

The University of New Mexico



CATALOG 1997-99



Message from the President

The UNM catalog is much more than an encyclopedia of courses. It is a statement about the University:

- its emphasis on teaching and undergraduate education is evident in the breadth and depth of the academic courses.
- its stature as a research institution is illustrated in the strength of its graduate programs.
- its role in professional education appears in the offerings of the Medical School, the Law School, the School of Architecture and Planning--the only such schools in the state of New Mexico.
- its commitment to quality can be seen in the expectations the University has of its students, in the strengths its faculty demonstrates, and in the support its staff provides.

The catalog is also a roadmap of our future at UNM. UNM is a richly diverse and intellectually stimulating institution. We invite you to use the catalog as a useful guide not only to chart your particular course of study but also to explore the many other academic opportunities available to you here at the University of New Mexico.

"When we reach the turn of the century, I have every confidence that we will have taken advantage of our unique circumstances and opportunities to achieve a position of authority and respect and of great pride to the citizens of New Mexico: a University for the Americas, a model in diversity, boasting an outstanding undergraduate education. In the year 2000, UNM can be at the forefront of the new universities - urban institutions rich in diversity, intellectually stimulating, successfully meeting the challenges of a vastly more complex world while retaining the warmth and humanity essential for individual growth and development."

(President Richard Peck, Inaugural Address, November 8, 1990)

**The
University
of
New Mexico
Catalog**

1997 - 99

EDITION

The cover was designed by Hisako Moriyami of
the UNM Publication Office.

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Affirmative Action

Further, 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 education programs and 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.

Applicability Policy

This policy applies 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.

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 activities, housing, health and insurance services and athletics. In keeping with this policy of equal educational opportunity, the University is committed to creating and maintaining an atmosphere free from all forms of harassment.

Equal Employment Opportunity

University policy, state and federal law and regulations forbid unlawful discrimination on the basis of race, color, religion, national origin, physical or mental disability, age, sex, sexual 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. The University strives to establish procedures which assure equal treatment and access to all programs, facilities and services.

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 Office of Disabled Student Services for information regarding accommodations. 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).

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:

The University of New Mexico
Name of Individual and Department
Albuquerque, New Mexico 87131

For prospective students, and other general information, please write to the Office of Outreach Services at the above address.

University 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 & 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. 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.

The first section of this catalog describes the physical and academic environment at the university. This includes a directory of university offices, the academic calendar, administrative offices of the university, and general information about the university—its past and present programs and services, and its goals. The undergraduate program section includes university policies regarding undergraduate admission. The graduate program section details the general policies and procedures that pertain to graduate study at the university. The student services section covers registration, academic rights and responsibilities of students, expenses, housing, financial aid, and where to go for information about student services and academic regulations.

The following sections of this catalog provide detailed information about the admissions policies, degree requirements, programs, and curricula of the schools and colleges of the university. Following each college is a listing of the courses offered, arranged alphabetically by department. Refer to the index for a particular course listing.

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 an irrevocable 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.

1997-99 ACADEMIC CALENDAR UNIVERSITY OF NEW MEXICO

1997 Summer Session

Undergraduate applications and credentials due in the Office of Admissions

no later than.....May 16, 1997

Instruction begins.

8-week term.....June 9

First 4-week term.....June 9

Second 4-week term.....July 7

Registration closes; last day to add courses or to change sections.

8-week term.....June 14

First 4-week term.....June 10

Second 4-week term.....July 8

Last day to change grading options.

8-week term.....June 21

First 4-week term.....June 14

Second 4-week term.....July 12

Last day to drop course without a grade.

8 week term.....June 28

First 4-week term.....June 18

Second 4-week term.....July 16

Last day to withdraw without approval of college dean.

8-week term.....July 12

First 4-week term.....June 25

Second 4-week term.....July 23

Independence Day, holiday.....July 4

Session ends.

8-week term.....August 2

First 4-week term.....July 5

Second 4-Week Term.....August 2

1997 Fall Semester

Undergraduate applications and credentials due in the Office of Admissions

no later than.....July 25, 1997

Instruction begins.....August 25

Late registration closes.....August 29

End of second week; last day to add courses or change sections.....September 6

Labor Day, holiday.....September 1

End of fourth week; last day to change grading options.....September 20

End of sixth week; last day to drop a course without a grade.....October 4

Midsemester (eighth week).....October 18

Fall Break (no classes).....October 16-17

End of twelfth week; last day to withdraw without approval of college dean.....November 15

Thanksgiving, holiday.....November 27-30

Withdrawal deadline; last day to withdraw from a course with approval of college dean.....December 12

Last day of instruction.....December 13

Final examination period.....December 13-20

Last day for report of removal of Incomplete grade.....December 19

Semester ends.....December 20

Commencement (subject to change).....December 20

1998 Spring Semester**Undergraduate Applications and credentials due in the Office of Admissions****no later thanDecember 19, 1998**

Martin Luther King Day, Holiday.....	January 19
Instruction begins	January 20
Late registration closes	January 24
End of second week; last day to add courses or change sections.....	January 31
End of fourth week; last day to change grading options	February 14
End of sixth week; last day to drop a course without a grade.....	February 28
Midsemester (eighth week)	March 14
Spring Break (no classes)	March 15-22
End of twelfth week; last day to withdraw without approval of college dean.....	April 18
Withdrawal deadline; last day to withdraw from a course with approval of college dean.....	May 8
Last day of instruction	May 9
Final examination period.....	May 9-16
Last day for report of removal of incomplete grade.....	May 15
Semester ends	May 16
Commencement (subject to change)	May 16

1998 Summer Session**Undergraduate Applications and credentials due in the Office of Admissions****no later than.....May 15, 1998**

<i>Instruction begins.</i>	
8-week term.....	June 8
First 4-week term.....	June 8
Second 4-week term.....	July 6
<i>Registration closes; last day to add courses or change sections.</i>	
8-week term.....	June 13
First 4-week term.....	June 9
Second 4-week term.....	July 7
<i>Last day to change grading options.</i>	
8-week term.....	June 20
First 4-week term.....	June 13
Second 4-week term.....	July 11
<i>Last day to drop a course without a grade.</i>	
8-Week Term.....	June 27
First 4-Week Term.....	June 17
Second 4-Week Term.....	July 15
<i>Last day to withdraw without approval of college dean.</i>	
8-week term	July 11
First 4-week term.....	June 24
Second 4-week term.....	July 22
Independence Day, holiday	July 3
<i>Session Ends.</i>	
8-week term	August 1
First 4-week term	July 2
Second 4-week term.....	August 1

1998 Fall Semester**Undergraduate applications and credentials due in the Office of Admissions****no later thanJuly 24, 1998**

Instruction begins.....	August 24
Late Registration closes.....	August 29
End of second week; last day to add courses or change sections.....	September 5
Labor Day, holiday.....	September 7
End of fourth week; last day to change grading options.....	September 19
End of sixth week; last day to drop a course without a grade.....	October 3
Midsemester (eighth week).....	October 17
Fall Break (no classes).....	October 15-16
End of twelfth week; last day to withdraw without approval of college dean.....	November 14
Thanksgiving, holiday.....	November 26-29
Withdrawal deadline; last day to withdraw from a course with approval of college dean.....	December 11
Last day of instruction.....	December 12
Final examination period.....	December 12-19
Last day for report of removal of incomplete grade.....	December 18
Semester ends.....	December 19
Commencement (subject to change).....	December 19

1999 Spring Semester**Undergraduate applications and credentials due in the Office of Admissions****no later thanDecember 18, 1998**

Martin Luther King Day, holiday.....	January 18
Instruction begins.....	January 19
Lab Registration closes.....	January 23
End of second week; last day to add courses or change sections.....	January 30
End of fourth week; last day to change grading options.....	February 13
End of sixth week; last day to drop a course without a grade.....	February 27
Midsemester.(eighth week).....	March 13
Spring Break (no classes).....	March 14-21
End of twelfth week; last day to withdraw without approval of College Dean.....	April 17
Withdrawal deadline; last day to withdraw from a course with approval of college dean.....	May 7
Last day of instruction.....	May 8
Final examination period.....	May 8-15
Last day for report of removal of Incomplete grade.....	May 14
Semester ends.....	May 15
Commencement (subject to change).....	May 15

THE REGENTS OF THE UNIVERSITY

DAVID A. ARCHULETA	Albuquerque
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RICHARD TOLIVER	Albuquerque
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EX-OFFICIO MEMBERS

THE HONORABLE GARY JOHNSON Governor of New Mexico	Santa Fe
ALAN MORGAN , State Superintendent of Public Instruction	Santa Fe

ADMINISTRATIVE OFFICERS

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Jane Henney, M.D.	Vice President Health Sciences
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DEANS AND DIRECTORS

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Jeronimo Dominguez, Ph.D.	Dean Division of Continuing Education and Community Services
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David Stuart, Ph.D.	Associate Vice President Academic Affairs/Evening and Weekend Degree Programs
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Anne B. Thomas, J.D.	Director Equal Opportunity Programs
Vacant	Secretary of the University
Julle Weaks, M.B.A.	Director, Budget
Lee Zink, Ph.D.	Associate Vice President Research/Business and Government Relations/ Director, Institute/Applied Research Services

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Carlos Ramirez, Ph.D.	Director, Los Alamos Campus
Augustine Martinez, Ph.D.	Director, Taos Education Center
Alan Reed, Ph.D.	Director, UNM North/Upper Division Graduate Programs

GENERAL INFORMATION

Mission and Goals

Mission

The mission of the University of New Mexico is to educate students by developing their intellectual and creative skills and capabilities so students may be well-equipped to participate in the world as productive and enlightened individuals. The university, including its branch campuses and educational centers, is a leading partner in the statewide higher education sector and, as such, plays a special role by serving the educational needs of the citizens of the state in ways that take advantage of its special characteristics and its wide range of academic and professional fields.

The university develops and offers comprehensive educational programs at the undergraduate, graduate, post-graduate and professional levels. The university conducts research and engages in scholarly and creative activities to support undergraduate, graduate and professional educational programs and to create, interpret, apply and accumulate knowledge. The university contributes to the quality of life in New Mexico and beyond by providing to the public selected services that are part of, contribute to, or originate from the university's teaching and scholarly activities.

Special Characteristics of the University of New Mexico

The University of New Mexico offers active teaching and learning in an environment in which world-class research and creative endeavors take place. Our students can choose from a myriad of academic programs in the arts, sciences and humanities knowing that their classroom and laboratory experiences will be enriched by the associated research and creative activities of the university.

Because of UNM's position as a major research university and its commitment to students, undergraduates can expect to be taught and mentored by leading scholars in their fields of study. This opportunity to interact with nationally regarded scholars is important not only in enriching an undergraduate student's education, but also in opening up career and graduate training opportunities that might not otherwise be available. In addition, undergraduates are exposed to outstanding graduate students who sometimes participate in the undergraduate teaching mission and who often serve as research mentors and academic role models. UNM's students deserve nothing less than this. The university plays an important educational role in the business community and economic development of New Mexico. UNM has also benefited from and contributed to New Mexico's leadership in advanced science and technology.

As an integral part of the Southwest, the university has academic programs that recognize the attributes of the region. In addition, the university has long had interaction with Latin America through collaborations that build on our complementary strengths.

As a university located in a region in the United States in which many cultures have developed in concert for centuries, the university has special opportunities and challenges in higher education. Not only does this setting challenge us to provide educational experiences that preserve these cultures, but it also provides a rich environment of ideas and experiences that serve these cultures, but it also provides a rich environment of ideas and experiences that serve as a living laboratory for our students and faculty.

Institutional 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 by students, faculty and staff. At the same time the university opposes statements and activities that reflect bigotry and prejudice and consequently tend to diminish active participation by all elements of the academic community and to inhibit the free expression of ideas.

Diligence and Initiative: The university encourages initiative and rewards diligence and hard work.

Excellence: At the university, we value excellence and creativity in our people, in our programs, 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 and professional behavior by individuals associated with UNM are essential in order for students, faculty, staff and the public to have trust in the university.

The University of New Mexico Vision

The University will strengthen scholarship and academic excellence.

UNM will attract superior students, faculty and staff from New Mexico and elsewhere.

UNM will establish itself as a superior national research university.

UNM will distinguish itself in the quality of its academic programs.

UNM will be a national model of teaching and learning excellence.

The University will lead in addressing public policy issues facing New Mexico and our hemisphere.

UNM, as the flagship of the state's university system, will lead in improving the lives of New Mexicans.

UNM will demonstrate that diversity and excellence go hand in hand.

UNM will be prominent in our hemisphere as a university for the Americas.

The University is committed to responsible stewardship of its human, fiscal and physical resources in an invigorating, challenging environment for students, faculty, and staff.

UNM will give the highest priority to respectful interaction with the people it serves.

UNM will preserve and enhance the investment in its human, fiscal, and physical resources.

UNM will deliver its services and programs in the most efficient and effective manner.

Retention of Students

For the full-time, first time baccalaureate degree seeking freshmen who entered UNM during the 1989-90 academic year, 42% have graduated after 7 years or less. For the full-time, first-time baccalaureate degree seeking freshmen who entered UNM during the 1990-91 academic year, 33% have graduated after 6 years or less. Students who transfer to UNM from other institutions comprise approximately 40% of our baccalaureate graduates.

The University of New Mexico maintains a number of academic support programs. These programs are designed to assist students in their progress toward their academic degree. These programs include the Center for Academic Program Support (CAPS), Ethnic Centers, Special Services, and others. All programs are designed to improve academic success and student retention.

Accreditation

North Central Association of Colleges and Secondary Schools, National University Extension Association, Association of American Universities, American Association of University Women, the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Computing Sciences Accreditation Board, Inc., American Council on Pharmaceutical Education, American Association of Colleges of Pharmacy, American Bar Association, American

Council for Construction Education, Association of American Law Schools, National Council for Accreditation of Teacher Education, National Association of Schools of Music, American Council on Education for Journalism, National League for Nursing, New Mexico State Board of Nursing, Association of American Medical Colleges, Liaison Committee of the Council on Medical Education of the American Medical Association, Association of American Medical Colleges, AMA's Committee on Allied Health Education and Accreditation (CAHEA), Commission on Accreditation in Education of the American Physical Therapy Association, Joint Review Committee for Respiratory Therapy Education, National Architectural Accrediting Board, American Board of Examiners in Speech Pathology and Audiology, American Assembly of Collegiate Schools of Business, Commission on Dental Accreditation, National Association of Schools of Public Affairs and Administration, American Psychological Association, National Recreation and Park Association.

History and Location

When individuals migrated westward in the nineteenth century, they brought with them many cultural traits that they wished to establish in their new homes. One of these qualities was an abiding faith in the power of public education to guide future generations. From small one-room schoolhouses to ivy-covered university campuses, the settler believed that publicly financed instruction could surmount obstacles of environment, culture, distance and isolation.

The University of New Mexico owes its existence to that emphasis on the inculcation of knowledge at all levels of society. Nineteenth century New Mexico Territory faced challenges of economic development and incorporation into the union of states. Those who sat in judgment of New Mexico's future, whether on Wall Street or Capitol Hill, considered a viable public school system as a cornerstone of any successful ventures in business or government.

By 1889, two generations of Americans had contemplated methods of developing the potential of their adopted home of New Mexico. One such individual, Bernard Shandon Rodey, won a seat in the territorial legislature that year with the primary goal of creating a system of public higher education. Through the time-honored process of coalition politics, the young Irish lawyer knit together Hispanic and Anglo, northern and southern New Mexico, and urban and rural interests. The result was passage on February 28, 1889, of a bill authorizing formation of the "State" in Albuquerque, the land-grant college in Las Cruces, and the School of Mines in Socorro.

The latter two institutions had clearly defined missions which had evolved over time in American higher education. The University of New Mexico, as Rodey described it, addressed the more ambiguous tasks of teaching the liberal arts, sciences, and literature. Opening its doors on Albuquerque's east mesa

in June 1892, UNM quickly realized that its clearest objective would be the training of teachers for the newly created (1891) territorial public school system.

Like its peers throughout the West, UNM spent much of its early decades seeking recognition from the local citizenry. The elite of Albuquerque sent their children to more prestigious, and more-established, eastern universities. The UNM faculty offered instruction in high school courses, technical training, and education certification. Not until 1919 did the university dispense with its high school curriculum, and only in 1922 did UNM receive accreditation for its college-level work from the North Central Association of Colleges and Secondary Schools.

As with small institutions then and now, UNM's character was shaped to a great extent by the personality of its presidents. The eagerness exhibited by boosters of New Mexico's economy led to the hiring in 1897 of Clarence Herrick, a noted geologist from the University of Chicago. Herrick suffered from respiratory problems: a condition that lured many easterners to New Mexico's clear air and high altitude in search of a cure. Herrick emphasized practical training in the sciences, and contributed to improved public health services by garnering a \$10,000 bequest from Mrs. Walter Hadley to construct a bacteriology laboratory on campus (the first public health facility in the territory).

Before he resigned in 1901, Herrick suggested as his replacement a former student at Denison University of Ohio, William George Tight. The tall, robust, handsome Tight seemed cut from the same cloth as David Starr Jordan, of Stanford University, the most famous western university president of his day. Tight continued his mentor's work in the sciences, and labored to improve the physical plant of the university. The most enduring touch of President Tight was his decision, based as much on economy as aesthetics, to design a campus master plan focusing on the adobe architecture indigenous to the Indian and Hispanic villages of the Southwest. Architectural historians credit Tight with anticipating the national fascination with adobe, first promoted by the Santa Fe and Taos art colonies, and revered in late twentieth century circles as the "Santa Fe Style."

Despite his success in reorienting campus architecture (among the buildings still extant is Hodgkin Hall), Tight faced a volatile political situation in New Mexico as the process of statehood neared. In 1909 Edward D. Gray, a cultured English gentleman farmer, replaced Tight as UNM's chief executive. Possessor of degrees from British universities, Gray had come west for his wife's health. His tenure was stormy and brief (three years), as he strove to integrate traditions of proper English boarding schools at UNM. He did succeed in tutoring several Rhodes scholars, and became the first UNM administrator to suggest curriculum changes that reflected the cultural distinctiveness of New Mexico.

Once Congress had bestowed the gift of statehood in January 1912, the UNM board of regents sought

a new president who understood the direction western states should pursue as they exercised the prerogatives of self-government. They found such an individual in David Ross Boyd, the first president of the University of Oklahoma (1892-1908). Boyd had shepherded that institution through its formative years, and after his departure served as field supervisor of Indian schools in the Southwest for the Presbyterian Board of Home Missions.

Boyd inherited a school with less than one hundred students, in a state with fewer than one dozen public high schools. Correspondence between Boyd and former Oklahoma colleagues, like the noted author Vernon Louis Parington, revealed the enormity of the tasks awaiting the fifty-six year old president. Yet Boyd brought to UNM its first clear delineation of academic authority, creating colleges and schools in the various disciplines. Student life also advanced, as fraternities, sororities, honors societies, and athletics all prospered.

Fortunately for UNM, Boyd oversaw the institution through the chaotic years of World War I (1917-19). Male students vanished from campus to enlist in the "Great War," and over 360 students, faculty, and alumni served in uniform. Boyd sought assistance from the brace of federal programs instituted for military service, from the Student Army Training Corps to the Interdepartmental Hygiene Board. Curriculum changes also echoed wartime constraints, as the War Department called for class work in engineering, drafting, the sciences, and officer training.

Two forces converged at UNM once the armistice was signed in November 1918. Boyd saw the future of the institution as bright, benefitting from exposure to national trends in education. Yet the sudden conclusion to the war, and termination of federal financial support, left UNM and New Mexico to generate revenues within the state. The lawmakers in Santa Fe, as eager as their counterparts in Washington to reduce government spending and stimulate private enterprise, denied Boyd's request to double the size of UNM and prepare for the growth of the 1920's.

In Boyd's stead came David Spence Hill, a student of psychology whose most recent appointment had been at Tulane University in New Orleans. Hill labored to expand upon Boyd's ideas, the most important being the successful application in 1922 for accreditation. The university benefitted in large measure from the nationwide popularity of college-enrollment, with some measure of the "flapper girl" and "raccoon-coat" culture descending upon Albuquerque. As had presidents Tight and Gray, Hill also suggested academic programs emphasizing southwestern regionalism, entitling his proposal "The School of Spanish Literature and Life."

The national economic decline of the late 1920's that prompted the Great Depression touched New Mexico, and David Hill, in profound ways. Hill tired of planning campus improvements without adequate financial support and stepped aside as UNM president in 1927. The UNM regents appointed a

thirty-eight year-old associate professor, James Fulton Zimmerman, as acting president, launching UNM and Zimmerman on a seventeen-year journey that made the school a state university in fact as well as name.

A graduate of the prestigious social science program of Columbia University, Zimmerman immediately succumbed to the cultural and environmental power of New Mexico. On campus, he emphasized regional awareness beyond the plans of his predecessors. Through recruitment of students and faculty, cultivation of private and public funding agencies, and an aggressive marketing campaign, Zimmerman broke the shackles of economic stagnation to build a school that increased in enrollment from 450 students in 1927 to 2700 by 1939.

In the early 1930s, Zimmerman had his greatest successes with the programs of the Rockefeller Foundation, and with the individual support of New Mexico's U.S. Senator Bronson M. Cutting. The Rockefeller family had endowed the prestigious Laboratory of Anthropology in Santa Fe, and UNM appealed to them for similar academic support. In the depths of the Depression, the Rockefeller Foundation agreed to sponsor programs at UNM that highlighted the cultural traditions of Hispanic New Mexico, hoping to do for UNM what it has done for black colleges in the American South. Cutting, an independently wealthy health seeker from New York and Harvard University, subsidized scholarships for deserving Hispanic students, and underwrote the first bilingual education training center in the United States: the San Jose Experimental School in south Albuquerque.

These successes created for UNM an identity quickly recognized among academics nationwide. The American Association of Universities accredited the school for graduate training in 1933, and young scholars from prestigious eastern and midwestern universities accepted faculty appointments in anthropology, history, languages, folklore, geology, and education. Among the new employees were Clyde Kluckhohn, later to become one of Harvard University's finest anthropologists, and Leslie Spier, editor of the *American Anthropologist* at Yale University.

Perhaps the most significant endeavor of President Zimmerman was his relationship with the close advisors to President Franklin D. Roosevelt. Through his personal friendship with Rexford Tugwell, Harold Ickes, John Collier, and others, Zimmerman learned of New Deal grant programs that enhanced everything at UNM from student loans and employment to library books to building construction. In the latter case, Zimmerman employed the premier architect of adobe style, John Gaw Meem of Santa Fe. Meem executed plans for eighteen adobe structures from 1933 to 1951, and his design for the Zimmerman Library is often cited as the finest statement of indigenous Southwestern architecture.

Just as President Zimmerman basked in the glory of campus growth, events far away shifted the direction

of American higher education. The outbreak of World War II threatened changes much more dramatic than its predecessor. Zimmerman was in the midst of promoting the four-hundredth anniversary of the journey of Francisco Vasquez de Coronado to the Southwest in 1540, which sought to dramatize the role of Hispanics in the life of the nation. The "Coronado Cuarto Centennial" ended abruptly, and military programs took over the UNM physical plant. For the next five years the university struggled like its peers nationwide to process soldiers trained for the mechanized warfare in Europe and Asia.

As the war drew to a close, UNM seemed blessed and cursed by the prospects for peace. Zimmerman died of a heart attack in October of 1944, just weeks before Congress enacted the package of veterans' benefits known as the "GI Bill." Among its provisions was financial support for soldiers returning home that allowed them to acquire college-level training and seek employment in the more sophisticated industrial economy spawned by the war. From a low of 600 full-time students in May 1945, the university absorbed veterans at a rapid pace, reaching a total of 5700 students in the fall of 1949; double the number of UNM's Depression-era peak.

The post-World War II era ushered in a generation of unparalleled growth for the UNM campus. As did many schools after 1945, UNM cast about for an identity that merged prewar conditions with the new age of science, technology, and professional education. The regents turned first to J. Philip Wernette, on the faculty of the Harvard School of Business, for leadership. Wernette, a fluent speaker of Spanish, nevertheless had little preparation in managing a campus in transition. Three years later the regents sought his resignation, and appointed Tom L. Popejoy, the first UNM president to be both a native New Mexican and graduate of the University of New Mexico.

