (prepared by Admissions) if appropriate, to a University Studies Academic Advisor. This degree plan should show the courses (from *The University of New Mexico Catalog*) that the student intends to take to complete their Bachelor's degree in University Studies. In preparing a plan, the student may study *The University of New Mexico Catalog* to find courses appropriate for their interdisciplinary or multidisciplinary (theme-based) area of study. This degree plan must incorporate all courses for the program of study—transfer and UNM.

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).

Graduation Requirements

Students must apply to the University Studies Office for graduation one year prior to that in which they plan to graduate. A written application is available from a BUS Advisor. Following the application, a PROGRESS report (degree audit) specifying the work remaining will be prepared and e-mailed to each student (at their University of New Mexico CIRT account). This audit will incorporate the students current scholarship indexes and any unmet core curriculum course work 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.**

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. (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 students "Program of Study".
8. Fulfillment of the University's residence credit requirement (30 credit hours).

AGING STUDIES

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www.unm.edu/~ucollege/aging

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 multifaceted 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. Please consult the Aging Studies section in the current *Schedule of Classes* for each semester's approved offerings.

Undergraduate Minor Study Requirements

A minor in Aging Studies requires the completion of 24 hours to include:

1. **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
PE-P 487	Physical Activity and Aging	3
2. **A minimum of 12 hours from:**

Anth 312	Oral Narrative Traditions	3
Arch 470	Human Factors in Design	3
Biol 428	Human Heredity	3
C & J 450	Health Communication	3
CRP 431	Foundations of Community Development	3
Dance 304	Theories of Movement	3
Econ 335	Health Economics	3
FS 415	Aging and the Family	3
H Ed 473	Health Issues in Death and Dying	3
Hist 417	History of Modern Medicine	3
Mgt 308	Ethical, Political and Social Environment	3
Nat Am 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 348	Comparative Philosophy	3
Pol Sc 376	Health Policy and Politics	3
Psych 360	Human Learning and Memory	3
SHS 302	Introduction to Communicative Disorders	3
Thea 415	Theatre for Educational and Social Change	3
Wm St 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 (approved topics classes are listed under Aging Studies in the *Schedule of Classes* each semester).

CHICANO STUDIES

Enrique Lamadrid, Director
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The Chicana/o Studies Program offers a wide range of courses focusing on the history, language and traditions of Mexican Americans and Hispanos in New Mexico, the Southwest and other areas of the United States. Chicano 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 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 Studies courses as electives, or they may enroll in the Chicana/o 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 concentration in Chicana/o Studies for their Major**.

Minor Study Requirements

A minimum of 24 hours, including the following:

- Ch St 201 *Introduction to Chicana/o Studies*,
- Ch St 490 *Advanced Seminar in Chicana/o Studies*,
- Three hours of Spanish (Span 201 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

Am St 251, 360, 363. Anth 345. C&J 413*. Ch St 284, 332, 342, 351, 393. CRP 486*. Engl 211*, 411*. FS 284. Hist 283, 300*. Ling 432. LLSS 383. Pol Sc 308, 400*. Soc 428, 528. Span 301*, 370, 371, 375, 377, 479. Spc Ed 383. Wm St 332.

¹ Topics courses with relevant content may count toward the minor with the approval of the Chicano Studies Director.

* Courses with these numbers must have a Chicano or Hispano focus.

Course Listing B: Chicano-related Courses

Am St 185, 186. Anth 238, 337, 344. C&J 413. Econ 239. FS 484. Geog 344. Hist 260, 270, 362, 460, 463. Ling 331, 435. LLSS 446, 481. Music 374. Pol Sc 301, 307. Psych 374. Soc 216, 326, 420. Wm St 200.

Chicana/o Studies (CH ST)

201. Introduction to Chicana/o Studies. (3)

Introductory level course surveys the Chicana/o experience in the United States. Historical, political, social and cultural dimensions of the Mexican American experience especially in New Mexico and the Southwest are examined.

284. Familias de Nuevo México. (3)

(Also offered as FS 284.) 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. (Spring)

332. Introduction to Chicana Studies. (3)

(Also offered as Wm St 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. Chicanos and Manifest Destiny. (3)

This course will study the impact of Anglo-American imperialism on the Mexicanos of El Norte (the American Southwest). The period examined is a long 19th Century (1793–1910).

351. Chicanos Abroad. (3 to a maximum of 6) Δ

This course is taught on campus and on site in Mexico or Latin America. Lectures are conducted on location to introduce students to the larger context of Mexican or Latin American civilization.

393. Topics in Chicana/o Studies. (3 to a maximum of 9) Δ

Special topics in Chicana/o Studies. Topics will be interdisciplinary in nature, drawing from the humanities and social sciences. May be repeated as subject matter varies.

490. Advanced Seminar in Chicana/o Studies. (3)

An advanced course for students in Chicana/o Studies, emphasizing synthesis of course work in Chicana/o Studies and development of research skills. Designed as a capstone seminar for the Chicana/o Studies Minor degree program. Prerequisite: senior standing or permission of instructor. (Spring)

495. Undergraduate Problems. (3 to a maximum of 6) Δ

STUDENT ACADEMIC CHOICES

Joel Nossoff, Director of New Student Programs
Freshman Learning Communities
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Dan Young, Ph.D., Director
Freshman Interest Groups
Living & Learning Communities
Freshman Introductory Studies Communities
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Andrés Armijo, Coordinator
Living & Learning Communities
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University College offers five programs specifically for first-year students at UNM and one program for second-year students. In the Fall semester, first-year students may choose Freshman Learning Communities (FLC), *Freshman Interest Groups (FIG)*, *Living & Learning Communities (LLC)*, and *Freshman Introductory Studies Communities (FISC)*; during Spring semester we have *Experiential Learning Communities (ELC)*. These programs have the common goal of helping students make a faster, smoother, more informed transition to university life by engaging with faculty and students who share their interests and by developing a shared sense of community. All entering full-time students are eligible as long as they meet the requirements for the courses connected with the Freshman Academic Choices. Specific offerings vary from year to year; students may access the Freshman Academic Choices website at <http://www.unm.edu/~freshman> or speak with their advisors during LOBOrientation for each Fall's choices. For Spring ELCs, students can access our website or speak with their academic advisors.

Fall Semester Programs:

- 1. Freshman Learning Communities.** Up to 25 students take two or more classes together. Instructors of the courses integrate the content and teaching of their courses around a theme or topic. The interdisciplinary FLCs provide a personalized and stimulating introduction to intellectual life at the University of New Mexico.
- 2. Freshman Interest Groups.** Up to 25 freshmen with an interest in a common theme take a one- to three-credit seminar together and enroll as a group in one or two larger classes. FIGs provide an opportunity to discuss academic and personal issues.
- 3. Living & Learning Communities.** Academically, the LLCs are similar to the FIGs: up to 18 freshmen take a one- to three-credit seminar together and may also enroll in one or two other courses. Additionally, the students live together in the same residence hall and share an academic or career interest. LLCs are offered for students interested in Fine Arts, Engineering, Management, Architecture & Planning, Language and Culture, and Health Professions. Because LLC membership making a special residence hall selection, students are strongly urged to apply for admission to Housing and to the LLC program as early as possible.
- 4. Freshman Introductory Studies Communities.** A FISC is a special academic option for students who are required to take Introductory Studies Reading based on their ACT or SAT scores. The FISC offers students the opportunity to move ahead academically faster than they normally would when required to take IS Reading. A FISC combines IS Reading with a content course, such as Sociology 101, and a one-credit seminar that provides support for both the Reading and content course. There are specific entrance requirements for this option, so students should consult with their academic advisors to see if they qualify.

Spring Semester Program:

- 5. Experiential Learning Communities.** Offered Spring semester, the ELCs combine the integrated thematic approach of the Freshman Learning Communities with a real-life backdrop for learning. ELCs get students out in the community to see how their learning connects with important contemporary questions. ELCs require off-campus activity, so students must make sure that they are able to schedule participation in those activities.

Sophomore Program:

- 6. Sophomore Seminars in Career Awareness.** Offered Fall and Spring semesters, the SSCAs are one- to three-credit seminars designed to help sophomores 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 SSCAs will require extensive off-campus activity as students investigate careers in the field.