A native of the coal mining community of Raton, Tom Popejoy (Class of 1925) had served his alma mater for over two decades as business manager, comptroller, and executive assistant to President Zimmerman. He utilized his knowledge of the New Mexico legislative process to secure adequate funding; a necessity in the postwar era of "Sunbelt growth" for communities like Albuquerque. The student population stabilized around 5000 during the 1950's, and then expanded to 13,000 by the time of his retirement in 1968.

Tom Popejoy is best known for his stewardship of campus professionalization. The schools of law (1948) and of medicine (1964), the only ones in New Mexico, grew under his care, as did the 18,000-seat University Arena, known locally as the "Pit." He learned from his mentor, James Zimmerman, that quality instruction began with good faculty appointments. Popejoy also reached out to the federal scientific laboratories of Los Alamos and Sandia for cooperative research programs that still endure. To honor his memory, in 1971 the university named its performing arts center "Popejoy Hall."

The decade of the 1960's has drawn scholarly attention in recent years as Americans sift through the welter of ideas, events, and personalities that stunned the nation. Institutions of higher learning participated heavily in that process of change, as young people questioned authority, debated national issues of war, justice, and discrimination, and vented their frustration at the intransigence of authority. UNM was no exception to this pattern, and the serenity of the Popejoy era would not continue for his successor, Ferrel Heady.

As director of the public administration program at the University of Michigan, Heady brought to UNM two decades of experience as a scholar and teacher of public policy. His skills met their match early and often in his seven-year administration (1968-1975). The natural fluidity of a liberal-arts oriented campus tested the patience of all who worked and studied at UNM. Not until the conflict in Vietnam subsided would the university be able to recapture the momentum of progress first noticed in the years after World War II.

Seeking calm became a priority for the UNM board of regents, and political and civic leaders statewide. In 1975 William E. "Bud" Davis accepted the presidency, promising to strengthen relations with the state, and to emphasize the regional characteristics UNM had long championed. Davis had spent his academic career in the interior West, serving as president of Idaho State University before coming to Albuquerque.

President Davis benefitted from the national quest for tranquility in the late 1970's, as UNM began advancing in areas of science, technology, and business. Davis also instituted the "Presidential Scholars" program, which targeted the finest New Mexico high school graduates for enrollment at UNM. Then events in the athletic department clouded the future of the institution; a circumstance all too familiar nationwide among major college athletic programs. Davis undertook steps to rectify the situation, and by the time of his departure in 1982 the university had in place a means of academic advisement and management and drew praise from the National Collegiate Athletic Association.

As UNM celebrated its one hundredth birthday in 1989, the school realized the extent to which the nation, and higher education, had to adjust not only to the changes brought by the preceding generation, but also by the looming presence of the twenty-first century. This meant defining clearer standards for admission and retention of students, responding to the world of the computer, and joining state and private interests in planning for New Mexico's economic development.

The "search for standards" engaged the three chief executives of UNM in the 1980's. John Perovich (UNM, Class of 1948), a protege of President Popejoy, oversaw the transition of the decade from 1982-1984. His successor, Tom Farer (1985-1986), arrived from the faculty of Rutgers University to apply

national and international concepts to the university. At decade's end the chair of the presidency belonged to Gerald W. May, former dean of the UNM College of Engineering. May's presence indicated the late twentieth century impetus for technology, or "big science," as a means of ensuring economic and intellectual prosperity for the state and nation.

Richard E. Peck, former Provost and Vice President for Academic Affairs at Arizona State University, was inaugurated as the university's fifteenth president on November 8, 1990. Faculty, staff, students and alumni eagerly await a new decade which will see UNM taking its place among the nation's great universities.

In the life of an individual, one hundred years is quite significant. For institutions, it means different things. Universities evolve and grow over time, as they respond to forces from without and within their walls. The meaning of UNM's centennial, then, is not so much the detail accumulated from the previous ten decades, but the awareness that higher learning is as valuable as when Bernard Rodey called the university into being. Knowing that the path to the future is illuminated by the past becomes the greatest lesson UNM imparts to its students, and to its state.

*Written by: Michael Welsh -
Official UNM Centennial Historian*

The Environment

Albuquerque, situated on the banks of the historic Rio Grande, is the home of the University of New Mexico. The city is bordered on the east by the majestic Sandia Mountains and on the west by a high volcanic mesa. With a population of nearly five hundred thousand persons, the city is the geographic and demographic center of the state.

The campus of the University of New Mexico lies a mile above sea level. Albuquerque receives abundant sunshine and annual rainfall of 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 in the city, yet snow accumulations in the nearby Sandia Mountains make it possible to play tennis or golf on a winter morning and ski 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, the campus embodies the 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. Native American ceremonial dances are held each year in nearby pueblos and often are open to the public.

University administrators for many years have realized that the location of the University of New Mexico provides it with a wealth of historical source material and that its proximity to the Native American, Hispanic, and Mexican cultures makes it a natural place for the study and appreciation of these cultures. The administrators, therefore, have encouraged the development of southwestern and Latin American programs and research. Some of the results of this emphasis have been the offering of a major in Latin American Studies, the annual field session in anthropology, and the creation of the Latin American Institute and the Latin American Programs in Education (LAPE), as well as the many paintings, carvings, and weavings found throughout the campus.

Facilities

Computer and Information Resources and Technology (CIRT)

The University of New Mexico
Computer and Information Resources and Technology
2701 Campus Boulevard NE
Help Desk, 277-4848
Administration, 277-8125
Communication Center, 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 UNM.

To meet the variety of computing needs at UNM, CIRT has several different shared computing systems. CIRT also has a variety of IBM and compatible microcomputers, Apple Macintosh microcomputers, and x-terminals available in facilities around campus.

Basic computing is provided without charge to the individual student. Certain services like color printing, will be charged to the individual student. All such services will be identified to the student before the service is used.

Each student is authorized to have a user account upon initial registration, which furnishes 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 automated account creation program, call *NEW*. *NEW* 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, <http://www.unm.edu/ph.html>, access to the library catalog and other information of interest to UNM students.

Computer Networks. The Campus Data Communication Network, or CDCN, permits users to access the computer systems from campus buildings connected to the CDCN, or through the use of modems and telephone lines. Gateways are supported to allow UNM users to link to the internet.

Campus Computing Facilities. UNM computer users can access the shared-system computers at CIRT's six campus computing facilities - called pods. The pods also contain microcomputers and software, which UNM students, faculty and staff may use free of charge. Equipment varies from pod to pod; in general, pods contain IBM or compatibles and/or Macintosh microcomputers, printers and software. Consultants are always on duty in the pods to help users with the hardware and software. Pods are located in the CIRT Building, Anderson Schools of Management, Johnson Center, the School of Architecture, in the basement of the New Mexico Union Building (Lobo Lab), 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 consultations. Senior consultants are available via the CIRT Help Desk, 277-4848, between 8 a.m. and 5 p.m., Monday through Friday.

Dialup Computer Access. The CDCN also provides access to UNM computer services and the Internet for those students, faculty and staff using modems and telephone lines. Dialup access offers CDCN 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 UNM 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 Help Desk.

Fine Arts Center

Popejoy Hall is one of the Southwest's major cultural and entertainment facilities. Built in 1966, Popejoy Hall includes a modern 2,094-seat theatre, a large stage, dressing rooms, lobbies and lounges, meeting rooms, and offices. As many as 170 professional and local performances are presented in Popejoy Hall each year. These include performances presented by the Cultural Entertainment Series, the University Music Department, the New Mexico Symphony, the Civic Light Opera, the Children's Theatre, the Youth Symphonies, the Kiwanis Travel Film Series, and many other groups. Special university student discounts are offered for all events in Popejoy Hall upon presentation of a current valid university LOBO CARD (ID card).

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 336, Keller Hall hosts more than 150 concerts per year, including student and

faculty soloists and ensembles, chamber groups, and guest artists. Among the annual music events that mark the calendar is *The Great Music at UNM Series*.

Rodey Theatre is a modern 440-seat performance facility for the Department of Theatre and Dance. A theatre/dance season of six events is offered each year from the modern and historical theatre repertory and includes dance concerts with choreography embracing the forms of modern, ballet, and flamenco.

The Experimental Theatre is a 120-seat facility where original and contemporary plays are presented in an intimate setting. New and innovative works staged by faculty and students are the focus of this theatre.

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

Libraries

Collectively, the University of New Mexico's libraries hold over 2 million volumes.

The General Library system comprises Zimmerman Library, the Center for Academic Program Support, the Center for Southwest Research, the Centennial Science and Engineering Library, the Fine Arts Library, and the William J. Parish Business and Economics Library. The Dean of Library Services heads the General Library.

The General Library contains 1.7 million cataloged volumes, 17,000 currently received journals, over 5 million microform items, and vast quantities of archival material of all types. The General Library is open to all students in all departments of the university. In addition, to serving the students, faculty, and staff of the university, the Library is available for use by other citizens of the state. Non-university users may make special arrangements to borrow books from the Library. A current university photo-identification (LoboCard) is required to check out Library materials.

The interlibrary Loan Office will borrow materials from other libraries that are not available at the General Library, when requested by UNM students, faculty and staff. Allow two to three weeks for completion of interlibrary loan requests; many foreign sources take longer. Document Delivery Service is available on a fee basis.

The General Library offers academic skills management courses for undergraduate credit.

- **Zimmerman Library.** The main library building, Zimmerman Library, located on the north side of Smith Plaza, is frequently cited as the best example of the Spanish-Pueblo revival architecture that characterized this campus. It was built in 1937, and enlarged by additions in 1965,

1974, and 1994. Zimmerman houses book, periodical and microform collections in the Humanities, Social Sciences and Education. The Government Information Department is a Regional Depository for federal publications as well as a depository for State of New Mexico publications and is a gateway for access to government information in electronic databases. The Reference Department conducts regularly scheduled workshops on the use of the Library's online catalog, LIBROS, which new students are urged to take. Instructors may schedule special library orientation sessions for their classes through the Reference Department. The Reference Department offers access to over 400 computerized databases, providing bibliographic, full text or numerical information in many fields of knowledge. Special services for disabled students who need them include retrieval of books, a limited amount of free photocopying, free online searching, special study areas, and the use of tape recorders, a Braille writer, Visualtek readers, a TDD terminal, and computer terminals with screen enlargers and speech synthesizers. Study carrels are available for faculty and for those graduate students currently enrolled for dissertation credit. The Copy Center, located in the basement, provides paper and microform copying, binding and other services. Self-service photocopy machines are located throughout the building.

- **Center for Academic Program Support.** CAPS, located on the third floor of Zimmerman Library provides tutoring in library research strategies to all UNM students, and tutoring in academic subjects to students enrolled in undergraduate courses. In addition to individual tutoring, in academic subjects to students enrolled in undergraduate courses. In addition to individual tutoring, CAPS offers small group workshops and walk-in labs. The Learning Support Services unit in CAPS serves all UNM student with learning disabilities. LSS services include diagnostic assessment and study strategies development.
- **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 over 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 a photo archive containing approximately 80,000 images relating to the Southwest and Latin America. The Frank Waters Room houses this New Mexican author's materials. The Clinton Anderson Reading Room serves as a service point for all of the collections and is open the same hours as Zimmerman Reference.

The Center is designed to serve scholars, faculty and students conducting research on the 500 years of multi cultural history of the southwest.

- **Centennial Science and Engineering Library.** The library is located on two floors underground in the Electrical and Computer Engineering Building Complex. The library contains collections in the areas of science and engineering, including 2,000 current journal subscriptions, 300,000 volumes of books and journals, 1.6 million microforms, and a large collection of technical reports. It is the state's official patent depository library for the U.S. Commerce Department Patent and Trademark Office. Library users may search CD-ROM databases and the Internet in the electronic searching area on Lower Level 1. Individualized training sessions and regularly scheduled classes on the use of electronic resources are offered in the library's Center for Electronic Instruction. The Map and Geographic Information Center, located on Lower Level 2, includes over 200,000 maps, images, aerial photos, and other cartographic and geographic resources. The two levels provide seating for over 800 library users. Library staff are available for reference services, computerized literature searching, instructional services and selection of materials. Self service photocopiers are provided.
- **Fine Arts Library,** located on the second floor of the Fine Arts Center, 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 over 110,000 items, including books, periodicals, microforms, music scores, exhibition catalogs, and 33,000 sound recordings, as well as several collections of rare and unique works on photography, music and art. The Fine Arts Library provides full services, including reference, self-service photocopying, microform and video viewing, extensive listening facilities for audio recordings, and access to special materials.
- **William J. Parish Business and Economics Library.** Located on Las Lomas in the west side of the Graduate School of Management, the library houses over 151,000 books and periodicals, and 224,000 microforms in the fields of economics, business, and management. Containing the most comprehensive collection of business and economics materials in New Mexico, the 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. Special collections include the most extensive collection in the state of U.S. corporate annual reports, SEC 10-K reports, and foreign corporate reports. Group study rooms are available. Services include bibliographic instruction, traditional reference services and computerized database searching; access to compact disk databases, online databases and the Internet;

videotape viewing facilities; and self-service photo copiers for paper and microform. For individuals not affiliated with the university, database searching and reference services are available on a cost recovery basis.

- **The Law Library,** in Bratton Hall on the North Campus contains more than 200,000 volumes and includes comprehensive collections of British, federal, and state court reports. Special collections are being developed in American Indian Law and in Land Grant Law. Persons not connected with the Law School may borrow library materials upon proper registration and with permission of the desk attendant.
- **The Health Sciences Library,** on the North Campus contains more than 144,000 volumes, 2,000 periodical subscriptions, and 3,000 media items. Borrowing privileges are available to North Campus students, faculty, and staff, as well as to central campus faculty and graduate students.
- **Tireman Learning Materials Library,** is located in the College of Education Administration Building. It contains a review collection of curriculum materials used in classroom instruction in grades kindergarten through twelve, and houses an evaluation center for textbooks being considered by the State of New Mexico for adoption for use in public schools.

Media Technology Service/Instructional Television

Media Technology Services (MTS), located in Woodward Hall, provides technical support and professional services for faculty, staff and students through audio and visual media means. In addition to operating technical equipment to transmit and receive video-communication transmission for two-way classes sent to remote sites and for teleconferences, MTS also handles all of the various projectors, cameras, monitors, loudspeaker systems, recorders, and other types of machinery used in presentations held in classrooms, ballrooms, and auditoriums. MTS Film Library has a modest, but growing film and videotape collection for instructional use. Design Services, using computer graphics technology, designs multi-media presentations, slides for publication and presentations, posters, displays and exhibits, and seminar materials for many UNM departments. MTS Photography Department provides processing for all types of black and white and color photos and slides, studio and location filming, and portraiture. The Television Production Department supplies professional quality videotaping with accompanying editing and finished product excellence. Some classes at UNM are videotaped and video cassettes are made available for student viewing. As part of the demand to provide continuing education on new technology, MTS offers faculty training on the use of new techniques in teaching.

Distance Education Center/Instructional Television. The development of various telecommunications activities also serves to complement and further extend off-campus educational opportunities. The University of New Mexico has been instrumental in coordinating a statewide telecommunications network/consortium through its Distance Education Center (part of the Dept. of Media Technology Services). Through this network of participating universities and institutions, many New Mexicans who are currently unable to attend on-campus courses are able to earn college credit through telemediated courses brought to their communities and work sites. Enrolling in an ITV course, a student is automatically agreeing to use of their image. If students have a problem with the use of their image, they should arrange with faculty for special seating.

Off-campus learning is of particular interest to industry and residents in rural areas. Televised instruction to students at off-campus sites began in 1985 and utilizes available satellite, microwave, fiber optic, video tape and cable television technologies to reach prospective students at many locations statewide.

For more information Contact: Director's Office, Media Technology Services-ITV, 277-6151, Woodward Hall 120. For information about Instructional Television courses/programs contact the Distance Education Site Coordinator at 277-8821.

Museums

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

Mineral, rock, gem, fossil, and map displays are among the exhibits featured in the **Geology Museum**, located in Northrop Hall. Mineral and fossil specimens come from localities around the world although exhibits emphasize geological features of New Mexico. Visitors may make arrangements to visit the UNM Harding Pegmatite Mine, located near Dixon, New Mexico. The Geology Museum is maintained by the Department of Earth and Planetary Sciences. Displays on the first floor of Northrop Hall are open to the public during regular university hours. Use of the research collections is limited to Earth and Planetary Sciences faculty and students and other professionals.

In addition to art museums on campus, UNM 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, an affiliate of the University Art Museum, is located at 1909 Las Lomas NE. The gallery houses the archival collection of its founder, Modernist painter Raymond Jonson, and features graduate student and contemporary exhibitions and free public programs. It is open to the public 9-4 M-F, 5-8 Tuesday evenings, closed weekends and holidays.

The Maxwell Museum of Anthropology, located at the south 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 UNM 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 UNM's Center for the Arts, houses over 24,000 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. A special strength is its photography and print collection with one of the finest of university art museums nationwide. The Museum features five galleries and a photo/print seminar room. Noteworthy exhibitions and free public programs are open to the public on a regular basis.

University Art Museum Downtown, is an off campus branch of the University Art Museum located at 516 Central SW, in the heart of downtown Albuquerque. Two floors of exhibition space feature changing exhibitions of 19th and 20th century art--drawn from the University of New Mexico's Art Museum's permanent collections--and exhibitions of artwork by significant New Mexico Masters and regional artists. The exhibitions and programs are free to the public and the gallery is regularly open, Tuesday through Saturday.

Research Centers & Institutions

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 states 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 Ceramics, (CMEC) is a research organization involving UNM, 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 UNM include Chemical and Nuclear Engineering, Mechanical Engineering, Civil Engineering, Physics and Astronomy, Chemistry, and Earth and Planetary Sciences.

The Center for Radioactive Waste Management, (CeRaM) is dedicated to the study of radioactive and mixed waste issues - in the classroom, in the laboratory, and in the field. One of the first academic centers in the U.S. to focus exclusively on these important subjects, CeRaM is UNMs point of contact for waste management efforts. CeRaMs facilities include the UNM Environmental Radioactive Monitoring Laboratory (ERML), where state-of-the-art equipment allows the measurement of the very low activity constituents associated with most environmental samples. At ERML, research can be conducted on the environmental fate and transport of radionuclides associated with different types of wastes. CeRaM represents nearly all of UNMs academic departments, assuring an interdisciplinary perspective. Technical and legal, social and political, the wide range of issues associated with the management of radioactive and mixed wastes require the varied expertise that a university facility can offer.

The Design Planning and Assistance Center (DPAC), is a research unit within the School of Architecture and Planning. This center is a commu-

nity 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 High Performance Computing Center, Education and Research Center (HPCERC), is a multidisciplinary center which initiates, coordinates, and manages selective high performance computing and communications (HPCC) initiatives at UNM, furthers student and faculty research through the use of these new tools, and facilitates cooperation with local federal laboratories. An HPCERC initiative in HPCC is the Maui Project which established the Maui High Performance Computing Center (MHPCC), and which is managed by UNM under a Cooperative Agreement administered by the Phillips Laboratory (PL). The three primary functions of the HPCERC are to provide Academic Research and Education in HPCC at UNM, to provide User Services related to HPCC, and to manage the Maui Project and oversee the MHPCC. These activities at UNM are organized in two main thrusts: academic programs, especially cross-disciplinary efforts, and the Albuquerque Resource Center (ARC), providing computing resources and support. The purpose of the HPCERC academic programs is to bring together groups of high performance computing users from various departments. Currently a graduate Certificate Program in Scientific and Engineering

Computation (SEC) is in the approval process and involves ten Engineering and Arts & Sciences departments. The Albuquerque Resource Center specializes in user services and communications for HPC and facilitates access to equipment necessary for high performance computing. These activities will be enhanced through shared resources at UNM such as state-of-the-art parallel computer (a 32 node IBM SPA), visualization workstations, (an SGI Onyx Reality), data storage, printers, and other special usage equipment. HPCERC currently funds the 10Mbps Internet connection for UNM faculty and students. The ARC will facilitate UNM access to the vast resources located at the MHPCC facility on Maui, including a 100+Gflop IBM SP2 scalable parallel supercomputer, one of the largest computing platforms in the world.

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 tech-

nology 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 Institutes success in meeting its objectives is to engage in partnerships with industry, government, and academic institutions in multi-disciplinary 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 Institute (LAI), promotes research on Latin America in a variety of disciplines, both through specialized funded research projects and by supporting research in Latin America by faculty and graduate students through the Institutes Field Research Grants. Research is disseminated through the LAI Research Paper Series and the Latin American Research Review, and via brown-bag presentations sponsored by the Student Organization for Latin American Studies (SOLAS).

The Microelectronics Research Center (MRC), goal 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 is named The Institute of Advanced Electronics by NASA in April 1995.

The New Mexico Engineering Research Institute (NMERI), is a research division of the School of Engineering. The Institute conducts applied research and development for sponsoring organizations from Federal and State Government, the National laboratories and industry. The Institute maintains a research staff of engineers, scientists, technicians, and support personnel across a broad range of technical disciplines and involves faculty, graduate and undergraduate students in research programs. Research and development conducted by NMERI includes: fire protection technologies, environmental studies, computational analysis, applied mechanics, space nuclear power systems (TOPAZ), civil works infrastructure planning and financing, pavements technology, application of geographic information systems. Technology commercialization from the Former Soviet Union is accomplished under a cooperative agreement with the Department of Energy, National Laboratories, industry and other universities through the United States Industry Coalition (USIC) Program.

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 UNM 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 Links 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 workshop series that addresses such topics as the roles and responsibilities of TAs, creativity 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 which accumulate to form the TARC Handbook on classroom teaching Skills (approximately 200 pages).

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 testing and evaluation.

TARC brochures with program details and enrollment forms are delivered to each teaching assistants department mailbox two weeks prior to the training. Enrollment in any of the TARC training sessions is limited to 20 students.

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.

Funding for the Teaching Assistant Resource Center is provided by the Office of the Vice President for Academic Affairs.

For more information about the Teaching Assistant Resource Center, contact Professor Jean M. Civikly-Powell, Director, Teaching Assistant Resource Center, Department of Communication and Journalism, 235 Journalism Bldg., 277-2437 or 277-5305. The TARC office is located at 219 Marron Hall (505) 277-2759.

Tamarind Institute

Marjorie L. Devon, Director
108 Cornell SE
Albuquerque, New Mexico 87106

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, distinguished artists are provided an opportunity to 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 nineteenth and twentieth centuries. Courses in the history of graphic arts and in the business aspects of workshop operation are offered through the Department of Art and the College of Fine Arts.

The institute in cooperation with The University of New Mexico Press publishes a professional journal, *The Tamarind Papers: A Journal of the Fine Print*.

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

THE UNDERGRADUATE PROGRAM

Undergraduate Studies

All undergraduate students who are admitted to the university but have not yet met the requirements to enter a degree-granting college are supervised by the Office of Undergraduate Studies. This office is responsible for applying the academic regulations of the university for these students and their academic advisement. Refer to the *Office of Undergraduate Studies* section of this catalog.

Admission

THE UNIVERSITY OF NEW MEXICO admits all qualified New Mexico applicants. Within the limits of its resources, it also accepts qualified students from other states and foreign countries. Because of the great diversity of UNM's students, special application and admission procedures have been created to meet the needs of the different populations UNM serves, including recent high school graduates, transfer students, non-degree students, returning and non-traditional students.

Admission procedures and requirements vary in each of the four categories listed below:

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 submitted to UNM for admission become the property of the university and will not be sent elsewhere or returned to the student.

Core Curriculum

The university has adopted a Core Curriculum which is tentatively scheduled to be implemented in 1998 and be required of students who begin their studies in that year. The core courses will encourage intellectual development in several areas of study, including writing, communication, mathematics, physical and natural sciences, behavioral and social sciences, fine arts, humanities and foreign language. Most core courses will be at the introductory level, although designated upper-division courses will serve as substitutes whenever a student's major program requires such a change. The goal of the core is to give students at the university a grounding in the knowledge and values obtained in a liberal arts education and to assure that all graduates have a shared intellectual experience.

The university will offer increased advising for all students to assure that the requirements of the core blend with the needs of individual programs.

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 for 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 Federal Privacy Act of 1975. Therefore, the university may require that students disclose their social security number for record keeping purposes.

Beginning Freshmen

How to Apply

1. Complete and return an application for admission and a \$15.00 nonrefundable application fee to the Office of Admissions.
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 deadline for receipt of all application materials for fall and spring semesters is one month before the first day of classes and for summer two weeks. (See the academic calendar for specific dates.) 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

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 (GPA) requirement for admission to bachelor degree programs at UNM 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:***

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

2 units of a single language other than English,**

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

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

2 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: Speakers of Spanish or another language offered by UNM will have the opportunity to test out on the basis of performance on a native speakers examination administered on campus by the UNM 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).

The following table provides the standard for the Fall freshmen class.

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

Test taken prior to April 1995

720-860	Top 25% of Class
870-1000	Top 50% of Class
1010-1180	Top 75% of Class
1190 or higher	No Rank Requirement

Recentered SAT scores effective April 1995

850-970	Top 25% of Class
980-1100	Top 50% of Class
1110-1250	Top 75% of Class
1260 or higher	No Rank Requirement

*** Subject to change.

Criterion III

A limited "Special Admissions" category. Students who do not qualify for admission under Criteria I or II may be given "special consideration." A combination of quantitative and subjective factors are used in making these admissions decisions.

Other Admission Opportunities

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) have achieved an exceptional record on a minimum of 15 units in a strong college preparatory program in an accredited high school; 2) have the unqualified recommendation of the principal or headmaster; and 3) have achieved 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 seniors to take UNM 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.

1. The student must be a high school senior with an expected graduation date within one calendar year.
2. The student must have the certification and unconditional recommendation of the high school 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 1000.
5. A student planning to enroll in English 101 must have a minimum score of 19 on the English portion of the ACT.
6. A student planning to enroll in any math course numbered above Math 120 must have a minimum score of 19 on the Math portion of the ACT.

Admission by Examination

An applicant 18 years or older who has 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
57 or higher	18-20	850-970
50-56	21-24	980-1100
45-49	25-28	1110-1250
40-44	29 or higher	1260 or higher

Home-School or Non-Accredited Schools

For those students (16 years or older) who have been home schooled or who have attended a non-accredited high school, official results from the ACT or SAT, and three SAT II subject tests are required (or the GED). The SAT II subject tests must include one test in English, one in Math, and the third in Social Studies, Natural Science, or Foreign Language. A scale, similar to the one used for GED test scores, will be incorporated using combined percentile rank of the three SAT II test scores and ACT or SAT composite score.

Associate Degree Programs

Although associate degree programs may have special admission requirements, applicants for most of these programs, except the Associate of Science and Associate of Applied Science degrees at the UNM branch campuses, 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*.)

Office of Undergraduate Studies (see page 28)

New freshmen who meet one of the three sets of admission criteria are automatically enrolled in the university, under the direction of the Office of Undergraduate Studies. 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.

Introductory Studies Courses. Even though a student is qualified for admission to the university under Criteria I, II, or III, 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 UNM 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.

Transferring Students

How to Apply

1. Complete and return an application for admission and a \$15.00 nonrefundable application fee to the Office of Admissions.
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 UNM 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 UNM with fewer than 26 semester hours of acceptable college work, you are considered a freshmen transfer and the following materials must also be forwarded:
 - 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 *non-disclosure 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 deadline for receipt of the application and all required credentials is one month before the first day of classes for the Fall and Spring semesters and two weeks for Summer. (See the academic calendar for specific dates.) Students are accepted for admission to most undergraduate colleges of the uni-

versity 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 UNM 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).

In fractionated grading systems, pluses and minuses will be dropped. All repeated courses will be computed in the transfer GPA. UNM 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).

Office of Undergraduate Studies

Admissible students with fewer than 26 semester hours or undecided about their major will ordinarily enroll in *Undergraduate Studies*. See the *Office of Undergraduate Studies* 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, UNM's suspension term will apply. Upon termination of the suspension, the student is eligible to request special consideration for admission to UNM.

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, UNM 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 institutions are accepted.)

UNM 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 UNM 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 GPA will reflect only classes taken at UNM.

Students with AP or CLEP credit from other institutions must have scores sent directly to UNM. This type of credit will not be accepted off the transcript.

Lower-Division General Education Common Core

The following list of courses was developed through collaboration of New Mexico's public postsecondary institutions, consistent with requirements of state law (Chapter 224 of the Laws of New Mexico, 1995) to facilitate transfer of students among New Mexico's institutions of higher education. Students enrolling for first-year study at a New Mexico institution and wishing to prepare for possible transfer into a baccalaureate degree program at another institution are advised to take these courses during their freshmen year. 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 institutions regarding which specific classes 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. Student who have identified a particular university at which they wish to complete their bachelor's degree should consult the transfer guide for that institution for more current and detailed advice.

Area I:	Communications	9 semester hours
(a)	College-Level Engl Comp	3-4 hrs
(b)	College-Level Writing (a second course building on the above)	3 hrs
(c)	Oral Communications	3 hrs
Area II:	Mathematics	9 semester hours
(a)	College Algebra	3 hrs
(b)	Calculus	3 hrs
(c)	Other College-Level Math	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
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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. 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 UNM. 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 UNM 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). Students may apply for military credit through the Office of Admissions during their first semester of enrollment in a degree-seeking status.

*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 should be sent from the College Board directly to the UNM Office of Admissions. Placement and credit is awarded by department for scores as follows:

Advanced Placement Exam	Equivalent Score	UNM course	Credit Granted (sem. hrs.)
Art			
Art Hi	3, 4	Art Hi 101	3
	5	Art Hi 201 & 202	6
Art St	3, 4, 5	Dept. Review	-
Biology			
Biol	3, 4, 5	Biol 121L & 122L	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 Dept. Review	3
Economics			
Macro Econ	4, 5	Econ 105	3
Micro Econ	4, 5	Econ 106	3
English			
Engl Lang			

or Engl Lit	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
History			
Euro Hist	4	Sub to Dept. Review	-
	5	Hist 102	3
US Hist	4	Dept. Review	-
	5	Hist 161 & 162	6
Languages			
Fren Lang	3	Fren 101, 102, 201, 202	12
	4	Fren 101, 102, 201, 202, 301	15
	5	Fren 101, 102, 201, 202, 301, 302	18
Fren Lit	3	Fren 101, 102, 201, 202	12
	4	Fren 101, 102, 201, 202, 351	15
	5	Fren 101, 102, 201, 202, 351, 352	18
Germ Lang	3, 4, 5	Germ 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
Math			
Calc AB	3, 4, 5	Math 162L	4
Calc BC	3, 4, 5	Math 162L & 163L	8
Physics			
Physcs B	3	Dept Review	-
	4, 5	Physcs 151, 152, 153L, 154L	8
Physics C			
Elec & Magn	3	Dept Review	-
	4, 5	Physcs 161, 264L*	4
Mech	3	Dept Review	-
	4, 5	Physcs 160, 163L	4
Political Science			
Amer Gov	4, 5	Pol Sci 200	3
Compar Gov	4, 5	Pol Sci 220	3
Psychology			
Psych	3, 4, 5	Psych 105	3

* Conditional upon completion of special thermodynamics exam.

*College Level Examination Program

The university participates in the College Level Examination Program (CLEP) administered by the College Board. UNM grants credit to newly admitted and regularly enrolled students who achieve passing scores on the CLEP exams listed below, as approved by the appropriate UNM 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 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	Score	Equivalent 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	Gen Credit	6	1986 to pres
Engl Comp with essay	500	Engl 101	3	
		General Credit	3	
(given only in January, April, and October)				
Social Sci and Hist	500	Gen Credit	6	
History	500	Gen Credit	6	
Natural Sci	500	Gen Credit	6	
Humanities	500	Gen Credit	6	
Mathematics	570	Gen Credit	6	

CLEP Subject Examinations

CLEP Subject Exam	Score	Equivalent UNM Course	Sem. Hrs.
Gen Biology	45	Biol 110	3
Gen Chem	52	Chem 121L,122L	8
Intro Macroecon	49	Econ 105	3
Intro Microecon	47	Econ 106	3
Freshmen College Comp**	51	Engl 101 and/or102	3/6
Analy and Interp of Lit*	55	Engl 150	3
English Lit*	50	Engl 294,295	6
Amer Lit*	50	Engl 296	3
Western Civ I	50	Hist 101	3
Western Civ II	50	Hist 102	3
Amer Govt	55	Pol Sc 200	3
Human Growth and Develop	52	Psych 220	3
Intro to Educ Psych	50	Psych 210	3
Princ of Mgt	50	Mgt 113	3
Princ of Acct	50	Mgt 202	3
Princ of Mkt	50	Mgt 222	3
Coll Alg	56	Math 121	3
Trig	61	Math 123	2
Calc w/Elem*			
Func	60	Math 162L	4
Coll Fren	40	Fren 101	3
	45	Fren 101,102	6
Coll Lvl Germ	39	Germ 101,102	6
Coll Lvl Span Lang	39	Span 101	3
	44	Span 101,102	6
	54	Span 101, 102, 201, 202	12
Introductory Soc	52	Soc 101	3
Introductory Psych	55	Psych 105	3

* Both the objective and essay portions of the exam must be completed. The essay is graded by the respective UNM department and credit will be awarded accordingly.

** Student's essay will be graded by two graders (on the scale of 1-6) with a score total of 7 or lower receive no course credit, those who score 8-9 receive English 101 credit only, and those who score 10-12 receive English 101 and English 102 credit.

CLEP Subject and General Examinations

Students wishing to take one or more CLEP examinations may obtain registration forms at UNM Testing Division, University College Building, Rm. 2, (505) 277-5345.

UNM requires original transcripts of test results sent from CLEP, Box 1821, Princeton, N.J. 08543. Credit for these examinations appearing on transcripts from other colleges will not suffice.

☼ 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 UNM degree seeking student who stops attending for **three or more sessions, including summer** must file an application for readmission. The application fee is not required.

1. Complete and return an application for readmission.
2. If you attended another institution while away from UNM 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 UNM 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 the Office of Undergraduate Studies. 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 the Office of Undergraduate Studies. 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 GPA apply in all cases. A student 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 their 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 UNM'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 the 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 UNM 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 UNM, whether earned at UNM 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 "premajor" 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 from being an engineer to being a poet or a dancer). 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 college. Students may take a maximum of 30 hours in this category.

a. **Advanced Transfer Students.** UNM admissible transfer students with too many hours to qualify as "new students" 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 after an absence of 5 or more years, who have not yet completed a Bachelors 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 academic renewal is accomplished and/or they are admitted to a College. Students may take a maximum of 36 hours in this category.

- NOTE:** Students admitted into categories 2 and 3, must meet with an undergraduate studies advisor prior to registration.

Non-Degree Credit Program

How to Apply

Complete and return a non-degree admission application and a \$10.00 nonrefundable application fee.

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 and fees 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.

Non-degree status is for applicants who wish to enroll in academic credit courses without entering degree status in one of the college units. Non-degree status is recommended for visiting students from other institutions.

Non-degree students (or those eligible for non-degree admission) may take advantage of the UNM non-degree satellite admission and registration center located at Continuing Education, 1634 University N.E. Students may submit non-degree admission applications at this location.

To be a non-degree student, the applicant must meet one of the following criteria: 1) be at least 21 years old, or 2) have graduated from an accredited high school or its equivalent and been out of high school at least one year. (In the case of GED recipients, the graduating class of the applicant must have been out of high school at least one year.)

NOTES

1. Students in non-degree status are not eligible to receive financial aid.
2. Veterans planning to attend the university under one of the public laws governing veterans' educational benefits and who are seeking admission to non-degree status are required to have special approval from the Veterans Affairs Office.

The following students are not eligible for non-degree status:

1. A student who is under disciplinary or academic suspension from UNM or any other collegiate institution.
2. A student who has exhausted his or her eligibility in the Office of Undergraduate Studies and is not academically eligible to enter a degree-granting college at UNM.
3. A student previously enrolled in degree status in an undergraduate college at UNM who has not completed a degree.
4. A student from another country who is in the United States on a student visa.
5. A student who has been refused admission to degree status.

6. A student planning to receive student financial aid. Students applying for non-degree status do not need previous academic records, but if they are planning to enroll in advanced courses with prerequisites, they should consult the department offering the course.

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 UNM 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.

A non-degree student is subject to all university regulations governing registration, attendance, academic standing, and satisfactory completion of prerequisite courses. Credit earned in non-degree status is recorded on the student's permanent record and may be applied to an academic program when the student has been accepted to degree status by meeting UNM's entrance requirements and those of the student's degree-granting college. Non-degree students applying for degree status must follow admission procedures and provide all items required of transfer students (see *Transferring Students*).

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 non-degree Advisement Office at 277-6089 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 specific department for details.

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. 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. 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 and Post-Baccalaureate.

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

The College's Advisement Center and/or an appropriate Division Office should be contacted before enrollment.

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 well in advance with their college.

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 UNM 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. **Residence credit requirement:** A minimum of 30 semester hours of credit, exclusive of extension and correspondence (independent study) credit, must be earned at UNM. 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.
4. The student must have a minimum cumulative grade-point average of 2.0.

5. 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.
6. A maximum of 24 semester hours of pass/fail (CR/NC) grading option courses may be applied toward a bachelor degree.
7. 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.
8. Students must contact their College office prior to their last semester in order to initiate and complete the graduation process.
9. 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 UNM. 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.

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 UNM'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 UNM, 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 UNM's colleges or branches (except EMT), 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 UNM.
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

UNM allows credit for independent study, correspondence and extension courses at UNM 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 UNM may establish credit here by special examination (see *Examinations*).

The hours earned by independent study or extension from accredited institutions other than UNM 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 UNM.

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. 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. STUDENTS ARE RESPONSIBLE FOR KNOWING THE RULES AND REGULATIONS CONCERNING GRADUATION REQUIREMENTS AND FOR REGISTERING IN THE COURSES NECESSARY TO MEET THEM.

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.

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

Students may graduate with General Honors, or Departmental Honors, or both. The level of General

Honors attained is determined by the General Honors Council and may be **cum laude**, **magna cum laude**, or **summa cum laude**. Students must apply to the General Honors Program for candidacy for graduation with General 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 students' 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 students' specialization; (3) to bring the students 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; (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.

Graduation With Honors

Graduation with honors, either general or departmental, is not automatic and students are required to apply for candidacy. Information regarding appli-

cation is available from the Honors Center in the Humanities Building or from individual departments.

University Honors

Baccalaureate level students graduating from the University of New Mexico who have a minimum scholarship index of 3.50, and who have earned a minimum of 60 hours in residence are awarded University Honors. Designations of cum laude (3.5-3.74), magna cum laude (3.75-3.89), and summa cum laude (3.9-4.0) are awarded to graduates who meet the above criteria. Honors designations will be printed on the diploma and recorded on the permanent record. University Honors are automatically awarded. It is not necessary for students to apply for this category of honors. Only first baccalaureate degree candidates are eligible for graduation with honors.

National Student Exchange

NSE offers UNM students an opportunity for educational travel and study at 138 participating colleges and universities across the United States. NSE permits students to broaden their academic, social, and cultural awareness by temporarily leaving the familiar atmosphere of home town 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 prior to exchange.

NSE students pay full-time tuition to the University of New Mexico before leaving for their host school. Most UNM 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 3042, Telephone 277-7269.

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 11 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, occupational therapy, optometry, osteopathy, physician assistant, masters of physical therapy, podiatry, nursing, 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 thirty-seven 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 thirteen 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 University of New Mexico under the guidance of the Commission on Higher Education.

For additional information please call or write:

The University of New Mexico
New Mexico WICHE Office
Mesa Vista Hall, Room 3042
Albuquerque, New Mexico 87131-2099
(505)277-7269

International Students

The university welcomes applications from citizens of other countries with distinguished academic records and English proficiency as demonstrated

by acceptable scores on recognized tests. For visa purposes, international students are required to enter in degree seeking status prepared to enroll in a full-time program of studies.

- Official certified transcripts from each secondary or post secondary school attended (certified English translations are required).
- Official certifications of any state or national examinations taken.
- Evidence of satisfactory results on the Testing of English as a Foreign Language (TOEFL) examination
- A University of New Mexico Certification of Financial Responsibility form (available from UNM), or Immigration form I-134, showing ability to meet financial responsibilities while in the United States.
- A \$25.00 application fee.

To facilitate the admission procedure, the applicant should gather all credentials and send them in the same envelope to International Admissions. TOEFL results must be sent directly to the university by the testing offices. Applications for graduate-level students (beyond the bachelor's degree) and all the credentials listed above (except secondary school credentials) should be mailed to International Admissions.

Students transferring from within the United States must have completed a minimum of 26 transferable semester hours and have a grade-point average of 2.75 from each and every school before being considered for admission.

All credentials must be submitted by May 1 for the fall semester or by October 1 for the spring semester. The deadline may be earlier depending upon the department.



THE GRADUATE PROGRAM

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 Committee coordinates and monitors graduate activities throughout the University, recommends to the Faculty Senate general policies concerning graduate education, (including the creation and termination of graduate degrees), participates in periodic reviews of instructional units and programs, recommends to the general faculty the granting of graduate and honorary degrees, and acts as an appellate body when the need arises.

The Committee consists of at least one faculty member from each school or college. In the Spring semester each year, new members are appointed to two-year terms, effective the following Fall. The terms are staggered so that Architecture and Planning, Engineering, Management, Nursing, and two members from Arts and Sciences are chosen in odd-numbered years while Education, Fine Arts, Biomedical Sciences, Pharmacy, Public Administration, UNM General Library, and a third member from Arts and Sciences are chosen in even-numbered years. 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 and the Director of Graduate and Upper Division Programs at Los Alamos and Santa Fe are ex-officio members. Each odd-numbered fall semester the committee membership elects a chair-elect, who assumes the chair the following fall semester. Chairs 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.

Office of Graduate Studies (OGS)

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, was adopted in 1977. The OGS is responsible for implementing the policies and procedures governing graduate education.

Admissions Process

Domestic Applicants

First Time Applications

The University of New Mexico uses a Self Managed Application (SMA) process for graduate study. Applicants must compile all required materials and forward them to the Office of Graduate Studies in one complete packet. Incomplete packets will be returned without processing.

The following materials must be included in all SMA packets submitted to the OGS:

1. A completed and signed Application Form
2. A Registration Information Form
3. A non-refundable Application Fee (This fee cannot be waived.)
4. Two official transcripts from each academic institution previously attended
5. A Letter of Intent

Graduate units also require applicants to submit letters of recommendation. These may be included in the Self-Managed Application packet or sent directly to the unit.

Application packets should be requested directly from the graduate units, as should information on the specific application materials they require (such as GRE scores, portfolios, or writing samples). General questions regarding the admission process may be directed to the Graduate Admissions Coordinator at the Office of Graduate Studies, University of New Mexico, Humanities Building 107, Albuquerque, New Mexico 87131-1041, (505) 277-2711 or 1 (800)-CALL-UNM.

Reapplication

Students who have previously applied to but never attended the University of New Mexico in graduate status may reapply for admission. Because application files are maintained for two years, during that time period students will not be required to pay a new application fee or provide academic transcripts they have already submitted. They will, however, need to submit a new Application Form and Registration Information Form to the Office of Graduate Studies, along with two official transcripts from any institution they have attended since they last applied to UNM. Students who earned a degree during that two year period must provide an official transcript indicating that the degree was conferred.

If it has been more than two years since the last application was submitted, proof of payment of the original application fee and official transcripts from all institutions previously attended will be required.

Readmission

Students who have previously attended the University of New Mexico in graduate status and

wish to be reinstated may apply for readmission. At least six weeks before the start of the semester (or earlier if specified by the unit) they must submit a readmission packet directly to the graduate unit to which they are seeking readmission, containing all required materials. (Please check with the graduate unit for more information.) The graduate unit must forward the approved readmission materials to the OGS at least three weeks prior to the start of the semester. Applications for readmission received after that time will not be processed for that semester.

If students have been enrolled at any other institution since their last attendance at the University of New Mexico, they will be required to submit two official transcripts from each. The school registrar should be asked to mail these directly to the academic department to which the student is applying for readmission.

The OGS maintains records of previous students for five years after their last semester of enrollment. If it has been more than five years since a student was last enrolled as a graduate student, he/she will be required to provide the OGS with official transcripts from all institutions previously attended so that an academic file can be reconstructed.

International Applicants

International applicants should direct all inquiries and requests for application materials to the Office of International Admissions, First Floor, Student Services Center, University of New Mexico, Albuquerque, New Mexico 87131-2046. Unless the graduate unit to which the student is applying has an earlier deadline, all application forms, supporting credentials, and test scores will be accepted until May 1 for the following Fall semester, October 1 for the following Spring semester, or March 1 for the following Summer session.

The following provisions apply:

1. An applicant must hold the equivalent of a U.S. Bachelor's degree from an approved academic institution.
2. An applicant must possess an adequate command of the English language as demonstrated by earning a score of 550 or higher on the Test of English as a Foreign Language (TOEFL) of the Educational Testing Service. Alternately he/she may present official documentation of an undergraduate degree obtained from an accredited institution in the United States or an institution approved by the Ministry of Education in another English-speaking country.
3. A Certification of Financial Responsibility form must be completed and returned to the Office of International Admissions along with the application. The Immigration and Naturalization Affidavit of Support (Form I-134) is also acceptable. An applicant must demonstrate the ability to cover all tuition and living expenses while studying at the University. It is estimated that a total of \$16,308 is necessary to cover all expenses

(tuition, fees, books, supplies, room and board, etc.) for a full academic year, including summer. This estimate does not include travel expenses to and from the student's home country. Funds for graduate assistantships are limited, and international students cannot be guaranteed such support. Students from other countries are expected to carry a full academic load during the regular school year and are not permitted to support themselves through part-time, off-campus employment during this period.

4. An applicant's file will be reviewed only after all required documents have been received by the Office of International Admissions.
5. International students are required to purchase UNM Student Group Health and Accident Insurance. Inquiries about these policies may be directed to the Student Health Center, (505) 277-7943. In rare cases this requirement will be waived (e.g., when insurance coverage from the student's home country matches or surpasses medical coverage, medical evacuation, and repatriation coverage offered by the UNM Student Health Insurance plan).

Basic Requirements for Admission to Graduate Study

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: Although each application is reviewed individually, in general applicants must present a cumulative GPA of at least 3.0 (B) or its equivalent in their last two undergraduate years and in their major field. Applicants may be refused admission if their previous scholastic record indicates little likelihood of success in graduate level work.

Fulfillment of Prerequisites: Ordinarily, the minimum undergraduate prerequisite is 12 semester hours of upper division coursework (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 sections of this Catalog).

Non-Degree Credit Program

How to Apply

Complete and return a non-degree admission application and a \$10.00 nonrefundable application fee.

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 and fees 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.

Non-degree status is for applicants who wish to enroll in academic credit courses without entering degree status in one of the college units. Non-degree status is recommended for visiting students from other institutions.

Non-degree students (or those eligible for non-degree admission) may take advantage of the UNM non-degree satellite admission and registration center located at Continuing Education, 1634 University N.E. Students may submit non-degree admission applications at this location.

Students applying for non-degree status do not need previous academic records, but if they are planning to enroll in advanced courses with prerequisites, they should consult the department offering the course.

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 UNM 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.

A non-degree student is subject to all university regulations governing registration, attendance, academic standing, and satisfactory completion of prerequisite courses. Credit earned in non-degree status is recorded on the student's permanent record and may be applied to an academic program when the student has been accepted to degree status by meeting UNM's entrance requirements and those of the student's degree-granting college. Non-degree students applying for degree status must follow admission procedures and provide all items required of transfer students (see *Transferring Students*).

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Western Regional Graduate Programs

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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 University of New Mexico under the guidance of the Commission on Higher Education. For additional information please call or write:

The University of New Mexico
New Mexico WICHE Office
Mesa Vista Hall, Room 3042
Albuquerque, New Mexico 87131-2099
(505)277-7269

Policies Related to Graduate Admission

Responsibility for Admission Decisions: Each graduate unit makes its own admission decisions, although final written verification of admission is provided to applicants by the OGS. Admission to certain graduate units may be particularly competitive. Such units may set more rigorous admission requirements than those listed above and may find it necessary to refuse admission to otherwise qualified applicants because of a limited number of openings.