University (UNIV)

101. [U S P 101.] Freshman Interest Group Seminar.

(1-3 to a maximum of 3) Δ

Designed to accelerate successful transition to university life. Enrollment limited to 25 incoming freshmen.

Corequisites: most sections will require coregistration in another specified course or courses. {Fall, Spring}

102. [U S P 102.] Living and Learning Community Seminar.

(1-3 to a maximum of 3) Δ

Designed to accelerate successful transition to university life. Enrollment limited to 18 incoming freshmen with specific academic interests. Students live in same dormitory.

Corequisites: most sections will require coregistration in another specified course or courses. {Fall, Spring}

175. [U S P 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.

Prerequisite: participation in Freshman Learning Community, Freshman Interest Group, Living and Learning Community or permission of instructor.

216. Sophomore Seminar in Career Awareness. (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. [U S P 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.

Prerequisites: minimum sophomore standing; 3.0 GPA; B or better in English 102 and Math 121; or permission of instructor.

INTRODUCTORY STUDIES

Geraldine McBroom, Dean
Jane Bradley, Associate Dean
TVI/Department of Adult and Developmental Education
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Staff

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Introduction

Students whose ACT or SAT scores fall below specified levels must enroll in certain developmental 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.

An operating agreement exists between the University of New Mexico and TVI founded on the recognition of the need and opportunity to provide quality developmental 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 by TVI and are taught by TVI instructors.

Introductory Studies Program

Students who need developmental course work should consult with a University College advisor and refer to the appropriate TVI Bulletin.

English (IS-E)

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 Engl 100 meets prerequisite for Engl 101. **Offered on a CR/NC basis only.**

Mathematics (IS-M)

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.**

Reading (IS-R)

100. Reading and Critical Thinking. (3)

Focuses on reading and critical thinking 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

Gregory A. Cajete, Director
Native American Studies
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Albuquerque, NM 87131-0001
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Faculty

Dr. Gregory A. Cajete, Associate Professor, LLSS
Dr. Beverly Singer, Associate Professor, NAS and Anthropology
Dr. Maria Williams, Assistant Professor, Music and NAS

Staff

Delia Halona

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, NAS became an interdisci-

plinary academic program housed in University College. In 1999, the minor in Native American Studies was approved. The NAS minor is applicable to all undergraduate majors offered by the University of New Mexico.

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 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 NAS 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 Development (INAD), which through its research focus on issues pertaining to tribal leadership, self determination and economic development, offers specialized courses, workshops and research via NAS 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 literature;
- 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 NAS. 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 Director of Native American Studies.

Required Core Courses in Major: 18 credit-hours

- Nat Am 150 Introduction to Native American Studies
- Nat Am 250 Sociopolitical Concepts in Native America
- Nat Am 251 Research Issues in Native America
- Nat Am 351 Individual Study or Nat Am 352 Internship
- Nat Am 474 Traditions of Native American Philosophy
- Nat Am 300 Research Methods in Native American Contexts

Recommended Courses for Concentrations in Native American Studies Major

- Education and Language Concentration**
 - Nat Am 305 Indian Boarding Schools
 - Nat Am 315 Language Recovery, Revitalization & Community Renewal
 - Nat Am 361 Native American Children's Literature
 - Nat Am 365 Poetry, Politics and Spirit
 - Nat Am 402 Education, Power, and Indigenous Communities
 - Nat Am 450 Topics in Native American Studies (Titles TBA)
 - Nat Am 462 Native American Narrative
- Leadership and Self-Determination Concentration**
 - Nat Am 322 Principles of Federal Indian Law
 - Nat Am 324 Contemporary Approaches to Federal Indian Law
 - Nat Am 421 Treaties and Agreements
 - Nat Am 423 Self-Determination and Indigenous Human Rights
 - Nat Am 445 Politics of Identity
 - Nat Am 450 Topics in Native American Studies (Titles TBA)

- Arts and Literature Concentration**
 - Nat Am 247 Politics of Native American Art
 - Nat Am 311 Native Americans in Film
 - Nat Am 361 Native American Children's Literature
 - Nat Am 365 Poetry, Politics and Spirit
 - Nat Am 411 Indigenous Performing Arts Forum
 - Nat Am 417 Native American Music (AOA Music 417/517)
 - Nat Am 418 Alaska Native Music and Culture (AOA Music 418/518)
 - Nat Am 422 Indigenous World Music (AOA Music 422/522)
 - Nat Am 441 Culture Study of Indigenous Video (AOA Anth 340-05)
 - Nat Am 450 Topics in Native American Studies (Titles TBA)
 - Nat Am 462 Native American Narrative
 - Nat Am 481 Spirit of Place
 - Nat Am 488 Two-Spirit Traditions of Native America

- Interdisciplinary Cultural and Environmental Studies Concentration**
 - Nat Am 252 Native American Experience (AOA Am St 252)
 - Nat Am 348 Native American Activism
 - Nat Am 385 Indigenous Worldviews
 - Nat Am 433 Native American Ecology, Demography, and Disease
 - Nat Am 436 Environmental Ethics and Practices in Native America
 - Nat Am 450 Topics in Native American Studies (Titles TBA)
 - Nat Am 474 Traditions of Native American Philosophy
 - Nat Am 477 Archeology in Native American Studies

NOTE: Students may petition the department to substitute equivalent course work from other departments and/or accredited post-secondary institutions for a maximum of nine (9) credit-hours.

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

- Nat Am 150 Introduction to Native American Studies
- Nat Am 250 Sociopolitical Concepts in Native American Studies
- Nat Am 251 Research Issues in Native American Studies.
- Nat Am 351 Individual Study or Nat Am 352 Internship or Nat Am 255 or 450 – Topics in Native American Studies (3 credit hours)
- Nat Am 474 Traditions of Native American Philosophy

NOTE: Students may petition Native American Studies to substitute equivalent coursework from other departments and/or accredited post-secondary institutions for a maximum of nine (9) credit hours.

Native American Studies (Nat Am)

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.
[Introduction to Sociopolitical Concepts in Native American Studies.] **(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.
Prerequisite: 150 (or equivalent).

251. Research Issues in Native America. [Research Ethics and Practices 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.
Prerequisites: 150, 250.



252. The Native American Experience. (3)

(Also offered as Am St 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.

305. Indian Boarding Schools. (3)

Examines the role of off-reservation boarding schools as a tool to assimilate American Indian children into the dominant culture. Special emphasis on resistance of Native children to this process.

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. This class is a pre-requisite for Nat Am 324, and a suggested pre-requisite for Nat Am 421 and 423.

324. Contemporary Approaches to Federal Indian Law.

[Contemporary Approaches to Federal 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 inter-disciplinary perspective.

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. [Native American Activism in the 20th Century.] (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 NAS 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.

365. Poetry, Politics and Spirit. (3)

What makes a poem political? Are politics and spirituality separable? These are some of the questions on which students will write short critical papers as well as their own poetry.

385. Indigenous Worldviews. [Indigenous Worldviews in Native American Studies.] (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. [Native American Theatre] (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 Music 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 Music 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 Music 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. Attendance at two traditional music/dance events is required. (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./530.) 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. [Environmental Ethics and Practices 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.

***450. Topics in Native American Studies. (1-3 to a maximum of 6) 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.

***462. Native American Narrative. [Traditional and Contemporary Storytelling.] (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. [Native American Life and Thought.] (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.

***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.

***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 in 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

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Diane Rawls, Ph.D., University of New Mexico
Ron Reichel, Ph.D., University of New Mexico
Ursula Shepherd, Ph.D., University of New Mexico
Michael Thomas, Ph.D., 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 that 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 sys-

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tems 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 and 300 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 Council.

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 (U HON)

121–122. Freshman University Honors Seminar. (3, 3 to a maximum of 6) Δ

Surveys of major ideas basic to the intellectual, historical and artistic traditions of Western Culture. One core seminar required for graduation.

199. Concurrent Enrollment Seminar. (1-3) 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. Repeatable for credit, no limit. For University Honors Program requirements, only 3–6 hours of 100 level classes 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.