Application to More than One Graduate Program: Students may apply to more than one graduate degree program, but must submit a separate self-managed application packet and fee to each. If admitted to more than one program, students may accept admission from only one.

Dual Degree Programs: The University offers several dual graduate programs in which a student may earn two degrees concurrently. (See section on Dual Degree Graduate Programs.)

Academic History: Students must indicate on their applications all academic institutions they have previously attended. 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.

Deferring an Offer of Admission: Offers of admission are made only for the semester for which the student has applied. A student who does not enroll during the semester for which admission was granted and does not arrange with the department or graduate unit to defer admission will forfeit his/her admission and must reapply. Deferral is limited to a period of one calendar year only.

Admissions 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.

Special Admission to Graduate Study: In rare cases, the University may admit to graduate study a person who does not hold a bachelor's degree from an accredited institution, but who has had substantial professional and educational experience over a period of many years, and has 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, it may, after gaining the approval of the Department and the College Graduate Committee, formally petition the Dean of Graduate Studies supporting such an admission. The petition, with accompanying documentation, should make clear:

- 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 in the judgment of the Dean of Graduate Studies the petition is justified, the Dean will notify the graduate unit that it may invite a formal application for

admission, with the understanding that when this is properly completed (including the observation of established deadlines), an offer of admission will be made. If in the judgment of the Dean of Graduate Studies there is serious question about the advisability of following the graduate unit's recommendation, the Dean will consult with the SGC before making a decision. A student admitted under this policy will be classified as a regular graduate student, with the same rights and responsibilities as any other student.

Graduate Student Status

Regular:

Master's

A student who has been admitted to a master's degree program.

Post-Master's

A student admitted for doctoral studies or to a specific post-master's certificate program.

Education Specialist

A student who has been admitted to pursue an Ed.S. certificate within the College of Education.

Doctoral Candidate

A student who has been advanced to candidacy in a doctoral program (see Candidacy).

Other:

Post-Baccalaureate

A student in this status is usually taking post-baccalaureate level work for purposes of gaining teacher certification. A post-baccalaureate student has not been admitted to regular graduate status and is not seeking a graduate degree.

Non-Degree

A student who is taking graduate or undergraduate level coursework, but has not been admitted to a graduate degree program.

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. Early application is strongly recommended. Any application received by the Office of Graduate Studies after a unit's deadline date will be returned to the applicant.

Application Deadline Dates for the 1997-98 and 1998-99 Academic Years

For those departments that have not declared earlier deadlines, the OGS will accept application materials until the following dates:

Spring Semester, 1998	November 14, 1997
Summer Session, 1998	May 1, 1998
Fall Semester, 1998	July 17, 1998
Spring Semester, 1999	November 13, 1998
Summer Session, 1999	April 30, 1999
Fall Semester, 1999	July 16, 1999

Financial Aid

The Office of Graduate Studies administers a variety of financial support programs, as described below:

Assistantships and Fellowships: General Principles

1. Assistantships (graduate, teaching, research and project) and fellowships are given primarily in recognition of the academic qualifications of the student, although financial need may also be considered.
2. Newly admitted students may not begin their assistantships until they are actively enrolled.
3. To be eligible for reappointment as an assistant or fellow, a student must maintain a cumulative GPA of at least 3.0 in graduate coursework. A student on probation may not hold an assistantship or fellowship.
4. To be eligible for appointment as an assistant, a student must be enrolled in at least 6 hours of graduate credit course work during a semester and at least 3 hours during a summer session. (Students required to fulfill a language requirement may count up to 3 hours of 100 - 200 level language classes toward that total.) A fellowship recipient must be enrolled for 9 credit hours during a semester and at least 6 hours during a summer session.
5. Faculty appointments may not be given to students enrolled in graduate status.
6. Awardees are expected to make satisfactory academic progress toward their degrees.
7. Awards are made to master's degree students for a maximum of five semesters and to doctoral students for an additional five (or a maximum of ten) semesters, exclusive of summers. During a graduate career at UNM, no student may hold an assistantship or fellowship award (or combined awards) for more than twelve semesters.
8. Assistants are subject to the provisions of Section 15.1 of the Policy on Academic Freedom and Tenure of the Faculty Handbook regarding termination and grievance. Notification of termination will be made by the graduate unit, and a copy of this notification forwarded to the Dean of Graduate Studies. Appeals can be made to the individual school or college Graduate Committees (see Faculty Handbook).
9. Teaching assistants may not teach courses offered for graduate credit. 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.

A. Graduate Assistants, Teaching Assistants, Teaching Associates (GA, TA, TAssoc)

1. Definitions

- a. GA: one whose duties are related to instruction but who is not directly involved in producing student credit hours.
- b. TA: one who is directly involved in producing student credit hours, i.e., responsible for one or more classes or lab sections. (Note: the teaching assistant appointment should be used whenever the assistant is specifically responsible for one or more separate labs or discussion sections, even when those sections do not carry separate credit hours.)
- c. TAssoc: an advanced teaching assistant who holds the master's degree (or equivalent) and who directly produces student credit hours by being responsible for one or more classes or sections. This category may not be used for graduate student employment unrelated to instruction, and the teaching associate may not receive a tuition waiver. The stipend range approximates that for temporary part time faculty. (See Guidelines for the Employment of Temporary Part-Time Faculty, Category B, Faculty Handbook.)

2. Principles

- a. Teaching Assistantships and Graduate Assistantships are awarded each year in open competition by the individual graduate units. Applicants to degree programs may be eligible for consideration. These appointments are made only for functions related to instruction. In the case of TAs, emphasis is placed upon teaching ability. Given good work performance and satisfactory academic progress, contracts may be renewed.
- b. Appointments may be made for an academic year, a semester, or a summer session. Assistants are expected to be available for service one week before each semester (or summer session) of appointment. Assistants should be provided with a clear understanding of their major responsibilities. These responsibilities, both teaching and non-teaching, must be noted on the Assistantship Recommendation and Contract (ARC) form.
- c. Assistantship appointments usually are made for an FTE of .50 (no more than two 3 credit classes taught, or 20 hours of service per week, on the average). However, appointments may be made for FTEs as high as .75 or as low as .25 or .17. In all cases, assistants are to be treated equitably, and the stipend must correspond to the prevailing rate for that FTE. Although TAs and GAs receive the same stipend, differential stipends are received by pre-master's and post-master's assistants.
- d. GAs and TAs classed as Regular are eligible for a non-transferable tuition waiver of up to 12 hours per semester when the FTE = .50 (prorated for other FTEs). UNM considers

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. A GA or TA paying for hours beyond those covered by the tuition waiver is eligible for the resident tuition rate provided the FTE is .25 or higher.

- e. GAs and TAs classed as Regular are funded under the basic allocation made to the department. Those classed as Special are funded from other sources, and may or may not carry a tuition waiver.
- f. Assistants must enroll in at least 6 hours of graduate-level course work for credit each semester and are expected to complete 12 hours of graduate credit toward their degree during the academic year, exclusive of summers. They may not carry more than fifteen hours in a semester. Minimum enrollment for the summer session is 3 hours.
- g. GAs, TAs, and TAssocs may not accept additional employment (University or non-University) which exceeds 10 hours per week when their FTE = .50, or 20 hours per week when their FTE = .25; the maximum FTE is thus .75. International students may work a maximum of .50 FTE (20 hours a week) during regular semesters.
- h. Appointment as a GA or TA at .50 FTE during the summer session carries a 3-hour tuition waiver.
- i. If an assistant's appointment is terminated prematurely, either by voluntary resignation or dismissal, the stipend will be prorated for the period during which the assistant was engaged.
- j. GAs and TAs who are on an academic year appointment at .50 FTE and suffer a serious medical condition requiring absence from the campus 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, at the rate of 1/36 of the academic year stipend per week worked. The graduate unit must notify the OGS whenever it grants an assistant a two-week sick leave, as well as the date that the assistant returns to his/her position.

B. Research and Project Assistants

Research assistantships and project assistantships are awarded to students undertaking graduate research in fields funded by research grants, contracts or other University funds. Such awards usually support research conducted by a faculty member or group of faculty members, and the UNM faculty member who is the principal investigator (P.I.) for the research administers and directs these projects. The P.I. appoints, reappoints, or recommends continuation of students to serve as research assistants and project assistants based upon their ability to perform the research, their interest in the project,

and in the case of research assistantships, their potential for gaining educational benefits from the research experience.

All awardees are expected to make satisfactory progress toward the degree, including earning at least 6 hours of graduate credit each semester.

Research and project assistants are subject to the provisions of Section 15.1 of the Faculty Handbook Policy on Academic Freedom and Tenure.

In some cases only a partial research or project assistantship may be available; in such instances, a student may hold a teaching assistantship along with some research responsibilities. In these cases, the policies governing graduate and teaching assistantships apply.

1. A Research Assistant (RA):

- a. assists in research work that is relevant to and ultimately used for the assistant's thesis, dissertation, or other requirement for a graduate degree;
- b. is employed at a fixed monthly salary determined by the principal investigator based upon a graduate unit's salary guidelines; these guidelines are on file in the OGS;
- c. is eligible for the resident tuition rate and may receive a tuition waiver if it is included in the approved grant award budget, provided the FTE is .25 or greater. If the period of the grant does not coincide with UNM semesters, the amount will be prorated;
- d. is eligible to hold a maximum FTE of .75 (30 hours per week). An international student may hold a maximum FTE of .50 (20 hours per week). Continuing RAs (including international students) may be employed up to a maximum of 40 hours per week during the period between the fall and spring semesters. Continuing RAs may also work 40 hours per week during the summer session if not registered for classes. However, entering graduate students awarded a research assistantship for the summer must be enrolled in 3 hours of graduate-level course work, and may not exceed .75 FTE or 30 hours per week.

2. A Project Assistant (PA):

- a. is employed to work on a research or other project performing work required by a research grant, contract, or other funding source that is not necessarily directly related to degree requirements;
- b. is employed at an hourly rate, determined by the principal investigator and 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 biweekly student payroll. The period of employment is determined by the funds available and the time required to complete the work;
- c. does not receive a tuition waiver as part of the PA award, but is eligible for the resident tuition rate, provided employment is for at

least one semester or summer session at an FTE of .25 or higher (i.e., at least 10 hours per week);

- d. is usually employed for 20 hours per week. PAs who have completed all course requirements and advanced to candidacy may, with the approval of the supervisor, the administrator of the degree-granting unit, and the Dean of Graduate Studies, be employed more than half-time. Furthermore, continuing PAs may be employed up to a maximum of 40 hours per week during the period between the fall and spring semesters. Continuing PAs may also work 40 hours per week during the summer session if not registered for classes. However, entering graduate students awarded a project assistantship for the summer must be enrolled in 3 hours of graduate-level course work and may not exceed a .75 FTE or 30 hours per week.

Graduate Studies Fellowships

The OGS 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 from the OGS Financial Aid Coordinator at (505) 277-7395; FAX (505) 277-7405.

Minority Biomedical Research Support Program (MBRS)

The MBRS Program provides financial support for Hispanic, African American or American Indian students pursuing a graduate degree in the Biomedical Sciences. The participating departments are Anatomy, Biology, Biochemistry, Chemistry, Microbiology, Pharmacology, Physiology, and Psychology. The MBRS provides a \$11,496 annual salary at the Ph.D. level, and a \$7800 annual salary at the master's level. In addition to a tuition waiver, students in the program are provided annually with a travel allowance of \$700 to attend scientific meetings and \$1,500 for research support. Applications may be obtained from the MBRS Program, University of New Mexico, School of Medicine, BMSB, Box 602, Biomedical Research Facility Room 137, Albuquerque, NM 87131-5176; phone (505) 272-8214; FAX (505) 272-6540.

Student Research Allocations Committee

The Student Research Allocations Committee (SRAC) was created to provide money for graduate student research, project, and travel expenses to conferences and workshops directly related to the student's degree program. Initially funded by a National Science Foundation (NSF) grant, SRAC now receives its funding from the Graduate and Professional Student Association (GPSA). The application deadline is the fifth week of each semester and June 1 for the summer. Application forms and information may be obtained at the GPSA Office, Room 200, Student Union Building.

General Academic Regulations

Students are responsible for knowing and abiding by the general University rules and regulations pertaining to graduate study at UNM and the specific academic requirements of their particular degree program. They are also expected to be aware of their academic standing. **Ignorance of a rule will not be accepted as a basis for waiving that rule.**

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 that they complete the graduation requirements for the degree sought within the appropriate time period. Alternately, they may elect to graduate under a later version of the Catalog. In either instance, 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 may graduate under the Catalog in effect at the time of their transfer or a succeeding one. The Catalog under which students intend to graduate must be specified on the first page of their Application for Candidacy.

Academic Standing: Grade Point Average (GPA)

Each student's record is reviewed by the Office of Graduate Studies beginning with completion of twelve semester hours after matriculation, or at the end of the second semester, whichever comes first. To remain in good academic standing, students must maintain a cumulative GPA of at least 3.0 in all courses taken for graduate credit after admission to a degree program at UNM. Grades earned at other institutions, in UNM extension courses, or while students are in non-degree status are not calculated in a graduate student's cumulative GPA.

The GPA is calculated by dividing the total number of grade points earned (see earlier section on Grades) by the total number of coursework hours taken. Grades of WP, NC, and PR are excluded from the cumulative GPA calculation. Grades of WF and NC may have an adverse impact on a student's standing. (See Probation, below.)

The GPA of all students (including those who withdraw from the University) is checked at the end of each semester and summer session. All students whose academic standing is deficient are placed on probation or suspended, according to the regulations of their graduate unit.

Probation

A student whose cumulative GPA falls below 3.0 will be placed on academic probation. (This is considered Type 1 probation; see also Type 2 probation.) The student will be disenrolled from graduate status if the cumulative GPA does not reach 3.0 after 12 semester hours in probationary status.

Students also will be placed on Type 1 probation if they earn two grades of NC and/or F, even if their cumulative GPA remains above 3.0, and will be disenrolled if a third NC or F grade is earned. Those students who have earned two grades of NC and/or F will be removed from probation if they have met all requirements for graduation and a third NC or F grade has not been received. Students who are placed on Type 1 probation are not eligible for assistantships, nor are they allowed to take comprehensive examinations or graduate.

If a student on probation has not successfully raised his/her GPA to a 3.0 or higher in the allotted time, he/she will be disenrolled from regular graduate status. Students who are disenrolled for poor scholarship will be placed in non-degree status for a period of one calendar year from the effective date of the disenrollment. Non-degree coursework taken during this disenrollment period will not be counted toward the fulfillment of degree requirements.

If the student is readmitted to graduate study by his/her graduate unit, the unit will specify upon readmission what conditions must be met for return to good standing, with the understanding that maintenance of a cumulative GPA of 3.0 in all subsequent courses taken for graduate credit at UNM will be a minimum requirement. Disenrolled students will be placed in probationary status when they return to the University, as will any students who withdrew from the University while in probationary status. Students who have been disenrolled for earning three grades of NC and/or F and subsequently readmitted will be permanently disenrolled if a fourth grade of NC and/or F in graduate level course work is earned.

Disenrollment From a Degree Program

If in the opinion of the graduate unit a student shows little promise of completing the degree program, the graduate unit will notify the student and the Dean of Graduate Studies in writing that the student is disenrolled from further work in that program. Disenrolled students are not eligible to re-enter any other graduate degree program for a period of one year from the effective date of the disenrollment.

Grade Requirements for Graduation

To earn a graduate degree at UNM, students must achieve a cumulative GPA of at least 3.0 in all graduate-level courses at the time of degree completion.

Students may not graduate with Incompletes pending in any graduate course, nor may they graduate while on probationary status.

Students who, at the direction of their major graduate unit, take prerequisite courses that will not count toward the degree are expected to 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. Ordinarily, this restriction in no way alters the cumulative GPA requirement.

No more than six credit hours of coursework in which a C (2.0), C+ (2.33), or CR was earned may be credited toward a degree.

NOTE: The policies above apply only to the manner in which the OGS calculates the cumulative GPA for graduate students at the University of New Mexico. A student's official transcript will show all courses in which a grade was received, and the cumulative GPA indicated on the transcript will include all UNM courses in which a student earned a grade.

Incomplete (I) Grades

The grade of I is given only when circumstances beyond the student's control have prevented completion of the coursework within the official dates of a semester 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 (exclusive of summer sessions) or within the next four semesters if the student does not re-enroll. An Incomplete may be resolved in a semester during which a student is not enrolled. Incomplete grades not resolved within the time frames stated in this policy will be converted automatically to F (failure), unless the student has filed a "Request for Extension of Incomplete" prior to the completion deadline date. Students are responsible for arranging with the instructor for resolving 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 Records Office by the appropriate deadline. Students may not graduate with Incompletes pending in any courses. Those resolving Incompletes in their semester of graduation must have the process completed (including the reporting of the grade to the Records Office) by the published ending date of the semester in which they are graduating. It is the student's responsibility to inform the instructor of the deadline date by which the resolved grade(s) must be reported. Failure to complete this process could result in the postponement of graduation until the following semester.

In computing the cumulative GPA, the OGS will calculate a grade of Incomplete as earning two grade points per credit hour. No action will be taken unless the student's GPA falls below 3.0 as a result. In such instances, the student will be placed on Type 2 probation until the Incomplete is resolved or other grades are earned which raise the cumulative GPA. In the

event that the student does not resolve the incomplete or does not follow established procedures to extend the time for completion, the final grade in the course will be recorded as an F.

Definition: Type 2 Probation: A student whose cumulative GPA drops below 3.0 due to the impact of incomplete grades will be placed on Type 2 probation. Students may not take the master's examination or doctoral comprehensive examination, or graduate while on Type 2 probation. They may provisionally hold an RA/GA/TA position for one semester.

Graduate Credit

With the exceptions noted in this Catalog, graduate credit may be earned only by a student who is 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).

For Regular Graduate Students

Students enrolled in graduate status will receive graduate credit for all courses numbered 500 or higher. They may receive graduate credit for upper division undergraduate courses (300 or 400 level) provided that the courses are listed in the Catalog as approved for graduate credit, and that the additional work required for graduate credit is completed. If a course is listed for graduate credit only for those students outside that particular program, a Graduate Credit Authorization card must be completed by those students who are eligible (see section below).

For Undergraduate Students

Although courses numbered 500 and above are intended for graduate study, senior undergraduate students with cumulative GPAs of 3.00 or higher may receive undergraduate credit in such courses. Students must obtain advance approval from the course instructor, the chair 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 GPA of at least 3.0; and
3. seek no more than 9 hours of graduate credit during that semester (6 credits during summer session).

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 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 OGS on a Graduate Credit Authorization card. Non-degree, graduate level coursework may be transferred into a graduate degree program on a limited basis.

Graduate Credit Authorization Card (GCA): Deadlines for Submission

By signing this card, a course instructor acknowledges that a student taking a 300 or 400 level course available for graduate credit will be held accountable for graduate-level work. GCA cards must be filed with the Registration Center 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. No additions of graduate credit will be allowed after these deadlines.

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. Credits awarded through this process must be paid for at the current tuition rate. They will be recorded as Credit (CR), and will not be computed into the cumulative GPA. (A maximum of six hours of credit-graded courses may be used toward a degree.) To initiate the process, the student must submit a written request to prepare a prior learning portfolio through a faculty member serving as an advisor for the graduate unit. The student should state the purpose of gaining experiential credit and should provide a brief summary of the experience and learning upon which the portfolio will be based. The student should also identify those graduate courses (areas normally taught as topics courses may also be included) for which credit is being requested. If the department supports the student's request, it should notify the Dean of Graduate Studies and seek approval to initiate the portfolio development process. If that approval is granted, 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 request will be reviewed by the college graduate committee and the Dean of Graduate Studies. Disapproval at any level will terminate the process.

Transfer Credit

Students who have completed graduate-level coursework at an accredited institution other than UNM, whether they were in graduate or non-degree status, may request that these hours be counted toward their degree program. Such credits may be transferred into a degree program by listing them on 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 credit is transferable. Neither courses taken on a Pass/Fail basis nor courses taken as extension credit at other universities will be accepted for graduate credit at UNM. Graduate units may impose their own restrictions on the acceptance of transfer credit.

Applied Credit

Graduate-level UNM courses taken in non-degree status, UNM extension credit, UNM Law credit, Pharm.D. credit, and up to nine hours of approved graduate-level coursework 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 their own limits on the acceptance of applied credit.

Undergraduate and graduate course work credits that have already been applied toward another degree at UNM or at any other institution may not again be applied toward a graduate degree, except that course work completed for the master's degree or MFA may be counted toward a doctoral degree, if it is logically related to the doctoral program and approved by the student's Committee on Studies. Special exceptions to this rule occur for dual graduate degree programs (see section on Dual Graduate Degree Programs).

UNM non-degree credit and UNM extension credit applied toward a graduate degree must meet the following conditions:

1. the courses must have been taken for graduate credit; an Authorization of Graduate Credit must have been filed with the Records and Registration Office if appropriate;
 2. a grade of B (3.0) or better must have been earned;
 3. the courses must have been approved by the student's advisor, the graduate unit chair, and, where applicable, the Committee on Studies;
- and-
4. the courses must have been taught by faculty members approved for graduate instruction.

UNM Law Credit applied toward a graduate degree must be approved by the major professor or Committee on Studies, the graduate unit chair, 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 Dual Graduate Degree Programs).

Change of Degree Level or Program

Graduate students wishing to transfer from one graduate unit within UNM to another must submit a completed "Request for Change or Addition of Degree or Graduate Unit" form to the OGS, as do students who wish to change their degree level within the same or different unit. (Completion of a master's degree does not automatically guarantee admission to a doctoral program in either the same or a different field.) Students must be currently enrolled in graduate studies to use this process.

Concentrated Courses and Workshops

Graduate credit earned in concentrated courses and workshops approved for such credit may not exceed one hour of credit for 13.3 hours of instruction (i.e., contact time); two hours of credit require 26.6 hours of instruction appropriately distributed over no fewer than 8 days; three hours of credit require 40 hours of instruction appropriately distributed over no fewer than 13 days.

Correspondence Courses

The University accepts no correspondence credit toward its graduate degrees.

Use of Classified Material in Research

Graduate students may not use, for the purposes of coursework requirements 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

Three Institutional Review Boards at UNM are empowered by the U.S. Department of Health and Human Services to approve and certify all research using human subjects conducted by, for, or with UNM faculty and students. Students who plan to use human subjects must first obtain approval from the appropriate Board before initiating their research. The College of Arts and Sciences Institutional Review Board oversees all human research conducted under the auspices of the Colleges of Arts and Sciences, the School of Engineering, the College of Fine Arts, the School of Law, and the School of Architecture and Planning. Separate boards review proposals from the Health Sciences Center, and College of Education.

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 UNM, and have received approval for that protocol. Students on main campus may obtain the protocol from the departments of Biology or Psychology; those on north campus should contact the Animal Resource Facility, located in the Basic Medical Sciences Building.

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 petition should be initiated and signed by the student in the form of a memo or letter addressed to the Dean of Graduate Studies. 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 will require that the student have an approved "Application for Candidacy" on file at the office of Graduate Studies (OGS). If this has not already been submitted, both documents may be turned in simultaneously, with the petition attached to the front.

Petitions must be submitted in the sequence listed below:

1. The student must first submit the petition to his/her graduate advisor. The advisor 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 chair, 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 it was not endorsed by the advisor. 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 Office of Graduate Studies. The student may choose to submit the petition to the OGS even if it was not supported by his/her academic unit. 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 written response to a 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 be returned to the student, and will not be considered until all documentation has been received.

Inquiries regarding the status of a petition should be directed to the Academic Records Assistant at (505) 277-2714.

Graduate Student 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 procedures may not be used to challenge the denial of admission to a degree program nor to appeal the refusal of a petition by the Dean of Graduate Studies for an exception to university-wide degree requirements, policies or procedures.

1. A student with a complaint related to academic matters is encouraged to 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 chair in resolving the dispute. If the dispute is with a faculty member in a department different from the student's, the appropriate chair 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 course in which the dispute arose 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 pathfinder, under "Student Grievance Procedure", Sections 2.3.1-2.3.7.

- a. 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. The faculty or staff member against whom the grievance has 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.
- b. 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.
- c. 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.
- d. Generally, a written report on the grievance will be issued by the Dean within a period of four weeks after it 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.
- e. 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.

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:

Architecture (I, II; M.Arch.)
 American Studies (I, II; M.A.)
 Anthropology (I, II; M.A., M.S.)
 Architecture (I, II; M.Arch.)
 Art History (I; M.A.)
 Biology (I, II; M.S.)
 Biomedical Sciences (I, II; M.S.)
 Chemistry (I, II; M.S.)
 Communication (I, II; M.A.)
 Speech and Hearing Sciences (I, II; M.S.)
 Community and Regional Planning (I, II; M.C.R.P.)
 Comparative Literature (II; M.A.)
 Earth and Planetary Sciences (I; M.S.)
 Economics (I, II; M.A.)
 Education:
 Educational Administration (I, II; M.A.)
 Art Education (I, II; M.A.)
 Counseling (I, II; M.A.)
 Elementary Education (I, II; M.A.)
 Family Studies (I, II; M.A.)
 Foundations of Education (I, II; M.A.)
 Health Education (I, II; M.S.)
 Nutrition (I, II; M.S.)
 Organizational Learning and Instructional Technologies (I, II; M.A.)
 Physical Education (I, II; M.S.)
 Recreation (I, II; M.A.)
 Secondary Education (I, II; M.A.)
 Special Education (I, II; M.A.)
 Engineering:
 Chemical (I, II; M.S.)
 Civil (I, II; M.S.)
 Computer Science (II; M.S.)
 Electrical and Computer (I, II; M.S.)
 Hazardous Waste Engineering (II; M.E.)
 Manufacturing Engineering (I, II; M.E.M.E.)
 Mechanical (I, II; M.S.)
 Nuclear (I, II; M.S.)
 English (I, II; M.A.)
 French (I, II; M.A.)
 Geography (I, II; M.A.)
 German Studies (I; M.A.)
 History (I, II; M.A.)
 Linguistics (I, II; M.A.)
 Latin American Studies (I, II; M.A.)
 Management (II; M.B.A.)
 Mathematics (II; M.A.)
 Music (I, II; M.Mu.)
 Nursing (I, II; M.S.N.)
 Pharmaceutical Sciences
 Hospital Pharmacy (I, II; M.S.)
 Pharmacy Administration (I, II; M.S.)

Radiopharmacy (I, II; M.S.)
 Toxicology (I, II; M.S.)
 Philosophy (I, II; M.A.)
 Physics and Astronomy (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.)
 Sociology (I; M.A.)
 Spanish (I, II; M.A.)
 Theater and Dance (I, II; M.A.)
 Water Resources Administration (II; M.W.R.A.)

See also: Master of Fine Arts degree.

General Requirements

To meet general requirements for a master's degree a student must:

1. complete the coursework requirements of a Plan I or II program (described below);
2. fulfill any additional department or graduate unit requirements (e.g., foreign language or skill requirement, practicum, etc.);
3. maintain a cumulative GPA of 3.0 or higher;
4. have an Application for Candidacy approved by the Dean of Graduate Studies;
5. pass the Master's Examination and/or Final Examination for Thesis.

Requirements specific to individual degree programs are described in the appropriate sections of this Catalog.

Five-Year Rule

All work toward a master's degree (including coursework transferred from another institution) must be completed within a five-year period. This five-year period commences with the first graduate course listed on the student's Application for Candidacy. Any petition to the Dean of Graduate Studies for an extension of this time limit must be made in writing and must be approved by the student's graduate unit.

Plans I and II

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 coursework
2. A minimum of 6 hours of 500-level coursework
3. A maximum of 6 hours in problems courses and a maximum of 5 hours of workshop credit
4. At least 50% of required coursework must be completed after admission to the graduate program
5. If a minor is declared, a minimum of 14 hours in the major and 7 hours in the minor

6. Six hours of Thesis (599) credit
7. Completion of a master's thesis

Plan II Requirements

1. A minimum of 32 hours of coursework
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
4. At least 50% of coursework requirements completed after admission to the graduate program
5. If a minor is declared, a minimum of 18 hours in the major and 12 hours in the minor

Within either Plan I or Plan II, the student and the major advisor may design a program of studies in which work is done only in the major graduate unit, in the major and a minor graduate unit, or in the major and one or more related graduate units. The following regulations must be observed:

1. Each program of studies must be approved by the student's major graduate unit and by the OGS (see Application for Candidacy).
2. A student may change to another degree program only with the approval of the new graduate unit and the OGS (see Change of Degree Level or Program).
3. After an Application for Candidacy has been filed, a student may change between Plans I and II only with the approval of the major graduate unit and the OGS, and must submit a new Application for Candidacy.
4. Application/Transfer of Credit: The application or transfer of credit to a program of studies is never automatic. With the approval of the student's graduate unit, up to 50% of the coursework requirements for a master's degree may consist of a combination of applied/transfer credits within the restrictions specified earlier in this Catalog, provided that: (a) the coursework is judged by both the graduate unit and the Dean of Graduate Studies to be appropriate to the student's degree program, (b) the coursework is graded at least a B and was completed within the required five-year period, and (c) any additional restrictions that may have been imposed by the particular graduate unit have been fulfilled.

NOTE: Coursework that has been counted toward a previous degree may not be counted again in the program of studies for a master's degree.

5. No more than half the graduate program's minimum required coursework hours, exclusive of Thesis, may be taken with a single faculty member, except in extraordinary circumstances.
6. When a master's student elects a formal minor, the student must consult with a member 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 chair of that unit (see Declared Minors, below).

Application for Candidacy for the Master's Degree

A master's degree student should file an Application for Candidacy with the Office of Graduate Studies as soon as he/she has, in consultation with the major advisor, planned a program of studies for the degree, but not before completion of twelve credits of coursework. This form may be obtained from the academic unit or the OGS. The Application for Candidacy must be submitted no later than the semester prior to that in which the student expects to graduate, and must be approved by the Dean of Graduate Studies before a student may take the master's examination. Any student filing a petition for exception to standard policies and procedures will be required to submit an Application for Candidacy before that petition will be considered by the Dean of Graduate Studies.

Declared Minors

A master's degree student may elect a formal minor in a different graduate unit. All coursework to satisfy the minor requirements must come from the minor graduate unit. In addition to the Plan I and Plan II requirements set forth earlier in this Catalog, the student must submit a "Declared Minor" form with the Application for Candidacy, signed by both the major and minor units. At least one member of the student's master's examination or thesis committee must be from the minor unit, unless this right is waived by the chair of the minor unit. Graduate units may establish additional requirements for a declared minor in their discipline (e.g., an increase in minimum coursework hours, specific courses, etc.).

Notification of Intent to Graduate

Students must inform their graduate unit and the OGS in writing of their intention to graduate at the end of a particular semester by submitting a "Notification of Intent to Graduate" form. The form is first submitted to the graduate unit for approval and then to OGS. The deadlines for the OGS to receive this notification are October 1 for Fall graduation, March 1 for Spring, or July 1 for Summer. Submission of this form, however, does not ensure that the student will graduate in that semester. Graduation is dependent upon the completion of all degree requirements for graduation by November 15 for Fall, April 15 for Spring, or July 15 for Summer. If a student does not complete all degree requirements for graduation in a particular semester, a new form must be submitted for graduation in a subsequent semester.

NOTE: This form should only be submitted if it is quite certain that the student will graduate in that

semester. The "Notification of Intent to Graduate" will be returned to the unit without processing if the student's Application for Candidacy was not filed by the prior semester.

Required Enrollment

Plan I master's students must be enrolled for the semester (including the summer session) in which they complete degree requirements (usually the submission of the approved thesis to the Dean of Graduate Studies). Plan II students do not need to be enrolled during the semester in which they take the master's examination if fewer than three consecutive semesters (including summer session) have elapsed since their last enrollment. Students who have not taken their master's examination within this time period will lose their graduate status, and must apply for readmission and enroll for at least one graduate credit to regain that status.

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, depending upon the requirements of the graduate unit, written, oral, or both. The examination will be conducted by a committee of three members approved for graduate instruction, at least two of whom must hold regular, full-time faculty appointments at UNM. The chair of the examination committee must be a regular faculty member. Non-regular faculty may serve as co-chairs. The committee must be approved by both the major graduate unit and the Dean of Graduate Studies. The master's examination may be taken only after the Application for Candidacy has been approved by the Graduate Dean, and only if the student has a cumulative GPA of at least 3.0. In the case of Plan I students, the thesis defense may be considered as the master's examination; for these students, the thesis chair usually serves as chair of the master's examination committee.

At least two weeks before the master's examination, the major graduate unit must notify the OGS of its scheduled date by submitting an "Announcement of Examination" or "Announcement of Final Examination for Thesis" form. Barring extraordinary circumstances, the student will be notified 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 must be reported to the OGS by November 15 for Fall graduation, April 15 for Spring graduation, or July 15 for Summer graduation. A student who fails the examination may be allowed a second attempt within one calendar year. The master's examination may be taken only twice.

Thesis (599) Credit

Plan I students must complete a minimum of six hours of Thesis (599) credit, and only six credits may be applied to the program of studies. Once initiated, continuous enrollment (excluding summer sessions) in Thesis (599) is required until the thesis is accepted by the Dean of Graduate Studies. 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 in order to re-establish their standing in their program, and pay the tuition for each missed semester. (Procedures for reinstatement are available at the OGS.) In extraordinary circumstances, the Dean of Graduate Studies may waive the requirement for continuous enrollment upon presentation of a written request submitted by the student, and approved by the thesis chair and the graduate unit.

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, and has been approved by a thesis committee of three members approved for graduate instruction, at least two of whom hold regular full-time faculty appointments at UNM. The thesis chair, who will assume the major responsibility for guiding the student's work, must be a regular University faculty member approved by the student's graduate unit. 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.

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. Additional copies may be required by the student's graduate unit.

Thesis Format

The student is responsible for preparing a thesis in proper format, that is of high reproduction quality and free of grammatical and typing errors. Detailed guidelines on thesis format are available from each graduate unit and the OGS. Students are urged to obtain a current copy, and to contact the OGS Manuscript Coordinator for advice before completing their thesis.

Accompanying Forms

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

1. A "Report on Thesis or Dissertation" ("grey sheet"), completed by each committee member may be sent to the OGS by the graduate unit. If accompanying the material submitted

by the student, the form should be sealed in an envelope by the graduate unit and marked "Confidential". These forms must be received by the OGS before the student's thesis receives final approval.

2. A "Certificate of Final Form"
3. An Information Cover Sheet (which will be attached to the box in which the manuscripts are placed)

Students are also responsible for obtaining from the UNM Bookstore two sets of red-bordered pages, each including an Approval page, a Title page, and an Abstract Title page. One set of these pages must be included with each copy of the manuscript submitted to the OGS.

Fees

A fee of \$25 must be paid at the Bursar's Office. This fee includes a \$10 graduation fee and a \$15 thesis binding fee for the two 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.

Reproduction

The Copy/Media Center located on the lower level of Zimmerman Library, the Department of Mathematics and Statistics (Humanities Building, Room 419), the School of Engineering Copy Center, and the UNM Printing Plant have facilities available for thesis reproduction. A limited number of printing firms in the metropolitan area will also guarantee their work if given an original of good quality. To ensure acceptance of copies obtained through these or any other sources, or to verify the satisfactory quality of typing and format in the original manuscript, the student may wish to submit sample pages to the OGS well in advance of the thesis submission deadline.

Thesis in a Foreign Language

Students who plan to write a thesis in a language other than English must submit a written request for 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.

Dual Master's Degree Programs

Students may obtain certain master's degrees concurrently. (See Dual Graduate Degree Programs, page 55.)

Master of Fine Arts Degree

As of the publication date of this Catalog, the degree of Master of Fine Arts (MFA) in Studio Art is offered by the Department of Art and Art History under Tracks I and II.

The MFA is the terminal degree in studio art. As such, its primary emphasis is on the creative

aspects of an individual's work. The MFA usually requires at least three years of intensive study and research beyond the bachelor's degree. Although the number of formal requirements for the MFA are in some respects comparable to doctoral degrees in other fields, the scope and objectives of the MFA degree are uniquely different. The MFA degree represents strong creative achievement in studio art, an assured grasp of an area of concentration, a sound knowledge of critical and historical thought about art, 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.

Track I requires a balanced concentration of work among creative, critical, analytical, and historical research, culminating in a written dissertation and an exhibition of creative work.

Track II requires a concentration on 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 presentation. For more specific information about Tracks I and II please consult the Department of Art and Art History section of the Catalog.

Course Work Requirements

The MFA degree requires a minimum of forty-eight hours of coursework. Twenty-four of these hours must be completed at UNM, of which at least eighteen, exclusive of dissertation hours, must be taken after admission to the MFA program.

Transfer/Application of Credit

With the approval of the student's graduate unit, up to 12 hours of the coursework requirements for an MFA may consist of a combination of applied/transfer credits within the restrictions specified earlier in this Catalog, provided that: (a) the coursework is judged by both the graduate unit and the Dean of Graduate Studies to be appropriate to the student's degree program, (b) the coursework is graded at least a B, and (c) any additional restrictions that may have been imposed by the graduate unit have been fulfilled.

Doctoral Degrees

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.)
- Business and Administrative Services (Ph.D.)
- Chemistry (Ph.D.)
- Computer Science (Ph.D.)
- Communication (Ph.D.)
- Earth and Planetary Sciences (Ph.D.)
- Economics (Ph.D.)

Education:

- Administration and Supervision (Ph.D., Ed.D.)
- Counseling Education (Ph.D., Ed.D.)
- Educational Linguistics (Ph.D., Ed.D.)
- Educational Thought and Sociocultural Studies (Ph.D., Ed.D.)
- Family Studies (Ph.D.)
- Health, PE and Recreation (Ph.D., Ed.D.)
- Multicultural Teacher and Childhood Education (Ph.D., Ed.D.)
- Organizational Learning and Instructional Technologies (Ph.D., Ed.D.)
- Psychological Foundations of Education (Ph.D., Ed.D.)
- Special Education (Ph.D., Ed.D.)
- Engineering (Ph.D.)
- English (Ph.D.)
- History (Ph.D.)
- Latin American Studies (Ph.D.)
- Linguistics (Ph.D.)
- Mathematics (Ph.D.)
- Optical Sciences (Ph.D.)
- Pharmaceutical Sciences
 - Hospital Administration (Ph.D.)
 - Toxicology (Ph.D.)
- Philosophy (Ph.D.)
- Physics (Ph.D.)
- Political Science (Ph.D.)
- Psychology (Ph.D.)
- Romance Languages (Ph.D.)
- Sociology (Ph.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 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.

Admission

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 UNM or at another 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 currently in a master's program at UNM and wish to apply for admission to the doctoral program (in the same field or a different one) may do so by means of the Request for Change or Addition of Degree or Graduate Unit form, available in the OGS or in the academic units. Completion of a master's degree does not guarantee admission to a doctoral program in the same or any other graduate unit.

Doctoral Committee on Studies

Each doctoral student will be assisted by a Committee on Studies 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. It may include a minor field, which ordinarily will amount to one-fourth to one-third of the minimum course requirements, or any appropriate amount of work selected from related fields, as determined by the needs of the individual student.

The Committee on Studies must consist of at least three UNM faculty members approved for graduate instruction. The chair must be a regular faculty member approved by the student's graduate unit. If the student's program is to include a minor or a significant amount of non-major work, additional members may be appointed as appropriate.

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 Chair and members must approve the program and oversee its execution. 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 usually serve as the core of the dissertation committee, and the comprehensive and final examination 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 chair or graduate unit advisor, as evidenced by the his/her signature on the student's Application for Doctoral Candidacy; and (4) the Committee must be approved by the Dean of Graduate Studies (as part of the approval of the Candidacy Application).

Coursework Requirements

1. A minimum of 48 credit hours of coursework (certain graduate programs require more hours)
2. At least 24 credit hours must be completed at UNM
3. At least 18 credit hours must be completed after admission to the doctoral program at UNM
4. A minimum of 18 credit hours must be earned in UNM courses numbered 500 or above
5. No more than 50% of the required course credits at UNM may be taken with a single faculty member. (Coursework that has been completed for the master's degree is included in this limit.)

In addition to coursework requirements, 18 hours of dissertation credits (699) are required for the doctorate.

Application/Transfer of Credit

The following regulations apply to the application or transfer of credits toward a doctoral degree:

1. Credit hours previously applied to a master's degree from UNM or another accredited institution may be applied to the degree. These credits may include (a) UNM non-degree and/or extension credit, (b) a maximum of nine hours of approved graduate-level courses taken in undergraduate status, (c) UNM Law credit, and (d) a maximum of six hours of thesis credit or other coursework graded Pass or Credit (CR).
2. A maximum of 12 credit hours of graduate-level credit taken at UNM prior to admission to a doctoral program may be applied if they were not previously applied toward the master's degree.
3. A maximum of six hours of graduate level credit taken at another accredited institution (either in graduate or non-degree status) and not already applied toward a master's degree, may be transferred to the doctoral degree. If these credits have been taken at New Mexico institutions covered by cooperative agreements (i.e., New Mexico State University, New Mexico Institute of Mining and Technology), a total of 12 hours may be transferred.

The credits defined above may be applied or transferred toward a doctoral degree provided that:

1. grades of B (3.0) or better were earned;
2. the student has already completed at least 12 hours of graduate work in a doctoral program at UNM;
3. the application/transfer of these credits is approved by the student's Committee on Studies and the credits are listed on the student's Application for Candidacy;
4. the application/transfer of these credits is approved by the Dean of Graduate Studies.

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.

A student will not be advanced to candidacy for the doctoral degree until the graduate unit certifies to the Dean of Graduate Studies that proficiency in foreign language or other skill(s), as required, has been attained. This is usually done through submission of the "Certification of Language or Research Requirement" form.

For information concerning the Educational Testing Service foreign language examinations, the student should contact Assessment and Counseling Services, University College.

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 coursework, but tests the student's grasp of the field as a whole. The administration of this exam is governed by the following guidelines:

1. The student must have a cumulative GPA 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 "Announcement of Examination" is approved and returned to the unit.
3. The examination is usually conducted by the student's Committee on Studies and any other persons appointed by the major graduate unit in consultation with the student and with the approval of the Graduate Dean. The examining committee must consist of at least three members approved for graduate instruction. The chair of the committee must hold a regular, full-time faculty appointment at UNM.
4. Barring extraordinary circumstances, the student will be notified of the results of the examination no later than two weeks after the date on which it was administered. Should such circumstances arise, the unit will notify the student in writing of the reason for the delay, and let him/her know when notification can be expected.
5. The results of the examination must be reported to the Dean of Graduate Studies on the "Report of Examination" form.
6. 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. The doctoral comprehensive examination may be taken only twice.

Advancement to Candidacy for the Doctoral Degree

A doctoral student must apply for and be admitted to doctoral candidacy. The Application for Doctoral Candidacy, which is available at the OGS or the graduate unit, formally summarizes a student's program of studies. Approval of that program of studies by the student's Committee on Studies must be indicated by their signatures on this form, along with that of the graduate unit chair.

The completed Application for Doctoral Candidacy should be forwarded to the OGS during the semester in which the student has both passed his/her comprehensive examination and completed any required language or research skill. It should be accompanied by

the "Report of Examination" and "Certification of Language or Research Skill Requirement" forms. After determining that all requirements except for outstanding coursework and the dissertation have been fulfilled, the Dean of Graduate Studies will advance the student to candidacy.

Any student filing a petition for exception to standard policies and procedures will be required to submit a completed Application for Doctoral Candidacy before that petition will be considered by the Dean of Graduate Studies.

Time Limit for Completion of Degree Requirements

Doctoral candidates have five calendar years to complete all degree requirements from the date on which they are formally advanced to candidacy by the Dean of Graduate Studies. The final requirement is generally the acceptance of the student's dissertation manuscript by the Dean of Graduate Studies. Any request for an extension of this time limit must be submitted to the Dean of Graduate Studies in the form of a petition, which has been endorsed by the student's dissertation committee and graduate unit chair.

Notification of Intent to Graduate

A student must inform the major graduate unit and the OGS in writing of his/her intent to graduate at the end of a particular semester. Notification is usually made by submitting a "Notification of Intent to Graduate" form. The form is first submitted to the graduate unit for approval and then to the OGS. The deadlines for the OGS to receive this form are October 1 for Fall graduation, March 1 for Spring graduation, or July 1 for Summer graduation. Submission of this form, however, does not ensure that a student will graduate in that semester. Graduation is dependent upon completion of all degree requirements by November 15 for Fall, April 15 for Spring, or July 15 for Summer. If a student does not complete all degree requirements in time for graduation in a particular semester, a new Notification of Intent to Graduate form must be submitted for graduation in a subsequent semester. Doctoral students may not participate in commencement exercises unless all degree requirements have been fulfilled.

NOTE: This form should only be submitted if it is quite certain that the student will graduate in that semester. The "Notification of Intent to Graduate" will be returned to the unit without processing if the student's Application for Candidacy was not filed by the prior semester.

The Dissertation Committee

Each candidate for a Ph.D. or Ed.D. must prepare a dissertation. 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 of their dissertation and the committee chair. 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 chair or graduate advisor of the graduate unit, and approved by the Dean of Graduate Studies. Subsequent changes in the committee must be communicated in writing by the chair or graduate advisor to the OGS.

Composition of the Dissertation Committee

1. The committee will consist of at least four members approved for graduate instruction by the Dean of Graduate Studies.
2. At least two members must hold regular, full-time faculty appointments at UNM.
3. At least one of the members must be from the student's graduate unit.
4. The dissertation director must be a regular (tenured or tenure-track), full-time member of the UNM faculty.
5. A required external member must hold a regular full-time appointment outside the student's unit/department at UNM. This member may be from UNM or from another accredited institution.
6. One of the committee members may be a non-faculty expert in the student's major research area.

Supplemental Appointments

Graduate units are encouraged to supplement the minimum committee membership described above with qualified members from outside the University. The OGS will facilitate such efforts whenever possible. These supplemental appointments must be identified on the Appointment of Dissertation Committee form immediately following the establishment of the committee. Appointments must be approved by the Dean of Graduate Studies.

Students who select an external member from another institution or a supplemental member will have full responsibility for any transportation or other costs associated with that member's participation on the committee.

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 may not begin prior to the semester in which the student takes the 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 begin to 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. The specific number of hours taken should reflect the amount of time the student is devoting to working on the dissertation and the demand the student places on faculty, laboratories, libraries, and other University resources. Minimum enrollment in 699 for one semester is 3 hours; this number is appropriate when the candidate is working full-time off campus while continuing to make progress with the dissertation. Six hours of 699 represents a half-time commitment.

Once a student has enrolled for dissertation (699) hours, continuous enrollment is expected in subsequent semesters (exclusive of summer sessions) until the dissertation is accepted by the Dean of Graduate Studies. This rule applies whether or not the candidate is enrolled for other credit hours. Students who have enrolled for 699 and subsequently stopped enrollment for one or more semesters (not including summers) must petition for reinstatement in order to re-establish their standing in their program, and must pay the tuition for each missed semester. (Procedures for reinstatement are available at the OGS.) In extraordinary circumstances, the Dean of Graduate Studies may waive the requirement for continuous enrollment upon presentation of a written request from the student, approved by the dissertation director and the graduate unit.

Doctoral candidates must be enrolled the semester in which they complete degree requirements, including the summer session.

The Dissertation

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.

Dissertations in a Foreign Language

Students who plan to write a dissertation in a language other than English must submit a written request for 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. Detailed format guidelines are available from the OGS. Students are urged to obtain a current copy, and to contact the OGS Manuscript Coordinator for advice before completing the manuscript.

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 other faculty members, 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, the major graduate unit must notify the OGS of its scheduled date by submitting an "Announcement of Final Examination for the Doctorate" form. 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; 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 grey sheets, the Graduate Dean may seek the counsel of the dissertation committee, graduate unit chair and/or other scholars with particular competence in the field of study before the dissertation receives final approval.