221–222. Sophomore University Honors Seminar. (3, 3) Δ

Broad, general reading and class discussion for sophomore Honors students. Instructors and topics will vary from semester to semester. May be repeated for credit, no limit.

299. Individual Study. (1-3) Δ

Laboratory component for credit with permission of Program Director, no limit, as long as topics vary.

301–302. Honors Seminar. (3, 3) 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. May be repeated for credit, no limit.

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.

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 U Hon 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}

399. Individual Study. (1-3) Δ

(Not to be counted as part of 300 or above requirement for graduation with Honors except with permission of Director.) May be repeated for credit, no limit, as long as topics vary and with permission of Program Director.

401–402. Honors Seminar. (3, 3) 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. May be repeated for credit, no limit.

490. Senior Reading and Research in Honors. (3)

Prerequisite for completing Senior Honors Thesis graduation option in conjunction with Senior Honors Thesis (491). Permission of Thesis Advisor required before registering.

491. Senior Honors Thesis. (3)

Prerequisite: 490.

492. Senior Teaching Preparation. (3)

Prerequisite for completing Honors Senior Teaching graduation option. Permission of instructor required before registration.

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)

Honors capstone seminars of various topics specially designed to meet the needs of senior students in the program. Required senior option for graduation in conjunction with Senior Service-Learning (496).

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).

498. Science and Technology Thesis/Internship. (2-3)

This culminating course, taken early in the student's 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.

499. Individual Study. (1-3 to a maximum of 3) Δ

The Undergraduate Seminar Program/Honors Seminar (U S P)

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.)

235. Seminar, University Honors Program. (1-3 to a maximum of 6) Δ

Various sections, various topics each semester.

WATER RESOURCES PROGRAM

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Program Committee

Michael E. Campana, Director (Earth and Planetary Sciences), Ph.D., University of Arizona
Janie Chermak (Economics), Ph.D., Colorado School of Mines
Julia E. Coonrod (Civil Engineering), Ph.D., University of Texas
David S. Gutzler (Earth and Planetary Sciences), Ph.D., Massachusetts Institute of Technology
G. Emlien Hall (Law), J.D., Harvard Law School
Melanie Luna, President, Association of Water Professionals
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)
Erik Galloway, New Mexico Environment Department

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 (MWR) 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 MWR 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 to think carefully and comprehensively and develop their technical and communication skills. The program's physical location in the Southwestern United States of America means that there is a focus on arid region water issues; however, the MWR degree is designed to provide its students a firm grounding in water resources that is applicable to any region.

The MWR degree is obtained by following one of two concentrations, Hydroscience or Policy-Management. Each concentration consists of 39 credit hours: 36 credit hours of course work plus 3 credit hours for a professional project. The Hydroscience concentration is designed primarily for students with technical backgrounds—biology, chemistry, earth and environmental sciences, mathematics, toxicology, physics, physical geography, engineering, etc.—who wish to complement their primary discipline by obtaining expertise in water

resources with an emphasis on the scientific/engineering aspects of water. The Policy-Management concentration is designed for students with diverse backgrounds—the natural sciences, political science, economics, sociology, management, engineering, geography, psychology, public administration, law, community and regional planning, public health, etc.—who wish to emphasize those aspects of water dealing with economics, policy, administration, management and planning. The curriculum for each concentration is flexible, enabling a student, with his/her advisor and committee providing guidance, to design a course of study in accord with his/her career objectives.

It is possible to obtain dual Master's degrees with the MWR and another Master's program. Students interested in this option should contact the Director.

The Water Resources Program faculty is drawn from four schools (Law, Engineering, 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 MWR 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.
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 245). 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 245).
 - Introductory Microeconomics (Economics 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 (Pol Sc 110); or psychology (Psych 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.

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 MWR Curriculum

Concentrations

A student selects one of two concentrations: 1) Policy-Management (PM); or 2) Hydrosience (HS). This selection should be made as soon as possible 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.

- 12 credits in the Water Resources interdisciplinary (core) courses: WR 571, WR 572, and WR 573.
- 15 credits from courses in the student's concentration (HS or PM) (see below for suggested HS and PM courses).
- 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.
- 3 credits from the Utilities Group courses (see below).
- 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.

Summary of Degree Requirements

1) All students take WR 571, WR 572 and WR 573, and 3 credits of WR 598 - Professional Project (15 credits).

2) MWR-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).

3) MWR- 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 WWW site and updated periodically. Course titles can be viewed in the *Program Guidelines* (online at www.unm.edu/~wrp/) or in the online catalog (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 MWR prerequisites. Note that current policy precludes acceptance of any 300-level courses for graduate credit towards the MWR degree.

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; E&PS 562, 572, 580, 581L; C E 442, 540, 541, 542, 543, 544, 545, 549)
- Ecosystems, Environment, Health, and Water Quality (Biology 502, 507L, 558, 535, 495 or 514; E&PS 515,

558; C E 531, 532, 534, 536, or 537L; Chemistry 545; Env Sc 530; Public Health 502)

- Climatology (E&PS 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 (Economics 541, 542, 543, 544)
- Policy, Administration and Management (Geography 513, 562; CRP 527, 524, 564; Pub Ad 500, 521, 524, 525; Public Health 501, 560)
- Sociology, Communication and Culture (CRP 574; American Studies 523, 524, 525; C&J 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, whether scientific, engineering, economic, social, legal, etc.

- GIS (C E 547, Geography 559, 587L, 588L; etc.)
- Methods (Stat 538, Econ 504, etc.)
- Modeling (E&PS 557L)

Professional Project

Each student must complete a professional project worth 3 credit hours. 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.

Prerequisites: 571, Econ 106, one course in hydrology or hydrogeology (e.g., E&PS 562, WR 576, C E 541, C E 542) or permission of instructor. {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.

Prerequisite: 571, 572 or permission of the instructor. {Summer}

576. Physical Hydrology. (3)

(Also offered as E&PS 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.

Prerequisites: upper-division standing, Math 163, Physcs 160 or permission of instructor. {Fall}

590. Internship. (3)

Professional experience in a public, private or non-profit organization, supervised by a water resource professional.

Prerequisites: permission of the WRP 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.

Prerequisite: permission of instructor.

598. Professional Project. (1-3) 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.



INTERDISCIPLINARY STUDIES

UNIVERSITY LIBRARIES

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Dena Thomas Kinney, M.L.S., University of Washington
Ann M. Massmann, M.L.I.S., University of Texas at Austin
Maria Teresa Marquez, M.P.A., University of New Mexico,
M.S.L.S., University of Illinois (Urbana-Champaign)
Sharon Moynahan, M.A., University of Florida; M.S.L.S.,
Florida State University
Bruce D. Neville, M.S.L.I.S., Florida State University
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
Nina Stephenson, M.L.I.S., University of California
(Berkeley); M.A., University of New Mexico
Jacqueline C. Shane, M.L.I.S., University of Illinois (Urbana-
Champaign)
Elizabeth N. Steinhagen, M.A., West Virginia University;
M.A.L.S., University of Wisconsin (Madison)
Johann A. van Reenen, M.Sc., M.Dip.L.S., University of
Pretoria

Assistant Professors

Peter B. Ives, M.S.L.I.S., University of Illinois (Urbana-
Champaign)

Lecturer III

Paulita Aguilar, M.L.I.S., University of Oklahoma (Norman)
Christine Mueller, M.L.I.S., University of Oklahoma
Barbara Rosen, M.A., University of New Mexico, M.L.S.,
University of Arizona

Professors Emeriti

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
Carol Joiner, M.A., University of Denver; M.A., University of
New Mexico, M.L.S., University of California (Los
Angeles)
Kathleen Matthews, Ph.D., University of New Hampshire
Robert L. Migneault, M.A.L.S., University of Denver (former
Dean of Library Services)
Stephen Rollins, B.A., Providence College, M.L.S.,
University of Rhode Island
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)

MILITARY STUDIES

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Department of Military Science & Leadership
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Woody T. Shortt, Captain, USN Commanding Officer
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720 Yale NE
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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, stu-
dents 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 stu-
dents in the Army ROTC. Awarding of minor in Military

580 INTERDISCIPLINARY STUDIES

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 (MSL) or alternate course approved by the Department of Military Science & Leadership. A grade of C or better must be obtained for each course. The only credits in which a grade of S will be accepted are for MSL 350.