Submission of the Dissertation

Two copies of the unbound dissertation, each with an abstract of not more than 350 words, all in perfect form and approved by at least three members of the dissertation committee, shall be submitted for the approval of the Dean of Graduate Studies by November 15 for Fall graduation, April 15 for Spring, or July 15 for Summer. Additional copies may be required by the graduate unit. 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. If the OGS finds fault with the format of the manuscript, the author and the committee chair will be immediately notified. The author will also be notified by letter 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:

1. A "Report on Thesis or Dissertation" ("grey sheet") completed by each committee member may be sent to the OGS by the graduate unit. If accompanying the material submitted by the student, the forms should be sealed in an envelope by the graduate unit and marked "Confidential". These forms 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 will be attached to the box in which the manuscript is placed)
4. A "Survey of Earned Doctorate"

Students are responsible for obtaining from the UNM Bookstore two sets of red-bordered pages, each including an Approval page, a Title page, and an Abstract Title page. One set of these pages must be included with each copy of the manuscript submitted to the OGS.

Fees

A fee of \$25 must be paid at the Bursar's Office. This fee includes a \$10 graduation fee and a \$15 dissertation binding fee, which covers the cost of binding for the two 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.

UMI Fee: Effective Fall semester 1996, all doctoral students must, as part of graduation requirements, have their dissertations published through University Microfilms International (UMI). This will involve completion of a contract, available from the Manuscript Coordinator at the OGS, and payment of a fee to UMI. (The fee, currently \$50, is subject to change.)

Reproduction

The Copy/Media Center located on the lower level of Zimmerman Library, the Department of Mathematics and Statistics (Humanities Building, Room 419), the School of Engineering Copy Center, and the UNM Printing Plant have facilities available for dissertation reproduction. A limited number of printing firms in the metropolitan area will also guarantee their work if given an original of good quality. To ensure acceptance of copies obtained through these or any other sources, or to verify the satisfactory quality of typing and format in the original manuscript, sample pages should be submitted to the OGS well in advance of the deadline for the submission of the dissertation.

The Tom L. Popejoy Dissertation Prize

Each year a prize of \$1,000 is awarded to the author of the outstanding dissertation in one of three major research areas, selected in rotation: (1) Biological and Physical Sciences, Engineering, and Mathematics; (2) Humanities and the Arts; (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.

Dual Graduate Degree Programs

NOTE: 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.

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 Associate Director for Academic Programs of the Latin American Institute. 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 three-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 graduate advisors in the School of Law and in the Latin American Institute.

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 in business and administrative sciences 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 are urged to 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 a 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. Only one application fee will be charged, but 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 six 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 chair of the graduate unit offering the other degree. Only one application fee will be charged, but the student 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 chair of the department in which a master's 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.

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 (with concentration in international management) 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 international emphases (and especially those emphasizing Latin America/Iberia). A minimum of 52 (normally 72) graduate credit hours distributed among prescribed courses in the two graduate schools is required if no waivers are granted plus proof of proficiency in Spanish or Portuguese. Students who are not already competent in Spanish or Portuguese must pursue the development of competency as a co-requirement (without graduate credit) during their graduate program. Students with undergraduate degrees in any discipline may be admitted to this program; however, they must satisfy the admission and other academic requirements of both graduate schools. Those planning to enter this dual degree program are urged to consult with the M.B.A. Program Office in the Anderson

Graduate School and the Associate Director for International Management Programs, UNM Latin American Institute, 801 Yale NE.

The M.C.R.P. and Master of Public Administration

The joint 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 which 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. Upon completion of the core courses in Public Administration, all M.P.A.

and joint degree students must take and pass a written qualifying exam. At the end of the M.C.R.P./M.P.A. coursework, students elect to complete a thesis supervised by a joint faculty committee or a public administration professional paper plus a community and regional planning independent project.

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. Joint 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. in Nursing 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/or the Latin American Studies program.

Individual Dual Degree Programs

To pursue an integrated course of study combining two master's degree programs, graduate students may, with prior approval of the two department chairs, 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 proposal for the particular dual degree program, including a description of the objectives to be achieved. The approval of the two graduate unit chairs (or graduate unit advisors) must be indicated by their signatures, and a copy of the proposal filed with the OGS.
2. The student must meet all requirements for both master's degrees, with the exception that transfer of a maximum of six hours from each field to the other is permitted.
3. a. A new applicant wishing to pursue a dual degree program must apply for admission to both graduate units, identifying each graduate unit to the other on both applications. Only a single application fee is charged, and 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 already enrolled in one master's degree program and wishes to pursue a second master's degree concurrently under this policy will file, in the OGS, a "Request for Change or Addition of Degree or Graduate Unit" form indicating an Addition of Major. 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.



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.

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

Under the provisions of this Act the following policies apply:

1. Currently enrolled students, or any former students, may inspect their educational records upon submitting an official request and obtaining an appointment to do so.
2. A student may challenge inaccuracies or misleading items. However, the fairness of a grade may not be challenged under this provision.
3. A student's record is not released without written consent except to UNM faculty and staff with a legitimate educational interest. Other exceptions are to comply with a judicial order, or in an emergency involving the health or safety of a student or other person.
4. When a record is released, the recipient is notified by UNM that the record may not be released to a third party.
5. With the exception of disclosures to academic personnel, a record is kept of disclosures of personally identifiable information for which the student has not given written consent.
6. Directory information, as outlined below, may be released without the student's written consent unless the student has requested that directory information be withheld. Directory information includes: STUDENT'S NAME, ADDRESS, TELEPHONE LISTING, DATE OF BIRTH, MAJOR FIELD OF STUDY, FULL OR PART-TIME STATUS, DATES OF ATTENDANCE, DEGREES AND AWARDS RECEIVED, MOST RECENT PREVIOUS EDUCATIONAL AGENCY OR INSTITUTIONS ATTENDED BY STUDENT, AND PARTICIPATION IN OFFICIALLY RECOGNIZED ACTIVITIES AND SPORTS, WEIGHT AND HEIGHT OF MEMBERS OF ATHLETIC TEAMS.

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7. Copies of and Information about the Rights and Privacy Act are available in the Records & Registration Office, Student Services Center, Room #250.

Change of Name

Students who need to process a change of name for their academic records must bring appropriate documentation (at least two types of identification showing the new name) to the Records & Registration Office. Examples of such documentation are: marriage certificate, birth certificate, or court order for legal name change. Name changes will be processed only for currently enrolled students.

Transcripts

The Records & Registration Office issues both official and unofficial copies of UNM student academic records. A student may request an official transcript of their academic record and it will be issued in accordance with the student's wishes subject to transcript policies. A fee is charged for all official transcripts. The student's signature is required to authorize the release of their transcript. Contact the Records & Registration Office, (505) 277-2916 for more information.

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

Transcript Holds

No official transcript at the university will be released to the student or to any other person or institution until all the student's outstanding financial obligations to the university have been paid or until satisfactory arrangements have been made. These obligations include, but are not limited to, loans, such as the New Mexico Student Loan Program, library fines, tuition and fees, and other charges. All financial arrangements are handled in the Bursar's Office, not the Records & Registration Office. Transcripts may also be held for nonfinancial reasons such as incomplete admission status.

Grade Notification

Students can access semester grades via I-TEL-UNM. If a hard copy is required, it can be obtained via the CTT machines located in the lobby of the Student Services Center or by calling the Records and Registration Office at 277-2916.

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 presump-

tion continues in effect until rebutted by clear and convincing evidence of bona fide residence. A student determined to be financially dependent on a 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 third Friday of each Fall and Spring semester in Room 261, Student Services Center.

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 Twelve Month Consecutive Presence Requirement

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

NOTE: A student cannot begin to complete the twelve month requirement until his or her eighteenth birthday.

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. Securing a New Mexico driver's license.
2. Securing a New Mexico automobile registration.
3. Registering to vote in New Mexico.
4. Filing a New Mexico state tax return for the previous year.
5. Securing employment in the state.
6. Purchasing residential or business property in the state.
7. Having a long-established bank account.

The student must meet the requirements of all of the overt acts listed in this section unless they can sufficiently demonstrate why they are unable to do so. In instances such as these, the institution will afford the student an opportunity to provide other

documentary evidence or reasonable explanation which demonstrates that permanent residency in New Mexico have been established by the student.

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 twelve month durational requirement. However, all other requirements must be satisfied.
3. Active duty military stationed in New Mexico, members of the New Mexico National Guard, their spouses and dependents are eligible for waivers for non-resident tuition. A form must be submitted to obtain this waiver.

According to UNM's tuition policy:

Students enrolling for *six 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. For more information please call 277-8466.

Registration

Advisement

All freshmen and new transfer students are required to consult an advisor before actually registering for classes. The Colleges of Engineering and Education **require** advisement every semester prior to registration. There are advisement centers in each of the degree-granting colleges. A special center in the Office of Undergraduate Studies exists to advise those students uncertain about the specific field in which they wish to earn a degree. Students previously enrolled at the university are also urged to take advantage of this service.

Schedule of Classes

The Schedule of Classes is an official publication of the Registrar's Office, distributed each semester without charge. The schedule lists the semester's course offerings, dates, times, places, and procedures for registration along with other important information relating to the semester. Please refer to the Schedule of Classes for up-to-date information each semester.

Registration Procedures

Details of the registration procedures are contained in the Schedule of Classes. Registration materials are prepared by the Registrar's Office and distributed to students in advance of each registration period.

University ID Card (LOBO CARD)

A nontransferable photo ID card is required to be issued to each UNM student. The photo ID card, or *LOBO CARD*, allows you to check out materials from libraries, access athletic events, the Student Health Center, recreational facilities, campus meal plans, and other on-campus services. In addition, there are other user-activated options available both on and off campus, including use as a bank debit and ATM card, and telephone long-distance calling card.

The Lobo Card Office is located in the Student Services Center, #131. The phone number is 277-9970. The following policies are in effect for the LOBO CARD:

1. The card is valid upon admission to the university, it is issued once, and is active upon a student's enrollment. The card is activated and deactivated based on the student's enrollment status for subsequent semesters. The ID card has no expiration date. Students are required to provide reasonable identification before a LOBO CARD is issued.
2. LOBO CARDS are issued with the name and student identification number appearing on the latest student listing for the current session.
3. Updating of name or student identification number requires the reporting of the change to the Records & Registration Office and submitting a correction slip to the LOBO CARD office in the Student Services Center, #131.
4. Lost or stolen LOBO CARDS must be reported as soon as possible to the LOBO CARD Office in the Student Services Center, #131.
 - a. A non-refundable, non-waiverable replacement fee of \$10 will be collected at the Cashier's Office in the Student Services Center. The receipt for the replacement must be presented at the LOBO CARD Office in order to obtain a replacement card.
 - b. Payment of a replacement fee constitutes authority for the de-activation and deletion of the lost or stolen ID from UNM's card database. Once that occurs, the old LOBO CARD can never be reactivated.
 - c. If a lost card is found before the replacement is issued, the returned LOBO CARD may be picked up at the Lobo Card Office.
5. Fraudulent use of a LOBO CARD is cause for card privileges to be revoked. Unauthorized 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 both to student disciplinary proceedings, or to appropriate authorities for legal action.

Payment of Tuition and Fees

Payment of tuition and fees is required to complete reg-

istration. Instructions for payment and payment deadline dates are published in the Schedule of Classes. For specific information about tuition and fees, refer to the *Student Expenses* section of this catalog.

Enrollment Limit

Students may not take more than 18 semester hours during regular sessions and 9 semester hours during 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 Dean of Continuing Education and Community Services to take more than 9 semester hours during a regular semester.

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 future enrollment or whether a student is full or part-time.

The University of New Mexico will produce a standardized enrollment certification document validating a student's status for the current semester, pre-registered 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 or picked up. This document will replace the institutionally specific forms. Students that request processing of specific documents will be required to pay \$10.00 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 W/P (withdrawal passing) or W/F (withdrawal failing). The grade W/F is included in the total course load for purpose of *enrollment verification*. W/P is not included in the total course load for purpose of *enrollment verification*. Courses taken in Audit status or Extension or Correspondence status are also *not* included in total course load, for purposes of enrollment verification.

Course Load Guidelines

Undergraduates/Non-Degree

1. Academic Year
 - a. Full-time: 12 or more credit-hours.
 - b. Half-time: 6-11 credit-hours.
 - c. Less than Half-time: 5 or fewer credit-hours.

2. Summer Session
 - a. Full-time: 6 or more credit-hours.
 - b. Half-time: 3-5 credit-hours.
 - c. Less than Half-time: 1 or 2 credit-hours.

Graduate Students

1. Academic Year
 - a. Full-time: 9 or more credit-hours.
9 or more of 699
6 credit-hours and an assistantship.
 - b. Half-time: 5-8 credit-hours.
 - c. Less than Half-time: 4 or fewer credit-hours.
2. Summer session
 - a. Full-time: 6 or more credit-hours.
6 or more of 699.
3 credit-hours and an assistantship.
 - b. 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. The following information refers to **full semester courses**.

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. A student may withdraw from a course after the above listed "Drop" deadline until the end of the twelfth week of the semester. Course withdrawals are subject to grades of W/P or W/F to be determined by the instructor at the time of the withdrawal. The W/F will be computed as a failing grade in the student's grade-point average. After the twelfth 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.

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 he or she is registered in any course for the proper grading option. (Graduate students see sections of this Catalog that pertain to graduate courses.)

Completion of Student 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 recorded on university records. 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.

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 his or her program to be over the maximum load allowed and only after approval has been given by the dean or director of his or her college.

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.

Withdrawal from the University

- Students who wish to withdraw from all of their courses on or after the first day of classes may do so via I-TEL-UNM (246-2020). Students may contact the Dean of Students Office, 277-3361 for advisement on withdrawing from all courses.
- Students withdrawing during the first six weeks of classes will not have course or grade notations on their academic records. The notation on a student's record will be "withdrew" and the date of the withdrawal.
- University withdrawals initiated after the sixth week of classes will be subject to grades of W/P or W/F. The grade of W/F 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.
- 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.
- Students will also be responsible for all tuition and fees for a semester in which they do not properly withdraw.

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. **Ignorance of a rule will not be accepted as a basis for waiving that rule.**

Change of College

Undergraduate students who desire to gain admission to a degree granting unit or to change their enrollment from one college to another within the university must petition the dean or director of the college in which they wish to enroll. A change in

college after the third week of the semester is effective for the next semester. At the time of graduation, students must be enrolled in the UNM college from which they receive their degree.

Change of Degree Level or Program

Graduate students wishing to transfer from one graduate unit within UNM to another must submit a completed "Request for Change or Addition of Degree or Graduate Unit" form to the OGS, as do students who wish to change their degree level within the same or different unit. (Completion of a master's degree does not automatically guarantee admission to a doctoral program in either the same or a different field.) Students must be currently enrolled in graduate studies to use this process.

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 one credit hour. One class hour per week of laboratory, orchestra, chorus, studio, or physical training throughout a semester earns from one-third to one-half 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 they are not applicable toward a baccalaureate degree and are not calculated in the grade-point average.
- 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 and seniors, fifth year undergraduates, and graduates.
- 500 to 799, graduate and professional, normally are open only to students enrolled in the graduate degree programs, the School of Law or the School of Medicine.

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 and approval from the UNM 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, an instructor may disenroll freshmen from courses numbered 200 and above and sophomores from courses numbered 300 and above. See the individual college sections of this catalog for specific regulations.

Grades

The grades awarded in all courses are indicative of the quality of work done. Their significance in most courses is as follows:

- A Excellent. 4 grade points per credit hour.
- B Good. 3 grade points per credit hour.
- C Satisfactory. 2 grade points per credit hour.
- D Barely Passed. 1 grade point per credit hour.
- F Failed. 0 grade point per credit hour.
- 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 W/P, 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 W/F, if failing the course at the time of withdrawal. The grade of W/F 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. W/NC indicates officially withdrew with unsatisfactory (D or F) performance in pass/fail (CR/NC) option enrollment or course approved for pass/fail (CR/NC).
- W Withdrawal. A W grade is used for approved administrative withdrawals. 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.

Fractionated Grades

UNM 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-	=	.67
F	=	0.00

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

Grade-Point Average. An undergraduate student's academic standing is referred to in terms of a grade-point average calculated by dividing the total number of grade points (see *Grades*, above) earned at UNM by the total number of hours attempted. These hours must be attempted in courses with letter grades and the courses must be numbered 101 or above. Courses for undergraduate students given a grade of W/P, CR, NC, PR or I are excluded in the grade-point average calculation. For graduate students, the OGS calculates a grade of 'I' as a 2.0 until replaced by another letter grade.

The grade-point average and earned hours from non-baccalaureate level students, i.e., unclassified, non-degree, certificate and associate degree, 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. At such times, all students who are deficient in scholarship are placed on probation, or suspended, in accordance with the regulations of their college.

NOTE: This is a general UNM grade-point calculation. Schools and colleges within the university may compute the GPA differently.

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

Grade Options

Pass/Fail (CR/NC) Option

1. This grading option is open only to undergraduates, non-degree students, and graduate students enrolling in non-major courses.
2. 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).
3. A course may be changed from a traditional grade to the pass/fail (CR/NC) grade option through the fourth week of classes. A change from the pass/fail (CR/NC) to a traditional grading system may also be made prior to the

end of the fourth week of classes. **NO CHANGES MAY BE MADE AFTER THE FOURTH WEEK OF CLASSES.**

4. A maximum of 24 credit-hours graded pass/fail (CR/NC) will be allowed toward a baccalaureate degree. A student is permitted to enroll in only one course per semester under the pass/fail (CR/NC) grading option. Graduate students may not count toward a degree program more than 6 hours of course work in which a C (2.0), C- (2.33) or CR was earned.
5. Hours earned under which grading is specifically approved for pass/fail (CR/NC) are not included in the 24-hour maximum allowed toward degree requirements under the pass/fail (CR/NC) grade option.
6. The following may not be taken under the pass/fail (CR/NC) option:
 - a. Courses in the General 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 (such as Couns 492, *Workshop in Counseling*).
 - c. In some departments and colleges, 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 systems.

Students should be aware that certain consequences may result from exercising the pass/fail (CR/NC) option. 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 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 with cumulative GPAs of 3.00 or higher may receive undergraduate credit in such courses. Students must obtain advance approval from the course instructor, the chair 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 GPA of at least 3.0; and
3. seek no more than 9 hours of graduate credit during that semester (6 credits during summer session).

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 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 OGS on a Graduate Credit Authorization card. Non-degree, graduate level coursework may be transferred into a graduate degree program on a limited basis.

Audit

1. A student may register in a course for audit, provided permission of the instructor is obtained. An auditor 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.
2. Instructor permission will be required prior to registering in a course for audit. **NO CHANGES IN AUDIT STATUS MAY BE MADE AFTER THE FOURTH WEEK OF CLASSES.**
3. 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. (This does not apply to courses noted, "may be repeated more than once"). ALL ATTEMPTS and ALL GRADES are computed in the student's grade-point average. An optional 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 with courses taken Spring 1991 and after. Under this policy, only undergraduate students may repeat a course for a higher grade and have the

lower grade removed from the GPA. This revision is an option for students who meet the criteria outlined below. Repeated courses for students who do not meet the criteria or who choose not to make use of the option automatically fall under the existing policy as described under "Repetition of a Course".

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

1. The Grade Replacement option policy is effective as of Spring Semester 1991 and only affects UNM 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 UNM 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 F received at UNM 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 (eg., a D cannot replace a D). The higher grade will remove the lower grade from the GPA 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 & Registration Office, indicating which course is to be taken out of the GPA. The course numbers must be identical, except where equivalencies or a change in course number has been noted in the UNM catalog. No substitute courses are acceptable. If it is a topics course in question, the titles must be identical as well. 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 Bachelor's degree has been awarded unless both attempts in a course are taken after a degree has been awarded, and are not being applied toward a graduate degree.
8. There is no other deadline for requesting a grade replacement.
9. All grades will remain on the record. An "N" will appear next to the course that is to be taken out of the GPA. The adjustment is made only to the GPA and credit-hours.

NOTE: This policy applies only to courses taken and repeated at the University of New Mexico main campus or its branches.

Incomplete (I) Grade

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 session.

Students should not re-enroll or reregister (for credit) in a course for which an Incomplete has been received in order to resolve the Incomplete.

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).**

Students resolving Incompletes in their semester of graduation must have the process completed (including the reporting of the grade to the Records & Registration Office) by the published ending date of the semester in which they are graduating. Students are responsible for informing instructors that they are graduating and that the resolved 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.

Students are responsible for making arrangements with the instructor for resolving an Incomplete grade. Students must complete work prescribed by the instructor in plenty of time for the resolved grade to be reported to the Records and Registration Office by the appropriate deadlines described above.

The instructor of record will report the final grade for the course in which the Incomplete was assigned to the Records & Registration Office. The grade of "I" is recorded on the permanent record with the final grade. Graduate students see the section on Graduate Programs related to this policy.

Change of Grade

The instructor of a course has the responsibility for any grade reported. Once a grade has been reported to the Records & Registration Office, it may be changed by submitting a grade change form to the Records & 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.

Grade changes may be referred to the committee on Admissions and Registration for approval.

Grade Petition Procedure

1. A student seeking retroactive withdrawal, enrollment, or disenrollment; or extension of time for removal of an incomplete grade, or a grade option change; or for further academic record changes involving exceptions to the rules governing registration and academic records which are set forth in the university catalog may submit petitions to the Records & Registration Office. This petition process does not cover disputes involving academic judgement.
2. The petition shall state the nature of the request, and shall specify the semester involved, the course and section number, the student's name, I.D. number, mailing address and telephone number. The petition should state the reason for granting the request, and shall include documentation of extenuating circumstances, such as medical, family, or employment needs. The petition shall be typed and signed.
3. Upon receipt of student's petition, the instructor(s) involved will be contacted for a statement concerning the request.
4. The petition (along with instructor comments) will be forwarded to the Grade Petition Committee for review and a decision. If the petition is approved, the course grade will be changed to a "W". All courses remain a part of the academic record and the student is responsible for all tuition incurred.
5. Students will be notified in writing of the outcome of the petition.
6. If the petition is denied, students may wish to appeal the decision. For more specific information on the appeal process students may contact the Records and Registration Office, Room 250, Student Services Center.

Academic Renewal Policy

Academic Renewal applies to students seeking undergraduate degrees who have been readmitted to UNM after an absence of 5 years or more. The procedure allows a currently enrolled student to request his or her academic record be reviewed for the purpose of evaluating previously earned 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: Readmission to the university and acceptance in a degree program must occur prior to 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 UNM.
3. The student must be currently enrolled in a degree-seeking status. Additionally, college entrance requirements such as minimum hours and grade-point average (GPA) must still be met after the effect of Academic Renewal.

NOTE: Academic Renewal will not be applied if total earned credits should fall below the minimum for entrance to the student's academic unit.

4. After readmission to UNM, 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: Probationary status is determined by the degree-granting unit and 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.
10. Non-degree, second undergraduate degree, or graduate students are not eligible for Academic Renewal.

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 also refer situations involving classroom misconduct to the Dean of Students Office for additional action under the *Student Code of Conduct*.

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 or who otherwise fails to meet the standards. 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 in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or outside the university; and nondisclosure or misrepresentation in filling out applications or other university records.

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.

A student with excessive absences may be dropped from a course with a grade of W/F, upon recommendation of the instructor. Instructor requested drops are submitted to the Records & Registration Office by the 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 the I-TEL-UNM System.

Examinations

Regular Examinations. Examinations other than final examinations are given during each undergraduate course at the discretion of the instructor. Final examinations are given at the end of each undergraduate course as scheduled during the final exam period.

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.

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 & 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 and will not count in the student's grade-point average prior to the completion of that semester. A grade of CR will be recorded for successful completion of examination. 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 and the College Level Examination Program 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.

Probation

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

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

Thereafter, the minimum cumulative grade-point average to remain in good standing is 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, eg., to see an academic advisor before being allowed to register for the following semester, are 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 in which 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 usually 2.00 but is higher in many 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 UNM until their suspension period has been completed.

Degree-Granting Colleges and Non-Degree Status. After a semester on probation, students whose cumulative grade-point average for the next semester remains below the minimum required to be in good standing in their College are eligible for suspension.

Suspension Period. Students suspended for the first time may not enroll for classes at UNM 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, for suspension and/or any other reason, 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 hours or courses which seem beyond their abilities.
5. Attendance at another institution during suspension must be indicated on the student's application for readmission and official transcript must be sent to the Office of Admissions as part of the reapplication.