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.

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.

Reserve Officer Training Corps

Air Force ROTC

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Professor

Gregory A. Tuite, Lt Col, USAF, ME, University of Colorado

Assistant Professors

Michael P. Richmond, Maj., USAF, M.A., University of Phoenix
Kenneth L. Thalmann, Maj., USAF, M.S., Air Force Institute of Technology

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. Entry into the POC is on a competitive basis. Applicants must meet Air Force ROTC qualification standards and requirements. Prior to entering the POC program, students must attend and successfully complete a six-week summer field training course. Undergraduate or graduate students applying for the two-year program should process as early as possible in the school year *prior* to the following fall term in which they wish to enter the POC. Specifics may be obtained by contacting the Air Force ROTC staff members at 1901 Las Lomas NE.

FINANCIAL OPPORTUNITIES. The Air Force provides uniforms and textbooks for Air Force ROTC courses. Participants receive approximately \$700.00 for the six-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 \$400.00 a month subsistence for approximately 20 months (until graduation). Students, who qualify, may receive an AFROT scholarship which will pay full tuition, laboratory fees, \$800.00 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 and two year periods. Students, who qualify for the POC and are not already on AFROT scholarship, may qualify for a \$1,500.00 per semester incentive for tuition and 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 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 POC. The standard GMC is a two-year course in aerospace 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; AF ASP 120 (Fall semester), AF ASP 121 (Spring semester), Second year; AF ASP 250 (Fall semester), AF ASP 251 (Spring semester). Note: Leadership Laboratory is a corequisite each semester throughout the four-year program.

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.

LEADERSHIP LABORATORY. Leadership laboratory provides a variety of practical leadership experiences by rotating cadet corps positions and responsibilities among students enrolled in the GMC and POC.

General Military Course

Fall Semester

AF ASP 120	The Foundation of the United States Air Force	1
AF ASP 120L	Leadership Laboratory	1

Spring Semester

AF ASP 121	The Foundation of the United States Air Force	1
AF ASP 121L	Leadership Laboratory	1

Fall Semester

AF ASP 250	The Evolution of USAF Air & Space Power	1
AF ASP 250L	Leadership Laboratory	1

Spring Semester

AF ASP 251	The Evolution of USAF Air & Space Power	1
AF ASP 251L	Leadership Laboratory	1

Professional Officer Course

Fall Semester

AF ASP 300	Air Force Leadership Studies	3
AF ASP 300L	Leadership Laboratory	2

Spring Semester

AF ASP 301	Air Force Leadership Studies	3
AF ASP 301L	Leadership Laboratory	1

Fall Semester

AF ASP 400	National Security Affairs/Preparation for Active Duty	3
AF ASP 400L	Leadership Laboratory	1

Spring Semester

AF ASP 401	National Security Affairs/Preparation for Active Duty	3
AF ASP 401L	Leadership Laboratory	1

Aerospace Studies (AF ASP)

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 AF ASP 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 and 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 and functions; and continued application of communication skills.

251L. Leadership Laboratory. (1)
Continuation of AF ASP 250L.
Corequisite: 251. **Offered on a CR/NC basis only.**

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 AF ASP 300L.
Corequisite: 301. **Offered on a CR/NC basis only.**

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 AF ASP 400L.
Corequisite: 401. **Offered on a CR/NC basis only.**

Army ROTC

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Professor

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Assistant Professors

Robert Axtell, MSG, US Army, AAS, Barton County Community College (BCCC)
Lary P. Dorsett, Major, US Army, M.S., Troy State University
Daniel W. Haberreiter, Captain, US Army, M.S., Montana State University—Billings
Hans F. Hunt, Major, US Army, B.S., Weber State University
Terry Perez, SFC, US Army

INTERDISCIPLINARY STUDIES

Ivan Salkin, Captain, US Army, B.S., University of the Pacific
 Justin Trujillo, SFC, US Army, A.A., City College of Chicago-Harold Washington College

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.

NURSE INCENTIVE PROGRAM. Army ROTC offers unique financial incentives specifically for students pursuing a bachelor's degree in nursing. The Army ROTC Nurse Incentive Program will award two payments totaling up to \$12,500 to nursing students meeting certain minimum G.P.A. requirements. The first payment of up to \$5,000 is paid upon admission to the College of Nursing. The second payment of up to \$7,500 is made upon graduation, commissioning, and passing the NCLEX-RN on the first attempt.

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 the 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 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, Foundations of Officership/Lab
 MSL 102/102L, Basic Leadership/Lab

Basic Course—Sophomore

MSL 201/201L, Individual Leadership Studies/Lab
 MSL 202/202L, Leadership and Teamwork/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, Leadership and Problem Solving/Lab
 MSL 302/302L, Leadership and Ethics/Lab
 MSL 350, Leadership Development Assessment Course (Summer only)

Advanced Course—Senior/Graduate Student

MSL 401/401L, Leadership and Management/Lab
 MSL 402/402L, Officership/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. Foundations of Officership. (1)

Introduction to competencies central to the responsibilities of a commissioned officer. Establishes a framework for understanding officership, leadership, and Army values in addition to "life skills" such as personal fitness, time management and stress management.

101L. Foundations of Officership Lab. (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. Basic Leadership. (1)

This course expands upon the fundamentals introduced in MSL 101 focusing on communications, leadership, and goal setting. Course builds on the previous course exposing students to different methodologies of critical thinking and problem solving.

102L. Basic Leadership Lab I. (1)

Continuation of 101L Foundations of Officership Lab. Corequisite: 102.

201. Individual Leadership Studies. (2)

The purpose of this course is to study leadership by learning how to influence, how to communicate, how and when to make decisions, how to engage in creative problem solving and how to plan and organize. Additionally, this course focuses on building character.

201L. Individual Leadership Studies Lab. (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. Leadership and Teamwork. (2)

Course continues leadership development utilizing communications, personal development and team building. Through group exercises, students are taught aspects of the officer corps, leadership and decision-making, Army values and principles of individual fitness/healthy lifestyle.

202L. Leadership and Teamwork Lab. (1)

Continuation of 201L, Individual Leadership Studies Lab. Corequisite: 202.

225. Directed Studies. (1-3)

Individual directed studies under supervision of designated faculty.

250. Leadership Training Course. [Leadership Internship I.] (4)

Six-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.

301. Leadership and Problem Solving. (3)

The purpose of this course is to continue the study leadership and problem solving. Students are introduced to the principle of physical fitness and healthy lifestyle so that they may effectively work to improve or maintain physical fitness. Students are introduced to the Leader Development Program that will be used to evaluate their leadership performance and provide them developmental feedback. Students are taught how to plan and conduct individual and small unit training, as well as basic tactical principles. Students will practice using the Army problem-solving process. Additionally this course will conclude with a detailed assessment of officership. Prerequisite: consent of Professor of Military Science

301L. Advanced Course Leadership Laboratory I. (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.

302. Leadership and Ethics. (3)

Delegation and supervision based on leadership case studies that require planning and adaptation to the unexpected in organizations under stress. Use of ethical decision making to enhance team performance. Prerequisite: 301. Corequisite: 302L.

302L. Advanced Course Leadership Laboratory II. (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.

350. Leadership Development Assessment Course. [Leadership Internship II.] (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.

Prerequisites: 301, 301L, 302, 302L. Students must also meet departmental qualifications.

401. Leadership and Management. (3)

The course concentrates on Army Operations and training management, communications and leadership skills, and supports the beginning of the final transition from cadet to lieutenant. In addition, students are taught the Army's training management system, coordinating activities with staffs, and counseling skills. Students will practice these skills by leading the cadet battalion.

Prerequisite: 302. Corequisite: 401L.

401L. Leadership and Management Laboratory. (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. Officership. (3)

Continues methodology from 401. Identification and resolution of ethical dilemmas along with counseling and motivation techniques. Examines military traditions and laws as they relate to the Army officer and prepare the student to be a successful Army lieutenant.

Prerequisite: consent of Professor of Military Science. Corequisite: 402L.

402L. Officership Laboratory. (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.

Naval ROTC

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University, B.S., Florida Atlantic University

Assistant Professors

Commander Ian R. Sorensen, M.A., Army War College,
Carlisle, PA

Instructors

Lieutenant Nathan Mills, OSNR, B.S., Cornell University, Ithaca, NY
 Major Brian Montoya, USMC, B.A., University of Idaho
 Lieutenant Thomas Candelaria, USN, B.S., San Diego 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 December 1 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 1 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 87131-1556
 (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.

Department of Naval Science—Navy Option

First Year – First Semester		
Nav Sc 101	Principles and Concepts of Naval Science	3
First Year – Second Semester		
Nav Sc 105	Naval Ships Systems I	3
Second Year – First Semester		
Nav Sc 201	Naval Ships Systems II	3
Second Year – Second Semester		
Nav Sc 300	Sea Power	3

Third Year – First Semester		
Nav Sc 303L	Navigation	3
Third year – Second Semester		
Nav Sc 304L	Naval Operations	3
Fourth Year – First Semester		
Nav Sc 401	Leadership and Management	3
Fourth Year – Second Semester		
Nav Sc 407	Principles of Naval Leadership	3

**Department of Naval Science—
Marine Option**

First Year – First Semester		
Nav Sc 101	Principles and Concepts of Naval Science	3
First Year – Second Semester		
	History or Political Science Elective	3
Second Year – First Semester		
Nav Sc 331	Evolution of Warfare	3
Second Year – Second Semester		
Nav Sc 300	Sea Power	3
Third year – First Semester		
Nav Sc 431	Amphibious Warfare	3
Fourth Year – First Semester		
Nav Sc 401	Leadership and Management	3
Fourth Year – Second Semester		
Nav Sc 407	Principles of Naval Leadership	3

All NROTC students attend 2 hours of naval science drill/laboratory per week in the appropriate section of Nav Sc 010 Naval Professional Laboratory.

In addition to the above, NROTC students must take certain additional courses. Information concerning additional course work can be obtained at the Department of Naval Science.

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 Nav Sc 101
- Seapower and Maritime Affairs: equivalent to Nav Sc 300
- Naval Ship Systems I: equivalent to Nav Sc 105
- Naval Ship Systems II: Weapons: equivalent to Nav Sc 201
- Navigation I: equivalent to Nav Sc 303
- Navigation II: Seamanship and Naval Operations: equivalent to Nav Sc 304

Naval Science (NAV SC)

010. Naval Professional Laboratory. (0)
 Drills and information for NROTC students. (30 hours each semester). {Fall, Spring}

101. Principles and Concepts of Naval Science. (3)
 Introduction to the naval service, customs, traditions, courtesies and naval officers communities. {Fall}

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. {Spring}

303L. 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. {Fall}

304L. 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. {Spring}

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. {Fall}

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 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}



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 75 years, the Division of 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 20,000 students and customers are served through non-credit programs, certificate programs and special projects every year.

Continuing Education Programs

Personal Enrichment

Offers courses in arts, language, hobby and personal development - courses that allow students to explore their interests, stimulate their minds and gain skills to enrich their lives. Programs are offered for all age groups in accessible and affordable formats. Programs are offered in more than 50 sites throughout Albuquerque and Rio Rancho. 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, Film, Photography, Reading, Writing, Senior and Youth Programs. Contact: Dora Delgado Raby, 277-6320

Business and Technology

Training in many areas of Information Technology and Professional Development. Programs and certificate programs offered that give students and employers a variety of options to achieve personal success and further workforce development. Courses include: Computer Certifications, Web and Graphic Design, Basic Applications, Programming, Business and Professional, Custom Training. Contact: Martha Binford, 277-6038.

Story of New Mexico

Travel and lecture programs with regional and 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 about the 'inside story' of New Mexico. Contact: Joan Cok, 277-0563.

Community Behavioral Health Services

Provides professional workshops for licensed alcohol and drug abuse counselors statewide. Contact: 277-6025.

DWI Awareness Program

Administers the "None for the Road" prevention/education course for first-time licensees in New Mexico between the ages of 18 and 24, in partnership with the New Mexico State Highway and Transportation Department. Contact: Dianne DeLeon, 277-6170.

Instructors and Staff

Our instructors are a diverse, dedicated and talented group of people who are uniquely qualified to teach within their areas of expertise. Many of our instructors are working professionals who bring their real world experience to the classroom.

Registration

Online registration at dce.unm.edu. Phone registration at 277-0077. Advisement and registration at 1634 University Blvd. NE, from 7:30am - 5:30pm, M-F. Mail (address above) or Fax to 505-277-1990. Tuition remission available to UNM employees.

The Conference Center

Facility for conferences that includes a 600 seat auditorium, break-out rooms, classrooms, a dining room and a large lobby area. The Conference Center offers Albuquerque businesses, statewide public entities and out-of-state event coordinators a reasonably priced facility with full service support. Features include central location, free parking, registration, catering, equipment, high-speed Internet. Contact: Beth Horan, 277-5984.

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.

Credit Programs

For information about Extension, Independent Study, Non-degree Advisement, the Testing Center, the University of New Mexico at Kirtland Air Force Base, or the University of New Mexico at Rio Rancho, see the section on Extended University.

THE UNIVERSITY OF NEW MEXICO EXTENDED UNIVERSITY

Jerónimo C. Domínguez, Vice Provost
The University of New Mexico
Extended University
Student Health Center, Ground Level, Suite 12
MSC03 2190
1 University of New Mexico
Albuquerque, New Mexico 87131-0001
(800) 345-1807
<http://eu.unm.edu>

The Extended University of The University of New Mexico 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, instructional television, online and correspondence.

The Extended University maintains nine field 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, field centers function as "receive sites" for classes broadcast by instructional television and, further, serve as liaisons with the University of New Mexico main campus online and correspondence programs. Field 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 Extended University Centers

Española

Located at Northern New Mexico Community College
921 Paseo de Oñate
Española, NM 87532
505-747-2100
Web Address: <http://eu.unm.edu>

Farmington

Located at San Juan College
4601 College Blvd., East Classroom
Farmington, NM 87402-4609
505-566-3051 FAX: (505) 566-3482
Web Address: <http://eu.unm.edu>

Gallup

Located at the Gallup Branch
200 College Road
Gallup, NM 87301
(505) 863-7618 FAX: (505) 863-7564
Web Address: <http://eu.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://eu.unm.edu>

Los Alamos

Located at the Los Alamos Branch
4000 University Drive
Los Alamos, NM 87544
(505) 662-0335 FAX: (505) 662-0344
E-mail: gradcenter@la.unm.edu

Rio Rancho

Located at UNM West
2600 American Road SE, Ste 250
Rio Rancho, NM 87124
(505) 925-8669 FAX: (505) 925-8684

Santa Fe

Located at Santa Fe Community College
6401 Richards Avenue
Santa Fe, NM 87508
(505) 428-1234 FAX: (505) 428-1238
Web Address: <http://eu.unm.edu>

Taos

Located at the Taos Branch
115 Civic Plaza Drive, Room 2 & 3
Taos, NM 87571
(505) 737-6279 FAX: (505) 737-0690
Web Address: <http://eu.unm.edu>

Valencia

Located at the Valencia Branch
280 La Entrada
Student Community Center, 2nd Floor
Los Lunas, NM 87031-7633
(505) 925-8974 FAX: (505) 925-8972
Web Address: <http://eu.unm.edu>

Extended University Delivery Formats

Classroom courses offer a traditional face-to-face experience between students and instructors. This is the most familiar learning venue for the majority of students and remains the format of choice for many. In an effort to assure easy access, Extended University coordinates with the University of New Mexico's branch campuses (or other institutions) to host their upper-division and graduate classes in branch facilities. Courses are selected from a broad range of subjects and schedules vary from center to center. Students are encouraged to survey the Extended University Schedule or to visit the Web site at <http://eu.unm.edu> for more details on specific offerings available at the center nearest to them. Extended University endeavors to use qualified community-based adjunct faculty for classroom courses to promote a vibrant student experience, which is highly interactive and allows for an individualized local emphasis to topics within the subject matter.