Registration, Tuition, and Fee Charges (rates in effect 1997-98)

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 **	Medical **	Pharm.D.	Under-Graduate	Graduate	Law	Medical	Pharm.D.
Per Credit Hour	\$90.20	\$99.20	\$150.50	n/a	152.10	\$340.60*	\$350.75	\$504.75	n/a	\$37.75
Full Time	\$1082.40	\$1190.40	\$1806.00	\$5889.00	\$1825.20	\$4087.20	\$4204.00	\$4990.40	\$16884.00	\$6453.00
Charges above 18 hours	\$90.20	\$99.20	\$150.50	n/a	\$152.10	\$3340.60	\$323.65	\$417.20	n/a	\$537.75

- * 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, and Medical students pay a \$16 GSA fee per semester (\$32 per year). Mandatory Medical Student Disability insurance fees for 1997-1998, \$45. Due prior to the 1st day of semester.
- *** Non-degree—rates for students with no baccalaureate degree.
- **** Non-degree—rates for students with baccalaureate degree or higher.

Dissertation students:

Tuition for Resident Students: \$272.

Non-resident students: \$272 for 6 hours or less. Each hour above 6 hours at \$350.75 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 foreign 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.

Student group health and accident insurance for medical students is arranged by the Medical School.

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 charge is assessed to students taking Applied Music classes who do not enroll and perform in an appropriate major ensemble. Contact the Music Department for details. Charges: \$75 for one semester credit hour and \$150 for two or more credit hours.

Tuition, Fees, Current and Past Due Charges

Tuition, Fees and Outstanding charges must be paid and received in the Bursar's Office prior to the 1st day of the semester. Please allow sufficient time if you are mailing in your payment. Payments are posted on the day received.

orientation fees, and all other current due charges. Please refer to the current *Schedule of Classes* for additional information. Charges other than tuition and fees posted after the 10th of the month will be considered "Future Due" and will not be subject to financial disenrollment during tuition payment deadlines.

Financial Disenrollment

Students whose current balance is not paid prior to the 1st day of the semester will be disenrolled from all classes. Your account balance includes, but is not limited to the following: Tuition, Special Course Fees, GSA Fee, Parking Fines, Library charges, Housing, Childcare, Student Health and Pharmacy charges, Late fees, Bookstore, Short Term Loans,

Fees (Subject to Change)

Charges for Special Services

1. Admission: (nonrefundable)
 - a. Activity Fee (per semester).....\$15.00
 - b. Application Fee (undergraduate)\$15.00
 - c. Application Fee (graduate).....\$25.00
 - d. Application Fee (non-degree)\$10.00
 - e. Application Fee (Law)\$25.00

2. Administration Charges (nonrefundable)
- a. Deferred Tuition Payment

Fee	\$ 7.50
	per \$250 Financed
 - b. Returned Check&15.00
 - c. Check Verification Fee

In State	\$.50
Out of State.....	\$ 2.50
 - d. Graduation Fee.....\$10.00
 - e. Masters Thesis Binding.....\$15.00
 - f. Dissertation Binding.....\$15.00
 - g. Registration transaction Fee
(start of third week of classes).....\$10.00
 - h. Removal of Incomplete Grade
(per course).....\$10.00
 - i. Late Registration/Reregistration Fee
(starting first day of semester).....\$30.00
 - j. New Student Orientation Fee.....\$15.00-\$65.00
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
 - b. Housing
(Residence Halls/Married.....\$50.00/100.00)
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 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 Student Association fee.
Graduate students are assessed a fee determined by vote of the members of the Graduate Student Association (GSA) and set forth in their constitution. The university collects this fee. More information about the allocation of GSA funds may be obtained in the *Pathfinder*, as well as from the GSA office.

Tuition and Course Fee Refunds

Effective 1997/1998, Tuition and Fees, Special Course Fees, and GSA fee will be refunded in accordance with the following schedule.

Course duration greater than 4 weeks, up to and including 8- and 16-week classes:

Withdrawal or drop in hours:

Prior to first day of class and through
Friday of third week of classes100%
First day of fourth week of classes
and thereafter0%

Four-week (or less) Courses

Withdrawal or drop in hours:

First day of classes100%
After first day of classes0%

Students who drop classes after refund deadlines are still responsible for payment of tuition and special course fees.

All refunds are based on official date of drop or withdrawal. To receive consideration for a refund of paid tuition and fees, students must officially complete drop procedures for their course(s) and then complete a two-part Refund Request form available from the Bursar's Office.

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, and then complete a two-part Refund Request form available from Bursar's Office, by refund deadlines.

All refunds (except housing deposits) are requested at the Bursar's Office by completing a Refund Request form or by phone at 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.

The refund check will be mailed to the student's current system address. Please confirm your address with the Bursar's Office when making a refund request. Refund requests made after the first day of classes will not be processed until the end of the fourth week of classes if financial aid has been awarded.

Methods of Payment

Payment by Mail:

This is the preferred method of payment. Mail your check or money order directly 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 drop box located in the wall directly to the right of the Bursar Department windows (beside 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 stamped self addressed envelope is provided with the payment envelope.

Payment by Telephone: Mastercard and Visa (505) 277-4378

Payments by credit card (Mastercard and Visa only) may be made 7 days per week, 24 hours per day the three weeks prior to the beginning of the semester. On the Friday before disenrollment, payments can only be made until 11:00 P.M. Disenrolled students are subject to a \$30 late fee; therefore, call in your credit card payment early to avoid possible late fees and disenrollment. Please follow I-TEL-UNM instructions in order to make credit card payment.

NOTE: Mastercard and Visa are the **only** credit cards accepted for payment of tuition and fees at the University of New Mexico.

Payment in Person:

Pay tuition and fees in person at the Bursar's Office (Student Services Center) from 8 A.M. to 5 P.M., Monday through Friday. Special evening hours will be posted. 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.

- * To limit waiting in line and to create an orderly process during the first week of classes, **if available**, financial aid disbursement will be made according to student social security number.
- * *Disbursement Schedule will be posted in lobby of Student Services Center and Student Financial Aid Office.*
- * Student charges for any services, sales or fines will be collected from the first 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.
- * Registered students can call I-TEL-UNM in order to obtain information as to required payment and anticipated financial aid.

Students who have loans, grants, scholarships, or other financial aid to pay their tuition and fee

charges must be fully processed and picked up at the Bursar's Office by the end of the third week of classes if available.

- * It is your responsibility to visit the Student Financial Aid Office if a delay in receipt of your financial aid occurs and complete a promissory note loan application, and pay any processing fees at 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 Friday prior to the first day of classes 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 late registration fee.

If your tuition has been deferred based on financial aid, and you decide not to attend UNM you must officially withdraw through I-TEL-UNM (2476-2020) prior to the end of the semester's third week.

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 (1) they are registered full-time (not less than 12 hours for undergraduate and 9 hours for graduate students) and (2) 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. Perkins Loan
5. Access Grant
6. Medical Grants and Scholarships
7. Other Grants and Scholarships
8. Direct 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 cashiers 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 Bursar's Office to receive the check(s).

After Financial Aid has processed external scholarships to cashiers, each student must visit the Bursar's Cashier Office to endorse check. Any refund check of excess, and or replacement check, will be available in Bursar's Office once you have completed your transactions in Cashier's. Students not picking up refund or replacement checks will have their checks mailed the following business day to the students current system mailing address.

Restriction of Services and Sanctions

Financial Holds

No transcripts or other information relating to any students records at the university shall be released or delivered to the student or on behalf of the student until all debts to the university and all of its affiliates, including but not limited to, the New Mexico Educational Assistance Foundation, 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 shall register at UNM until he or she has paid **ALL** past due charges.

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 prior to the first day of the semester will have their registration cancelled and be disenrolled from all classes. Students with cancelled registration who wish to be enrolled at UNM must reregister. The student will be subject to make full payment, or must complete financial arrangements for all university charges, and pay a re-registration/late registration fee of \$30.

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 their **billed** amount is not paid by the next billing date.

Collection Agencies

Monthly statements of accounts 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 UNM obtains judgement from a court of competent jurisdiction, the debtor shall be liable for the collection agency fee as well as reasonable court costs and attorney's fees.

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 registrations
2. Readmission
3. 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 late fees your third party sponsor must provide the Bursar's Office with approved billing authorization prior to the first day of the semester.
- You must be enrolled in all 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 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 halftime 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 constitute violations 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 student IS numbers.

Non-Resident Students

The student is responsible for obtaining the correct residency classification determination prior to the first day of classes. A student not classified as a New

Mexico resident will be charged as a non-resident. Please refer to Residency Regulations in *Schedule of Classes*.

Direct Lending

The University of New Mexico is no longer a participant in the Federal Stafford Loan Program. The new federal loan program will be the William D. Ford Direct Loan Program. Students wishing to borrow under this new program can contact Financial Aid for more information. This new loan program will replace both in-state and out-of-state loan applications as well as all branch loan applications. This new program applies to all students at the university—no other loan application will be accepted.

Installment Tuition Plan

Payment of tuition and fees may be deferred under the university's Installment 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. UNM 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 and interests of its students, the university offers a variety of living and dining options. There are six traditional residence halls where students contract for room and board services. These facilities include single-gender residence halls and other halls where men and women live on different floors or in different wings. Some halls are open for visitors 24 hours a day; others have limited visitation schedules. Similarly, numerous meal plans are available in La Posada Hall, the residence hall dining facility. The university also operates single-student apartment facilities where meal plans are optional during the Fall and Spring semester. 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 of the academic floor option in the suite-style traditional residence hall.

During the Summer session, a point plus package is required of all Summer session residents.

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.

Living quarters in residence halls are available to students with a minimum course load of 6 semester hours during the fall and spring semesters and 1 semester hour during the summer session. 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, initial payment, and \$50 deposit. All students in the traditional, nonapartment style residence halls are required to take their meals at the university dining hall, La Posada. Students with special needs should communicate their requirements on their application materials.

Room and Board Fees. The 1997-98 rates for room and board range from \$3,139 to \$4,119 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 basic cable T.V. 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 writing to: Housing Reservations Office, the University of New Mexico, La Posada Hall 201, Albuquerque, NM 87131-3151, FAX (505) 277-4712, Tel. (505) 277-2606.

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 UNM student 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 UNM 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 1997-98 monthly rental rates range from \$379 to \$512, including utilities. Rates are subject to adjustment, with appropriate notice, reflecting changes in operating costs.

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 writing to: Student Family Housing Office, the University of New Mexico, 961 Buena Vista SE, Albuquerque, NM 87106, FAX (505) 277-4128 Tel. (505) 277-4265.

Financial Aid Policies

As part of its basic philosophy, the University of New Mexico is committed to ensuring that the opportunity for a post-secondary education not be denied to any student because of limited finances. To fulfill this goal, the UNM Office of Student Financial Aid administers a broad spectrum of loans, grants, jobs, and scholarships in an attempt to meet the financial needs of all the university's students.

The Office of Student Financial Aid awards financial aid to students according to their individual needs. Parents of students are expected to contribute to their child's education according to their ability, taking into account their income, assets, number of dependents, and other relevant information. Students themselves are expected to contribute from their own assets and earnings, including appropriate borrowing against future income. All information provided to the Office of Student Financial Aid is regarded as confidential.

Students applying for financial aid complete a Free Application for Federal Student Aid designed to determine, in accordance with state and federal guidelines, the difference between what the student or family is expected to contribute and the cost of attending UNM. Among the factors that determine the family's expected contribution are: 1) annual adjusted gross income as reported to the Internal Revenue Service; 2) savings, stocks, or bonds; 3) other assets in the form of a business, farm, or real estate; 4) nontaxable income and benefits; and 5) student's prior year income and assets.

The costs of attending UNM include: 1) tuition and fees; 2) room and board; 3) books and supplies; 4) transportation, personal expenses, and child care costs.

To qualify for financial aid programs at UNM, with the exception of academic scholarships, students

must meet the following general requirements (requirements for individual programs may vary): 1) demonstrate financial need; 2) be a citizen or an eligible non citizen; 3) show academic progress; 4) for most loan programs, attend on at least a half-time basis (*Audit* courses do **not** count toward the semester hour requirement.) These factors are subject to change by the United States Congress. For maximum student financial aid consideration, students should apply prior to **March 1**.

Satisfactory Academic Progress

Following the initial award of student financial aid to a student, the student must make satisfactory progress toward a degree for the financial aid to be continued. An undergraduate student must maintain a minimum cumulative GPA of:

Attempted credit-hours	Minimum GPA
1-47	1.70
48-160	2.0

Graduate students must maintain the minimum GPA required by their respective graduate program.

Both undergraduate and graduate students must complete a minimum of 80 percent of the credit-hours attempted.

Students may not exceed 150% of the hours required to complete their undergraduate program. Students who fail to meet the satisfactory academic progress guidelines may contact the Financial Aid Office for Appeal Procedures.

Transfer Students

All students who have attended other institutions, must provide Financial Aid Transcripts (FAT) from all previous schools before the application for aid can be processed. Forms are available in the Student Financial Aid Office.

Financial Aid Programs

Following is a brief summary of the financial assistance programs administered by the Office of Student Financial Aid. To receive most types of financial aid, students must be enrolled in a degree granting college. For more complete information about these programs, contact: The Office of Student Financial Aid, Mesa Vista Hall North, The University of New Mexico, Albuquerque, NM 87131-2081, Tel. (505) 277-2041.

Grants

Grants unlike loans, do not have to be repaid. Grants are awarded only to undergraduate students who have not earned a bachelor's, or professional degree.

- **Federal Pell Grants**

Pell grants, range from approximately \$400 to \$2700 per academic year, depending on the students demonstrated need and enrollment status. For many students, Pell Grants pro-

vide a foundation of financial aid to which other aid may be added.

- **Federal Supplemental Educational Opportunity Grants (SEOG).**
Federal grants ranging from \$200 to \$2,200. This program is designed for students with exceptional financial need.
- **New Mexico Student Incentive Grant (NMSIG).**
This provides state and federal funds, in amounts ranging from \$200 to \$2,200, to New Mexico residents with exceptional need.

Student Employment

Student employment is provided to students who wish to work part time while pursuing their education. Jobs normally found on campus range from the very general to those that are highly technical.

- **Federal and New Mexico Work Study Program (FWSP/NMWS)**
This is a state or federally funded program designed to provide income and work experience in a student's field. Students are paid at least minimum wage.
- **Student Employment**
Is also available to resident students who are not eligible for need-based aid.
- **Off campus employment.**
Part time jobs available off campus are listed with the Office of Student Financial Aid.

Loans

Student loans provide an opportunity to borrow against future earnings, with relatively low interest rates and favorable repayment schedules.

- **Federal Perkins Loan**
This is a long term, low interest loan program for students meeting the need requirement.
- **Federal Direct Loans**
This program provides long term, low interest loans to eligible students through the Department of Education.
- **Health Profession Loans**
Students enrolled in a health profession program may apply for additional funds through Health Profession Loans. Contact the Financial Aid Office for specific information.
- **Short-term loans**
These are UNM loans to help students meet emergencies which may occur during the academic year. Short-term loans must be repaid by the end of the enrollment period in which they are made.

Scholarships

More than 400 individual scholarships, prizes, and awards exist at UNM for qualified students. Students receiving scholarships awarded through the Scholarship Office must reapply each year. For students applying only for a scholarship and no other financial aid, the only form required is the UNM General Scholarship Form. Incoming freshmen must complete the freshmen scholarship portfolio application by **December 1** for Regent's Scholarship and **February 1** for all other freshmen programs. 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**
Fifteen full ride scholarships, each renewable for three years, will be awarded to entering freshmen in the 1997-98 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 UNM General 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 will maintain a 3.2 GPA on 30 credit-hours as a freshman and a 3.5 GPA in each additional semester.

- **Presidential Scholars**
A most prestigious scholarship at UNM, this scholarship is offered to New Mexico residents with proven academic and citizenship skills as demonstrated in the classroom and in positions of leadership. The \$2,600-per-year 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 GPA 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 1995 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 1140 on the SAT, or greater, respectively.
 4. Is a citizen of the United States or has a permanent resident visa.
- **UNM Scholars (TUITION)**
UNM Scholars awards are offered to approximately 300 selected seniors who demonstrate a combination of factors which include graduating in the top 20 percent of their class, above average ACT/SAT scores, and leadership skills. This scholarship is awarded for up

to eight semesters provided the student maintains a 3.0 GPA and completes at least 24 semester hours per academic year.

- **Recognition Scholarships**

This scholarship is designated for all students - it is also designated for American Indians, Asian Americans, African Americans and Hispanic students who have demonstrated outstanding academic and leadership qualities and have been involved in community and high school activities. Awards are \$500.00 and are nonrenewable. Students who have demonstrated outstanding leadership and involvement in high school or community activities may be eligible for a Recognition Scholarship valued at \$500.

- **National Merit Scholarships**

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

- **Amigo Scholarships**

This scholarship entitles outstanding out-of-state students to a cash award of \$100 per semester plus waiver of non-resident tuition rates, for a total effective scholarship value of approximately \$3,700 per year. In order to qualify for the Amigo Scholarship, a student must:

1. have a cumulative high school grade-point average (GPA) of 3.50 or higher (on a 4.00 scale) and an ACT composite score of 23 or the SAT equivalent (1070); 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 (1180).

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 twelve month consecutive presence requirement.

- **Transfer Scholarships**

Transfer scholarships are available for qualified transfer students. These scholarships can amount to as much as \$1000 per academic year. Preference for these awards is given to transfer students who have earned at least 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.

- **College major related scholarships**

Several departments award scholarships to beginning freshmen or upperclass 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 UNM branch transfer students who have earned a 3.50 grade-point average, have 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 5 years. This award will cover up to 6 hours tuition and books.

- **The Zia Transfer Scholarship**

This two-year scholarship is designed for African American, Asian, Hispanic and American Indian transfer students who meet the same requirements as the *Transfer Scholarship* listed above.

- **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
Scholarship Office
Mesa Vista Hall - 3rd Floor North
Albuquerque, New Mexico 87131-2081
(505) 277-6090

Other Programs and Benefits

Health Programs

Students enrolled in a health profession program may apply for additional Health Profession Loans. The amounts of these loans vary depending on program and enrollment status. Contact the Student Financial Aid Office for additional information.

Bureau of Indian Affairs (BIA)

Each year the BIA provides grants to assist eligible Native American students in meeting their educational costs. The amounts of the grants vary

according to the student's financial need. The funds are available through the student's BIA area office or tribal scholarship office.

Veterans Administration Educational Benefits

This program assists eligible veterans and eligible dependents of veterans pursuing a post secondary education. Application is made through the Veterans Administration and the Veterans Affairs Office on campus.

Vocational Rehabilitation

Through the New Mexico Division of Vocational Rehabilitation, the state and federal governments offer tuition assistance to students with physical or emotional disabilities. Other assistance also may be given to those *physically handicapped* students who financially are unable to provide the services themselves. Students wishing to apply for this assistance should contact one of the New Mexico Vocational Rehabilitation offices.

Career Services

Please visit our website at <http://www.career.unm.edu>.

Career counseling, a post-graduation placement and experiential work through Cooperative Education is available to all UNM students for assistance in achieving their academic, career, and employment goals.

Career Services provides counseling and testing for undecided students, career seekers, and career changers.

Professional counselors are available to help students explore their interests, needs, and life objectives and to identify possible vocational and academic choices. In addition to career counseling, interest and personality inventories may be used to help students discover where they might fit in the world of work. Workshops are presented several times each semester to assist students with the job search, résumé writing, and interviewing. Career counseling is by appointment or brief sessions on a daily walk-in basis. Students may also be referred to other academic and student services, such as: academic advisement, financial aid, wellness programs, etc.

Career Services is a general clearinghouse for employers seeking college trained personnel. Employers are provided with administrative assistance and facilities for interviewing UNM's graduating students and alumni.

Career Services monitors the conditions and trends of the nation's job market and maintains close contact with representatives from business, industry, government, and education. The office makes information available to students and alumni con-

cerning trends in employment, new and existing career opportunities, and job and educational requirements for employment.

The Co-op Education and Internship Program provides UNM students from all academic disciplines with an opportunity to work in a field related to their major. The work should allow students to apply theories learned in the classroom to "real world" experiences. The work provides income to help pay for school and also provides an opportunity to earn course credit.

Career Services is located on the second floor of the Student Services Center. Minimal fees are assessed for some services.

The Undergraduate Conference Award Program, UCAP, is a pilot program funded through the UNM Student Fee Review Board. Undergraduate students are given the opportunity to attend a professional or academic conference in their field of interest. Awards are competitive and cover the student's travel, hotel, and registration expenses.

The Women in Science and Engineering, WISE Program seeks to attract and retain women undergraduates to the science, engineering, and math fields. Each student is matched with a mentor, a woman professional in the student's field of interest; the mentor offers the student guidance and encouragement as she evaluates her career options. The program also sponsors special events throughout the school year and promotes women in science through networking meetings, a newsletter, and listserv.

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, contact the Veterans Office located in the University College Building, Rm. B-11. Advisement counseling is available to assist students in selection and development of a program of study.

Student Services

Finding Out About UNM

The Office of Outreach Services, Room 180, Student Services Center, 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, registration, housing, and special services and programs.

With two week's notice, the Office of Outreach Services can arrange for appointments with academic advisors, admissions officers, financial aid counselors, and a tour of the dorms 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 UNM student who will share information about UNM.

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. Their new student programs, including New Student Orientation, help students adjust to campus life. Additionally, the office handles student withdrawals, student discipline, leadership programs, and new student programs, Student Conduct Committee, and Cultural Diversity programs. The Dean of Students Office encourages student participation in the university community, 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, Rm. 280, 277-3361.

Commuter and Nontraditional Students Office

Located in the Student Union Building, Room 106, the Commuter and Nontraditional Students Office offers off-campus housing listings, an emergency message service, after hour student services, campus and city maps, bus schedules and a clearing-house for UNM publications. The office also works with various student groups to find solutions to commuter and nontraditional student issues. The office is open all day and during evenings. The telephone number is 277-7868.

Emergency Message Service

The Emergency Message Service is a centralized service to reach students on campus. When an emergency arises, call 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. The responsibility for informing family and friends 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 and to enhance the student's positive feelings about him or herself and the institution. The orientation programs include information on UNM services, campus tours, academic advisement, registration and strategies for coping with college. Attendance at an orientation program is required for all beginning 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, Rm. 280, 277-7823.

Notification of Absences

Contact instructors for short term absences due to illness, bereavement, or authorized university activities, etc. Contact instructor's department to relay a message if you are unable to reach the instructor(s). Contact the Dean of Students Office in the event of an extended absence, failure to reach instructor(s) or department(s), or emergency situation. Examples of this would include sudden death in the family, sudden hospitalization, incapacitating physical injury, military orders requiring immediate departure, etc. The reporting of absences does not relieve the student of responsibility for missed assignments, exams, etc. The student is required to take the initiative in arranging to make up missed work.

As a service to instructors, notification of a student's report of absence will be provided to instructors on request and in accordance with Dean of Students Office general procedures.

As a service to students, the Dean of Students Office will send absence notices to instructor's on absences of 6 days or longer. The student may elect to personally deliver the Dean of Students' notice to their instructor(s). Verification of extended absences may be required (such as a doctor's note, hospital billing, military orders, death notices, etc.).

Exceptions. On request, members of the Dean of Students staff will review specific absence situations to determine if exceptions to the established absence procedures are warranted.

The Dean of Students Office is located on the second floor of the Student Services Center, Room 280, (505)277-3361.

Student Conduct, Grievance and Appeals

The UNM 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 UNM 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

Student Activities Center

The quality of your life outside the classroom is an important part of your educational experience. Opportunities for involvement through the Student Activities Center include participation in a wide range of student organizations. Student Activities charters over 250 organizations each year, provides leadership workshops, calendars of activities and programs on campus, the student handbook,

advisement, as well as programs to welcome and honor students. Please contact the office at 277-4706. Student Union 105.

UNM Pathfinder: The Student Handbook

The *UNM Pathfinder* is the most comprehensive handbook of student services at UNM. It is published annually by the Student Activities Center, located on the first floor of the Student Union Building. The *UNM Pathfinder* gives general information, including office locations and telephone numbers, about academic and cultural programs, athletics and recreation, student organizations, entertainment, financial services, food, health and medical assistance, housing, UNM 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, Dean of Students Office, Records & Registration Office, and from the Information Desk in the Student Union, 277-4706.