Instructional television courses expand the possibilities for students forced to 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 a telephone connection. Remote students use the same class materials, including syllabi, assignments and class notes as their main campus counterparts. Homework is exchanged through use of a courier operating between main campus and Extended University field centers. Exams are proctored at the classroom site. Instructional television 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 instructional television classes, call (505) 277-8821 or (800) 289-4617 or visit the Extended University Web site at <http://eu.unm.edu>.

Online courses are completed electronically from a computer with World Wide Web access. All online courses are created and taught by regular University of New Mexico faculty on a standard semester schedule. Students are assured an interactive relationship with the instructor throughout the semester. Any student, whether on main campus or at a remote site, working around the limitations of schedule or location is encouraged to examine online offerings as a way to advance his or her education. For more information on classes offered through the Internet, call (505) 277-8128 or visit the Extended University Web site at <http://eu.unm.edu>.

Correspondence courses offer students a flexible, convenient way to earn college credit at home. They are an ideal alternative for learners who cannot attend regular class offerings and, further, provide an opportunity for main and branch campus students to add to their classroom hours. A wealth of both lower- and upper-division courses are available, spanning a wide range of disciplines. Many degrees allow, with some restrictions, for up to 30 credit hours to be earned towards graduation through the correspondence program. Students can register for correspondence courses at any time. Homework is exchanged between student and the instructor via the U.S. Postal Service, and exams are proctored by staff at local libraries or at Extended University field centers. For the Correspondence Course listing or additional information, call (505) 277-1604 or visit the Extended University Web site at <http://eu.unm.edu>.

Extension Credit courses are offered through the Extended Services Program which has existed since 1928 to provide UNM academic credit courses to communities in outlying areas of the state. The College of Arts and Sciences, the School of Architecture and Planning, the College of Education, and the School of Public Administration have participated in offering Extended Services courses. Special Programs such as Architecture and Children, Southwest Institute, Albuquerque Public Schools Academy, APS/Bernalillo ESL Summer Institute, Annual Indian School on Alcohol and Other Drug-Related Issues, and International Programs have been awarded credit through Extended Services. Persons interested in having an extension class offered in a specific community should address their inquiries to: The University of New Mexico Extended University, Extension Credit, Woodward Hall, MSC03 2190, 1 University of New Mexico, Albuquerque, New Mexico 87131-0001, or call (505) 277-1154.

Media Technology Service (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, Instructional Television (ITV), Academic Technology Services (ATS), Engineering, and Production. ITV provides upper division and graduate courses for distance education students. Using one-way video and two-way audio technology, 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: 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) 277-5345 or e-mail testctr@unm.edu for details.

For complete information on all Extended University centers and services, see the Web site at <http://eu.unm.edu> or call, toll free, (800) 345-1807.

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

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 60 different degree and certificate programs in a variety of academic and technical fields. The student may earn an Associate of Science degree in four areas, an Associate of Arts degree in twelve areas or an Associate of Applied Science degree in 18 specialties. The College also offers a number of certificate programs.

The College also operates an **Adult Basic Education Center** on campus and at sites throughout McKinley County. These centers are operated under the jurisdiction of the Transitional Studies Department located on campus. The centers provide instruction in preparation for the GED exam and other services such as learning English as a second language.

The College also serves as a **Center for Career and Technical Education** for high school students. High school students are bussed in daily for three hours of instruction in vocational discipline. Students come to the Gallup campus from the Gallup McKinley County School System, Ft. Wingate

590 SPECIAL PROGRAMS

BIA School, Rehoboth Christian School and the Zuni Public School System.

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 Calvin Hall rooms 100–102. 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 50 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, Room 100, 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) 863-7551.

The College also offers a number of courses at its satellite campus located in Zuni, New Mexico.

B.S. Nursing Completion Program

The University of New Mexico College of Nursing offers a Bachelor of Science in Nursing Completion program for RNs with advisement at the Gallup Campus. For specific information, contact the BSN Completion office at the Gallup Campus, (505) 863-7554.

RN/BSN 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 both Engl 102, Composition II: Analysis and Argument, and Engl 219, Technical and Professional Writing, prior to enrolling in any upper division nursing courses. Freshman Composition II, Technical and Professional Writing, Pathophysiology and the NLN Mobility Profile II exams must be completed prior to enrolling in Public Health Science/Practice, Nurs 443/444.

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 Secondary 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) 863-7618.

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, please contact the Extended University Advisor at (505) 863-7748.

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, please contact the Extended University Advisor at (505) 863-7748.

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) 863-7618.

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. Carlos B. Ramirez, 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 www.la.unm.edu.

The University of New Mexico—Taos

Dr. Alicia Chavez, Director
115 Civic Plaza Drive
Taos, New Mexico 87571
(505) 737-6201

The University of New Mexico—Taos became the parent institution for the Taos Education Center on July 1, 1993. The Taos campus received branch status in 2002. The Center operates a two-year post secondary academic and vocational program.

The University of New Mexico—Taos Campus subscribes to the concept of 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, immediate and future of all citizens of the community.

Academic Transfer Program. The University of New Mexico—Taos is authorized to offer any freshman or sophomore 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 designs non-transfer courses that respond to students and the community.

Associate Degrees. Associate degrees are currently awarded in Administrative Assistant, Construction Technology, General Studies, Visual Arts, Communication & Journalism, Early Childhood Multicultural Education, Human Services, Liberal Arts, Pre-Business Administration, Southwest Studies, Criminal Justice, Behavioral Sciences and Pre-Science.

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 Assistant 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.

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 of informational, educational enrichment and recreational nature.

Information. For more information about the University of New Mexico—Taos and its programs, contact the University of New Mexico—Taos at 115 Civic Plaza Drive, Taos, New Mexico 87571, or call (505) 737-6200.

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 child care center for use by our students and 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 six Associate of Arts and the two 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 and Computer-Aided Drafting programs offered through the Business and Technology Division. Currently, five 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. 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 a wide variety of non-credit courses and cultural programs to people of all ages in Valencia County including numerous programs designed especially for children.

The University of New Mexico—Valencia Campus provides customized workforce training to area business and industry, a welfare reform program, and houses the Workforce Connection Central New Mexico, Valencia County's One-Stop center for employment and training. 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 DEGREE PROGRAMS

Richard D. Howell, Interim Assistant Vice President
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. The current late afternoon and evening courses are listed in bold face type in the *Schedule of Classes*. Saturday classes are designated with an "S." 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 45 complete academic degrees and 37 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 2003 to 2006:

ANDERSON SCHOOLS OF MANAGEMENT

Contact College Advisor at (505) 277-3888

Bachelor of Business Administration:
a) BBA—general management concentration
b) Other concentrations—core courses only

COLLEGE OF ARTS AND SCIENCES

Contact College Advisor at (505) 277-4621

Bachelor Degrees in the following:

- a) American Studies—Major
- b) Communication & Journalism
 - 1) Communication—Major
 - 2) Public Relations sequence of Journalism/Mass Communication—Major
- c) Speech and Hearing Sciences—Major
- d) English—Major in the following tracks:
 - 1) Liberal Arts
 - 2) Creative Writing
- e) History—Major
- f) Political Science—Major
- g) Psychology—Major, B.A. Track only

- h) Religious Studies—Major
- i) Spanish—Major
- j) A variety of college unit requirements in Science, Math, Social Science and Humanities

Minors in Arts and Sciences:

- a) American Studies
- b) Anthropology
- c) Biology
- d) Communication and Journalism
 - 1) Communications
 - 2) Public Relations/Mass Communication
- e) Speech and Hearing Sciences
- f) Economics
- g) English
- h) History
- i) Mathematics
- j) Political Science
- k) Psychology
- l) Religious Studies
- m) Sociology—Criminology
- n) Spanish

Master's in Arts and Sciences:

- a) Writing (Creative and Professional)
- b) Speech and Hearing Sciences with concentration in Speech Language Pathology*

*NOTE: Requires a daytime commitment, beyond the courses available at night.

COLLEGE OF EDUCATION

Contact College Advisor at (505) 277-3190

College of Education degree, certificate and licensure program tracks:

Bachelor Degree tracks in the following (** Full Degree):

- a) Technology and Training** (Please contact department at 505/277-3141)
- b) Special Education/Elementary Education Dual Licensure*
- c) Elementary Education*
- d) Secondary Education licensure with teaching fields in:
 - 1) Math or Science Education
 - 2) Modern Languages
 - 3) Communication Arts Education
 - 4) Social Studies Education
 - 5) Bilingual or TESOL Education
- e) Art Education Licensure*

*NOTE: Please contact advisors when applying for certificate programs to learn of program options.

M.A. with Licensure and PBA Licensure Track Programs:

- a) Elementary Education*
- b) Secondary Education*
- c) Health Education*
- d) Physical Education*
- e) Social Studies Education*

*NOTE: The professional sequence in each of these fields requires a daytime commitment beyond the courses available at night.

Master's Degree tracks in the following (** Full Degree):

- a) Educational Leadership (Administration)**
- b) Organizational Learning and Instructional Technologies—OLIT
- c) Special Education** (can also include licensure):
 - 1) Bilingual Special Education**
 - 2) Severe Disabilities**
 - 3) Severe Emotional/Behavior Disorders**
 - 4) Collaborative General/Special Education**
- d) Elementary Education with emphasis in:
 - 1) Math, Science and Environmental Education**
 - 2) (Post-bac) Elementary, Master's with Licensure
 - 3) Secondary Master's with Teaching Licensure
- e) Secondary Education with emphasis in:
 - 1) Math or Science Education**
 - 2) Language Arts**
 - 3) Bilingual Education**

- 4) ESL**
- f) Art Education**
- g) Language Literacy Sociocultural Studies (LLSS)
- h) Core courses only:
 - 1) Counseling
 - 2) Family Studies
 - 3) Health Education
 - 4) Educational Psychology
 - 5) Education Technology

Ph.D./Ed.D. Degree tracks in the following (**Full Degree):

- a) Educational Leadership**
- b) Language, Literacy and Sociocultural Studies**
- c) OLIT**—Organizational Learning and Instructional Technologies
- d) Special Education**
- e) Multicultural Teacher and Childhood Education with emphasis in:
 - 1) Math or Science Education**
- f) Counseling—core courses only, daytime practicum required
- g) Family Studies—core courses only
- h) Health, Physical Education and Recreation (HPER)—core courses only
- i) Educational Psychology—core courses only

Complete Ed.S. Certificate tracks in the following: *

- a) Educational Leadership (Administration)
- b) OLIT—Organizational Learning and Instructional Technologies
- c) Special Education
- d) Curriculum and Instruction (Elementary and Secondary Education)

*NOTE: (For teachers/educators) advanced professional studies beyond the Master's Degree leading to a formal certificate cannot be converted into a doctoral program.

SCHOOL OF ENGINEERING

Contact Department Advisor at (505) 277-1435

Bachelor of Science:

- a) Electrical Engineering—Major

COLLEGE OF FINE ARTS

Contact College Advisor at (505) 277-4817

Bachelor of Fine Arts

- a) Media Arts—Major and Minor (courses open to non-majors)
- b) Art Studio—Minor (courses open to non-majors)
- c) A variety of college requirements in Media Arts, Art Studio, Art History, Theatre, Dance and Music

SCHOOL OF ARCHITECTURE AND PLANNING

Contact College Advisor at (505) 277-4847

Master's Degrees:

- a) Master of Architecture
- b) Master of Community and Regional Planning—core courses/select electives
- c) Master of Landscape Architecture (under development)

SCHOOL OF PUBLIC ADMINISTRATION

Contact College Advisor at (505) 277-3312

Master of Public Administration:

- a) Human Resources Management Concentration
- b) Health Care Administration Concentration
- c) Budgeting and Public Finance Concentration
- d) Public Management Concentration
- e) Dispute Resolution
- f) Justice Administration

UNIVERSITY STUDIES

Contact College Advisor at (505) 277-2287

Bachelor of University Studies (interdisciplinary, custom-tailored undergraduate degree)

UNIVERSITY HONORS

For more information call (505) 277-4211

Open to all undergraduate students with a minimum 3.2 GPA. Bachelor degree (core courses only).

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. Please 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 9:00 a.m. and 6:00 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.
- † May be repeated for credit with permission of department chairperson (or dean).
- †† May be repeated for credit with permission of department chairperson (or dean) and instructor.
- Δ May be repeated for credit because subject matter varies.
- ΔΔ (Used by departments as footnote for repetition qualification not covered by three footnotes immediately above.)
- L Part of the course is laboratory work; hours of lecture and laboratory are given at end of description.
- F Course is given in field session.
- () 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 (except for law and medicine, where registration is conducted by the School). 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.

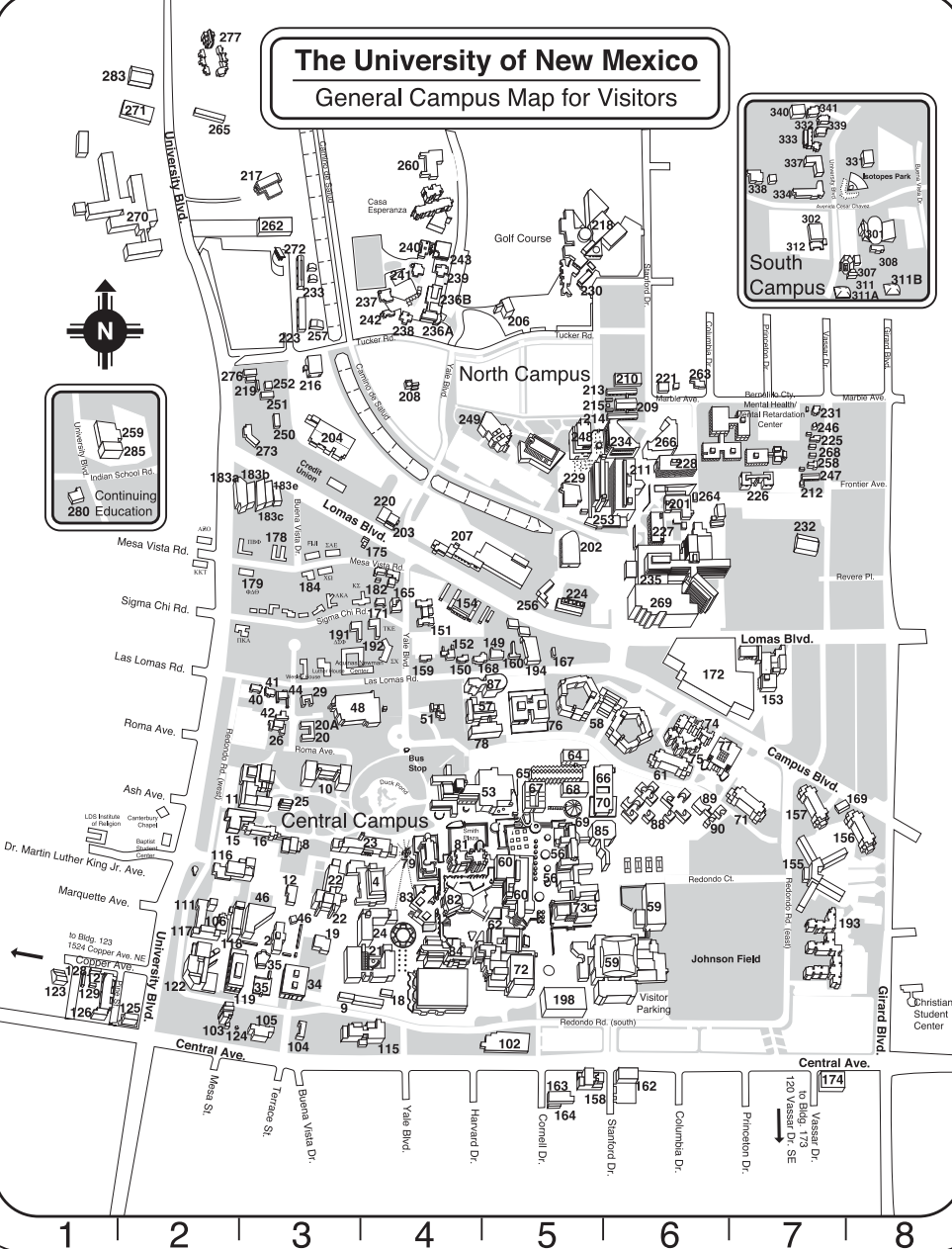
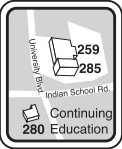
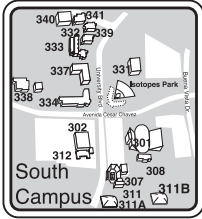
A schedule of course offerings, including hours of meeting, is issued at the opening of each session. **The University reserves the right to cancel, or substitute instructors.**



1 2 3 4 5 6 7 8

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The University of New Mexico General Campus Map for Visitors



1 2 3 4 5 6 7 8

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	Electrical and Computer Engineering/Centennial Library (46).....	H-2
Aerospace Studies (159).....	F-4	Engineering Annex (107).....	H-2
African American Studies (56).....	H-5	Engineering and Science Computer Pod (2).....	H-2
Alvarado Hall Dormitory (157).....	G-7	Equal Opportunity Programs (42).....	G-4
Alumni Memorial Chapel (25).....	G-3	Extended University/Student Health Center (73).....	H-5
Ambulatory Care Center (269).....	F-6	Facility Planning (203).....	E-4
Anderson, R.O., School of Management (76).....	F-5	Family Practice Center (248).....	D-5
Anderson, R.O., Graduate School of Management and Parish Library (87).....	F-4	Farris Engineering Center (119).....	I-2
Anthropology (11).....	G-2	Fine Arts Center (Music, Drama & Museum) (62).....	H-5
Anthropology Annex (12).....	H-3	Fine Arts Library (62).....	H-5
Archeology (Office of Contract Archeology) (273).....	D-2	Ford Utilities Center (116).....	H-2
Architecture and Planning (Main Bldg.) (158).....	J-6	Gazebo (124).....	I-2
Architecture and Planning Annex (162).....	J-6	Graduate School of Management/Parish Library (Anderson, R.O.) (87).....	F-4
Architecture and Planning (Vassar) (173).....	J-7	Gymnastics Gymnasium (312).....	Inset, C-7
Art (84).....	I-4	Health, Physical Education and Recreation (Johnson Center) (59).....	H-6
Art Annex (105).....	I-3	Health Sciences and Services (266).....	D-6
Art Education (Masley Hall) (68).....	G-5	Health Sciences Learning Resource Center (See Medical Center Library) (234).....	D-6
Athletics (307).....	Inset C-7	Health Service/Alternative Delivery Systems (263).....	D-6
Automotive (216).....	D-3	Hibben Center for Archeology Research (15).....	G-2
Bandelier Hall East (8).....	H-3	Hodgin Hall (103).....	I-2
Bandelier Hall West (16).....	H-3	Hokona Hall Dormitory (58).....	G-5
Basic Medical Sciences (211).....	E-6	Human Resources (Personnel) (26).....	G-2
Biology (Castetter Hall) (21).....	I-3	Human Resources Annex (20).....	G-3
Biology Annex (19).....	I-3	Human Resources Center (183).....	E-3
Biology Research Greenhouse (18).....	I-4	Humanities (81).....	H-4
Biomedical Research (253).....	E-5	Indoor Tennis Dome (311A).....	Inset, C-7
Bookstore (102).....	I-5	Institute for Applied Research Services (154).....	F-4
Bratton Hall (Law School) (216).....	B-C-5	Johnson Center (59).....	H-6
Bureau of Business and Economic Research Data Bank (168).....	F-4	Jonson Gallery (152).....	F-4
Campus Safety (Occupational Safety) (233).....	C-3	Journalism (115).....	I-4
Cancer Research and Treatment Center (227).....	E-6	Kiva Lecture Hall (69).....	G-5
Carlisle Gymnasium (4).....	H-4	KNME-TV Store and Development (265).....	A-2
Carrie Tingley Hospital (270).....	B-1	KNME-TV Studio (217).....	B-2
Castetter Hall (Biology) (21).....	I-4	Laguna Hall Dormitory (74).....	G-6
Centennial Science and Engineering Library (46).....	H-3	Landscape and Grounds Greenhouse (276).....	D-2
Center for Aging Research, Education and Service (UNM CARES) (175).....	E-3	La Posada Dining Hall (77).....	G-6
Center for the Arts (62).....	H-5	Latin American Institute (165).....	F-4
Center for Non-Invasive Diagnosis (260).....	B-4	Law School/Law Library (Bratton Hall) (218).....	B-C-5
Centro de Salud (Senior Health Center and Milagro Program) (210).....	D-6	Lobo Tennis Club (311).....	Inset, C-7
Chemical & Nuclear Engineering Laboratory (111).....	H-2	Logan Hall (Psychology) (34).....	I-3
Chemistry (Clark Hall) (22).....	H-3	Manzanita Center (70).....	G-6
Child Care Center (255).....	A-2	Marron Hall (9).....	I-3
Children's Psychiatric Center (236-243).....	C-3-4	Masley Hall (Art Education) (68).....	G-5
Civil Engineering (Engr Labs/Wagner Hall) (117).....	H-2	Mattox Sculpture Center (123).....	I-1
Civil Engineering (Tapy Hall) (118).....	H-2	Maxwell Museum (in Anthropology) (11).....	G-2
Civil Engineering Research Laboratory (106).....	H-2	Mechanical Engineering (122).....	I-2
Clark Hall (Chemistry) (22).....	H-3	Media Technology Services (in Woodward Hall) (82).....	H-4
Communications (Journalism) (115).....	I-4	Medical Center Library (234).....	D-6
Computer and Information Resources and Technology (CIRT) (153).....	F-7	Medical Center Storage (213-215).....	D-5-6
Continuing Education (North Bldg.) (259).....	Inset, D-1	Medical Center University Counsel (232).....	E-7
Continuing Education (South Bldg.) (285).....	Inset, D-1	Mesa Vista Hall (56).....	H-5
Coronado Hall Dormitory (155).....	H-8	Meteoritics (Northrop Hall) (24).....	H-4
Counseling & Family Studies (Simpson Hall) (66).....	G-6	Milagro Program (Centro de Salud) (210).....	D-6
Crystal Growth Facility (331).....	Inset, B-7	Military Science (Army ROTC) (20).....	G-3
Dane Smith Hall (48).....	F-3	Mitchell Hall (Classrooms) (23).....	H-3
DeVargas Hall Dormitory (75).....	G-6	Native American Studies (56).....	H-5
Dental Programs (Novitski Hall) (249).....	D-4-5	Naval Science (151).....	F-4
Development Office Annex (173).....	J-8	New Mexico Children's Psychiatric Center (236-243).....	C-3-4
Diabetes Control and Complications (264).....	E-6	New Mexico Union (Student Union) (60).....	H-5
Earth & Planetary Sciences (Northrop Hall) (24).....	H-4	New Mexico Law Center (230).....	C-5
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Education Administration (65).....	G-5	Northrop Hall (Geology) (24).....	H-4
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		Nuclear Engineering Laboratory (121).....	I-2

Nursing/Pharmacy (228).....	D-6	Southwest Hispanic Research Institute and Chicano Studies (171).....	F-3
Observatory (208).....	D-4	Speech Communication (Journalism) (115).....	J-4
Occupational Safety (Campus Safety, Hazardous Wastes, Radiation Safety) (233).....	C-3	Speech and Hearing Center (183A).....	E-7
Onate Hall (156).....	F-8	Stadium (Football, Track and Field Facilities) (301).....	Inset, C-8
Ortega Hall (79).....	H-4	Student Family Housing (317-329).....	Inset, B-8
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Physics (Regener Hall) (35).....	I-3	Tapy Hall (Civil Engineering) (118).....	H-2
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