UNM Directory

A directory listing departments, faculty and staff members, as well as each student's local and home address, telephone number and academic classification as well as staff and faculty listings, is published by Computer and Information Resources and Technology (CIRT). These directories are free to students at the Information Center in the Student Union Building. A validated student ID is required to obtain a directory. Students can request that their listing be deleted from the directory by completing a form at the Records & Registration Office in the Student Services Center.

The directory is also published online. Click the Phone button on the UNM Home Page or go to the directory at <http://www.unm.edu/ph.html>.

Other Useful Publications

The following publications are available at the Student Activities Center, located on the first floor of the Student Union Building.

- *Student Activities Newsletter for Student Organizations*.
- *Life Skills Workshop Calendars*—listing workshops, support groups on health, career, academic, spiritual, recreation, leisure and other life skills issues.
- *Dial Access Brochure*—listing over 200 recorded messages, accessible 24 hours a day with a touch tone telephone. Includes information on all colleges and schools at UNM, as well as tuition and fee information, tutoring, financial aid, campus activities, career services, counseling, mental and physical health, housing and parking.
- *Guide to Chartered Student Organizations*—published annually, lists all student organizations officially chartered at the University of New Mexico.
- *UNM Campus Map*.

- *UNM Accessibility Guide*—A guide to campus for those with mobility impairments.
- *Bicycle at UNM*—Campus map and regulations for cyclists.
- *Student Organization Handbook*—Provides regulations and guidelines to chartered student organizations, and helps with event planning, fund raising, leadership and organizational tools.

Information Desk

Another source of information about student services and activities is the Information Desk, 277-2741, in the main floor lobby of the Student Union Building. Students who work at the Student Information Center have general information about athletic and entertainment events, buses, etc. They also provide maps and referrals to other campus offices. All the publications listed above are also available at the information center.

Telephone Information Services

Dial Access, 277-3425, is a 24-hour-a-day telephone information service with over 200 recorded messages. Accessible with a touch tone telephone, the system covers all colleges and schools at UNM, policies and procedures for registration and fees, many tapes on tutoring, financial aid, campus activities, career services, counseling, mental and physical health, housing and parking. Brochures are available at the Student Activities Center.

Persons wishing to reach the university information operator should dial "0" from on-campus phones or 277-0111 from off-campus. The operator may give numbers for university offices and officials from 8:00 a.m. to 5:00 p.m. weekdays.

Honorary Organizations

At UNM these include: Beta Alpha Psi, Blue Key National Honor Society, Chi Epsilon, Golden Key National Honor Society, Hispanic Honor Society, Honors Student Advisory Council, Kappa Omicron Nu, Mortar Board, Order of Omega, Phi Eta Sigma, Sigma Gamma Epsilon, Spurs, and Tau Beta Pi. Contact the Student Activities Center for further information on honorary organizations.

The Guide to Chartered Student Organizations, in which the above organizations appear, is published yearly as a supplement to the New Mexico Daily Lobo campus newspaper and extra copies are available year round at the Student Activities Center.

Student Organizations

There are over 250 chartered student organizations at UNM. The Student Activities Center assists student organizations in the chartering process each fall. They also publish 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, ten national fraternities, and four national sororities are advised and assisted by the Student Activities Center.

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 & Planning, Anderson Schools of Management, Education, Engineering, Law, Medicine, Nursing, Public Administration, Theatre & 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 each 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 chairs of permanent GPSA committees with other members from each non-represented School or College. The GPSA President is elected in a campus wide election in the Spring semester, and the Council chair is elected by the Council representatives at the regular April meeting. All graduate and professional students are encouraged to participate in the GPSA through the GPSA council and numerous committees. The GPSA Council 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 \$16 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 Suite 200, Student Union Building has a small computer room with both Macintosh and PCs available, as well as some archaic typewriters in surprisingly good condition, a workroom, and lounge area.

Drug-Free Campus

This policy on Illegal Drugs and Alcohol is adopted pursuant to federal laws and because of the commitment of the University of New Mexico to an environment for the pursuit of its educational mission free of drugs and the illegal use of alcohol. Drug and alcohol abuse on campus poses a serious threat to the health and welfare of faculty, staff and students; impairs work and academic performance; jeopardizes the safety and well-being of other employees, students and members of the general public; and conflicts with the responsibility of the University of New Mexico to foster a healthy atmosphere for the pursuit of education, research and service. 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, seminars, and conduct 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.

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; the Multicultural Education Center.

Recreational Services

UNM 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 UNM LOBO IS card to the attendant at the West Main Entrance of Johnson Center to gain access to the facilities. The facilities and programs available include:

Outdoor Shop—Renting 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 which is adjacent to the outdoor shop offers bike maintenance and bike rentals.

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

Individuals with Special Needs—For disabled students allowing them to participate in aquatics, tennis, basketball, and other recreational activities that might otherwise be unavailable to them.

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 and tennis, golf and arm wrestling.

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.

Special Events—A variety of experiences yearly, in the past they have included: Turkey Trot Fun Run, UNM Sunset Fiesta Runs, New Mexico Senior Olympics, and the Summer Olympic Games for the Blind.

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

Natural High—Youth outreach program serving The Albuquerque area. The Natural High program subscribes to the belief that if young people are exposed to recreational and educational components of college, they will view college as an attainable goal.

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 700 international students and visiting scholars in residence at the University of New Mexico, OIPS is an important resource center for information and assistance. Each semester new international students are invited to orientation activities which familiarize them with the campus and the many services available to them. The office acts as liaison with the Immigration and Naturalization Service and provides information on immigration policies and procedures. Additionally, OIPS administers Friends of International Students, a friendship program which matches international students with members of the community. OIPS participates in many community activities of an international nature and publishes an international newsletter and directory.

The Center for English Language and American Culture (CELAC), administered by OIPS, provides intensive English courses to non-native speakers intending to enter into university study. CELAC offers instruction in composition, listening comprehension, reading, and conversation, as well as in American culture and customs.

As a resource center for students and faculty interested in international study, research or teaching, OIPS maintains an extensive study abroad library with [www](#) access.

The office administers one-to-one exchange programs whereby UNM students change places for an academic year with students from universities in the United Kingdom, Mexico, Spain, Canada, France, Germany, Sweden, Denmark and Australia. OIPS directs summer sessions in Latin America and Europe on an annual basis. Courses are taught by UNM faculty members on site and are open to undergraduate and graduate students from UNM. As the university Fulbright Advisor, OIPS interviews all candidates applying for Fulbright grants for graduate study abroad. Additionally, OIPS offers information and advisement on fellowships, grants, scholarships, and other types of financial support available to graduate and undergraduate students.

OIPS works with the Russian, Asian, and European Studies committees in an effort to promote these interdisciplinary academic programs through publications, lectures, films and performances. Each spring the director of OIPS offers a three-credit seminar in international studies designed to provide advanced undergraduates from any discipline with an opportunity to apply a global perspective to their undergraduate training.

The Office of International Programs and Studies is located in Mesa Vista 2111, 277-4032.

THE ROBERT O. ANDERSON SCHOOLS OF MANAGEMENT

Howard L. Smith, Dean
The University of New Mexico
Robert O. Anderson Schools of Management
Albuquerque, NM 87131
Room 2028, 277-6471

Stephen Burd, Marketing, Information, and Decision
Sciences Chair

Jacqueline Hood, Organizational Studies Chair

Sul Kassicieh, Finance, International and
Technology Management Chair

Alistair Preston, Accounting Department Chair

Professors

William I. Bullers, Ph.D., Purdue University
Joseph E. Champoux, Ph.D., University of California (Irvine)
Donald V. Coes, Ph.D., Princeton University
Jesse Dillard, Ph.D., University of South Carolina
Dwight Grant, Ph.D., University of Pennsylvania
Suleiman K. Kassicieh, Ph.D., University of Iowa
Allen M. Parkman, Ph.D., University of California (Los Angeles), J.D., University of New Mexico
Raymond Radosevich, Ph.D., Carnegie-Mellon University
Robert R. Rehdar, Ph.D., Stanford University
Richard A. Reid, Ph.D., Ohio State University
Carl L. Schultz, Ph.D., University of North Carolina
Avraham Shama, Ph.D., Northwestern University
Donald G. Simonson, Ph.D., University of Michigan
Howard L. Smith, Ph.D., University of Washington

Associate Professors

Kenneth G. Baker, Ph.D., University of Oregon
Ranjit Bose, Ph.D., University of Texas (Austin)
Philip Bougen, Ph.D., University of London (LSE)
Stephen D. Burd, Ph.D., Purdue University
Janice B. Corzine, Ph.D., University of New Mexico
Raul de Gouvea, Ph.D., University of Illinois at Urbana-Champaign
John M. Finkelstein, Ph.D., University of Pennsylvania
James R. Hamill, Ph.D., Arizona State University
Jacqueline N. Hood, Ph.D., University of Colorado (Boulder)
George C. Hozier, Jr., Ph.D., University of Arizona
Jeanne M. Logsdon, Ph.D., University of California (Berkeley)
Tom Mouck, Ph.D., Oklahoma State University
Helen J. Muller, Ph.D., University of Southern California
James L. Porter, J.D., Temple University School of Law
Alistair Preston, Ph.D., University of Bath (England)
H.V. Ravinder, Ph.D., University of Texas (Austin)
Robert D. Rogers, Ph.D., University of Nebraska
John D. Schatzberg, Ph.D., University of Michigan, C.P.A.
Dennis F. Togo, Ph.D., Arizona State University, C.M.A., C.P.A.
Gautam Vora, Ph.D., Indiana University
John E. Young, Ph.D., University of Kansas
Steven A. Yourstone, Ph.D., University of Washington

Assistant Professors

Catherine Banbury, Ph.D., University of Michigan
Geoffrey J. Bannister, University of Texas
Monica L. North, Ph.D., Massachusetts Institute of Technology
Leslie S. Oakes, Ph.D., University of Wisconsin (Madison)
Yolanda Sarason, Ph.D., University of Colorado (Boulder)
Laurie Schatzberg, Ph.D., Rennselaer Polytechnic Institute
Joni Young, Ph.D., University of Illinois at Urbana-Champaign
Kristi Yuthas, Ph.D., University of Utah

Lecturer

Eddie Dry, Ph.D., Texas A&M University

Professors Emeriti

Edwin H. Caplan, Ph.D., University of California, C.P.A.
Ralph L. Edgel, M.B.A., Northwestern University
Patricia Elliott, D.B.A., University of Colorado, C.P.A.
Howard Finston, Ph.D., Stanford University
William H. Huber, J.D., Ohio State University
Robert A. Lenberg, Ph.D., University of Minnesota
Perry T. Mori, M.B.A., Northwestern University
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William S. Peters, Ph.D., University of Pennsylvania
G. Edward Philips, Ph.D., Michigan State University, C.P.A.
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 excellence in professional management education, informed by scholarship and attuned to the Southwest. The Schools are accredited by the American Assembly of 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 Bachelors of Business Administration, the Masters of Business Administration, and the Masters of Accountancy. 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 or 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 relevance. An outstanding faculty with distinguished academic credentials, research, and managerial experience ensures these high standards in programs and performance.

The needs of today's managers and those students who will assume positions of organizational leadership in the next quarter century represent a formidable challenge to professional management education. We fully aspire to join those schools of management which, by focusing their efforts on the development of responsive and innovative leadership, are at the same time establishing totally new criteria for academic excellence.

Degree Programs

Undergraduate Degrees 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 Masters of Business Administration, Master of Accounting, Executive Master of Business Administration, Dual Degree Programs and the

Post-Master's Certificate Program. Please see the *Anderson Schools Bulletin* for information on graduate programs.

Please note that due to new accreditation standards the BBA curriculum is subject to change. Please contact the BBA Advisement Center for further information on these curriculum changes.

MBA Program

Please see the current Anderson Schools bulletin for information on graduate programs.

Programs and statements setting forth specific course requirements and specialization options in the MBA portion of the "Three-Two" Program may be obtained from the MBA Program Office at the Anderson Graduate School.

Admission Requirements

The minimum requirements for transfer into the Anderson School from any other program, inside or outside UNM are:

1. A minimum Scholarship Index of 2.00 (UNM cumulative).
2. Satisfactory competence in written communication as evidenced by completing UNM's English 102 with a grade of "C" or better or by achieving a standard score of 29 or higher on the English portion of the ACT or a score of 650 or higher on the verbal SAT. Transfer students who have completed one year of college level English Composition may contact the UNM Office of Admissions for determination of English 102 equivalency.
3. A minimum grade of "C-" in each course listed under the Specific Requirements shown in *Pre-admission Course Work*.

NOTE: English 102 is an exception since successful completion requires a "C" or higher.

In addition, for several years, a 2.40 UNM GPA in Specific Requirements has been required. Students who have accumulated 66 earned credit-hours and are below the current minimum grade-point average are invited to make an appointment with the BBA Advisement Center at the School to discuss eligibility for an alternative admission criterion.

NOTE: Because of space limitations, fulfillment of the minimum grade requirements **does not** guarantee admission to the Anderson Schools.

4. Completion of all pre-admission course work listed in the BBA Curriculum section of this catalog.

Students who do not meet all of the admission requirements may wish to seek admission to another college or program within the university. Such students may be able to complete pre-admission course work within these programs and apply to the Anderson Schools at a later date.

Students who have completed work at other accredited institutions, please refer to *Transfer Policies*, p. 85.

Application for Admission

Application for admission to the Anderson Schools should be made during the semester that the student expects to complete the requirements set forth above. Normally this will be in the second semester of the Sophomore year.

Students should follow application instructions available at the BBA Advisement Center. Application Procedures should be completed by

April 15 for Summer admission
 July 15 for Fall admission
 November 15 for Spring admission

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.
2. Completion of a minimum of 128 hours (excluding Physical Education activity courses*, Management courses for nonmajors, Math 120, Introductory Studies courses, Office of Undergraduate Studies courses, Business Education/Secretarial Science courses and Business Technology courses) with a scholastic index of at least 2.00 on all course work attempted at The University of New Mexico. A grade of "C-" or better is required in specific requirements, core, and concentration classes.
3. Completion of a minimum of 53 hours in management courses and economics (including management and economics courses required for admission and acceptable toward the BBA degree) with a scholarship index of at least 2.00 on all such hours attempted. This Management /Economics grade-point average is defined in the Scholastic Regulations section.
4. Transfer students from other Universities must take a minimum of 25 hours in economics and management courses while enrolled at the Anderson Schools. Other residence requirements may apply for concentrations.
5. Course requirements

Preadmission course work	62
Anderson Schools Core *	36
Upper Division Humanities/ Social/Behavioral Sciences **	3
Concentration and other electives (At least 12 hours must be in management courses.)	27
Total degree requirements	128

* 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.

** Accounting concentrations may substitute an accounting elective (Mgt 343, 348, 444 or 445) for this requirement. It is highly recommended that students concentrating in International Management or Travel and Tourism Management meet this requirement by selecting electives from the interdisciplinary listing of courses under each of these respective concentrations.

+ One credit of physical education activity may count toward the 128 credit hour degree requirement.

Please also see the university minimum degree requirements under *General Academic Regulations* in this catalog.

Application for Degree

During the first semester of their senior year or the semester prior to their final semester of enrollment, students must file an application for the BBA degree with the BBA Advisement Center at the Anderson Schools. Instruction sheets are available at the Advisement Center. A graduation summary will then be prepared and a copy supplied to the student. No student will be included on the list of candidates for graduation unless an application for degree has been approved.

Curriculum—BBA

Pre-Admission Course Work

Completion of the following course requirements must be

accomplished before admission to the BBA Program. This course work constitutes the first 62 semester hours of the 128 semester hour BBA degree.

General Education Electives

Humanities: English (excluding English 101 and 102); Communication and Journalism 130, 232; Foreign Languages and Literatures; Philosophy; Fine Arts (including Art History, Art Studio, Music, Theatre, Dance, Media Arts); Religious Studies 9

Social Sciences: Anthropology, History, Political Science, Geography 9

Laboratory Science: Biology, Chemistry, Earth and Planetary Sciences, Physics (including Astronomy) 4

Specific Requirements

These courses are prerequisites to all 300 and 400 level courses. These prerequisites **cannot** be taken on a credit/no credit basis.

English 102 1 or the equivalent	3
Math 121 1 and 180 or the equivalent	6
Economics 105 and 106	6
Behavioral Sciences—either Psychology 105 and a 200 or higher level Psychology course	
-or- Sociology 101 and a 200 level or higher Sociology course	6
Mgt 290	3
Computer Science 150L or the equivalent	3
MGT 202 Principles of Financial Accounting ²	3

Free Electives

Any level courses except:
 Management courses for nonmajors including MGT 101, 102, 195, 222, 270, 271, 314, 361, Math 120, Introductory Studies courses, Business Education/Secretarial courses, Business Technology courses, Physical Education Activity courses totaling more than one credit. 10

Total 62

- 1 Students who are exempt from English 102 or Math by virtue of ACT or SAT scores or math placement results should add electives to equal the 62 hours required for admission (English 219 or 320 are recommended).
- 2 It is recommended that Mgt 202 be taken in the second semester of the sophomore year. Students desiring an accounting concentration may schedule Mgt 202 for the first semester of the sophomore year if they have taken all prerequisites. Mgt 340 may then be taken by those concentrating in accounting in the second semester of the sophomore year.

Suggested Scheduling of Pre-Admission Course Work during First Two Years

	Credits
First Year—First Semester	
Math 121 College Algebra	3
Laboratory Science	4
Humanities elective	3
Social Sciences elective	3
Free Elective (can include Engl 101)	3
	16
Second Semester	
Math 180 Elem of Calculus I	3
Econ 105 Intro Macroeconomics	3
Soc 101 or Psych 105	3
Engl 102 Comp II:Analys & Arg	3
Humanities Elective	3
	15

Second Year—First Semester

C S 150L Comp for Bus Students	3
Econ 106 Intro Microeconomics	3
Soc or Psych (200 level or above)	3
Humanities Elective	3
Free Elective	3
	15

Second Semester

Mgt 202 Principles of Financial Accounting	3
Mgt 290 Stat Methodology	3
Social Sciences Electives	6
Free Elective	4
	16

Students desiring to enter the Anderson Schools of Management should obtain advisement from the BBA Advisement Center at the Anderson Schools.

Suggested programs for the junior and senior years are available for each concentration. A list of faculty concentration advisors is also available.

There are no minors available in the BBA degree.

Upper-Division Management Core

All students complete a group of professional management courses. Students must maintain a "C-" or higher in all core classes.

Anderson Schools core courses are the following:

Mgt 300 Operations Management	3
Mgt 301 Comp-Based Info Sys	3
Mgt 303 Actgng for Mgt Control	3
Mgt 306 Org Behavior & Diversity	3
Mgt 307 Org Innovation	3
Mgt 308 Eth, Pol, Social Env	3
Mgt 309 Law and Society	3
-or- Mgt 310 Legal Env of Mgt	3

NOTE: Students concentrating in Accounting, International Management, and/or Travel and Tourism Management must take MGT 310.

Mgt 322 Marketing Management	3
Mgt 326 Financial Management	3
Mgt 328 International Management	3
Mgt 498 Strategic Management	3
Econ 300 Intermed Micro I	3
Total Anderson Schools Core *	36

* 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.

Upper-Division Humanities/Social/Behavioral Sciences-3 hours

All students must take one three-hour 300-level or above course in English, Foreign Languages & Literatures, Philosophy, Fine Arts (Art History, Art Studio, Music, Theatre, Dance, Media Arts), Religious Studies, Anthropology, Geography, History, Political Science, Psychology, or Sociology.

Students in International Management and Travel and Tourism may choose the appropriate course from their lists of approved electives. Accounting students may substitute an accounting elective from Mgt 343, 348, 444, 445 for this requirement.

Management Concentration and Other Electives-27 hours

Students must complete requirements for a management concentration with additional free electives such that completed concentration and free electives total 27 hours. At least 12 hours must be in management courses. No more than 6 units of problems courses or 6 units of internship may be used in meeting the total 27 hour credit requirement.

Candidates for the BBA degree should declare a concentration no later than the first semester of their senior year. The specific concentration requirements are listed below.

Accounting-21 hours

In addition to the core courses required of all BBA candidates (which for accounting majors must include Mgt 310), the accounting concentration consists of these courses: Mgt 340, 341, 342, 346, 440, 443, 449.

Mgt 343, 348, 444, and 445 are strongly recommended as free electives. Transfer students selecting the Accounting concentration must complete a minimum of 12 hours of upper-division accounting 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 MBA degree or the Master of Accounting degree.

Entrepreneurial Studies-15 hours

The required courses are: Mgt 324, 384, 493 (*ST/in Management*) 495 and 496.

Financial Management-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.

General Management-12 hours

Required courses are: Four management courses beyond the core from four different concentration areas.

International Management-18 hours

Students who are interested in careers in International Management should carefully consider a number of alternatives. Since many rewarding jobs go primarily to MBA graduates, rather than to BBA graduates, you should also consider other undergraduate programs which prepare you for a graduate MBA program, including fields as diverse as engineering, area studies, or the social sciences. Most MBA programs seek outstanding students from any field, rather than average students with a business background. If you are serious about an international management career, you should also consider acquiring some first-hand international experience by living and working or studying abroad. For all but a handful of countries, you will benefit greatly from mastering a foreign language.

For UNM students who wish to concentrate in International Management as undergraduate BBA candidates, the Anderson Schools offer two geographical emphasis options, the Latin American or the European option. The former option draws on the many courses coordinated by UNM's Latin American Institute, one of the leading such area centers in the U.S.

International Management BBA Course Requirements

1. All International Management BBA candidates in the Anderson Schools must take the common core upper division courses required for all BBA students, as listed in the UNM catalog (Mgt 300, 301, 303, 306, 307, 308, 310, 322, 326, 328, 498, and Econ 300). In addition to these courses, International Management students must also take Mgt 474 (International Financial Management) and Mgt 483 (International

Marketing). Both of these courses are normally offered at least once a year. Note that since Mgt 326 is a prerequisite for Mgt 474, and Mgt 322 a prerequisite for Mgt 483, each prerequisite should be taken as soon as possible.

2. Two elective concentration courses (6 credit-hours) must be taken from among the following courses: Mgt 480 (Buyer Behavior), Mgt 481 (Marketing Research I), Mgt 490, 491, 492, 493 (Special Topics in Management), or Economics 424 (International Trade). Note that enrollment in the Special Topics courses requires approval by Profs. Coes or De Gouvea or their designates. Students with a GPA of at least 3.00 and senior standing may also satisfy this elective requirement with Mgt 548 (International Accounting) or Mgt 597 (International Management Seminar).
3. A minimum of two courses (6 credit-hours) must be taken in one of the two geographical emphasis options. Note that some of the eligible courses are cross-listed in more than one department. Some of the courses listed below have prerequisites, which you may not use in place of the courses themselves. If two language courses are used to satisfy this requirement, they must be in the same language. Other courses may be substituted with prior approval by Profs. Coes, De Gouvea, or their designates. Although not always offered each semester, currently approved courses are:

Latin American Emphasis Option: Anthropology 343, 384; Economics 321, 421, 423; Geography 301, 302; History 282, 383, 384, 399, 481, 482, 483, 485, 486, 488, 489; Political Science 345, 355, 356, 455, 463; Portuguese 202, 276, 414; Sociology 350, 355, 450, 451; Spanish 201, 202, 203, 277, 278, 301.

European Emphasis Option: Economics 424, 429, 450; French 201, 202, 203, 301; German 201, 202, 203, 204; History 303, 308, 328, 336, 349, 429, 438, 442, 443; Political Science 340, 351, 357, 440; Portuguese 202, 276; Russian 201, 202, 203, 290, 301, 302, 303, 401, 402; Spanish 201, 202, 203, 277, 278.

4. It is recommended that (1) the student's 3 credit-hours of electives in Upper Division Humanities/Social/Behavioral Sciences and (2) other free electives be selected from among the courses listed for the two geographic emphasis options.

Management Information Systems-21 hours

The required courses are: C S 151L, Mgt 329, 331, 337, 459, 460, and 461.

Marketing Management-18 hours

Mgt 480 and 481 plus four additional marketing electives from 483, 484, 485, 486, 487, 488, 489, 333, and 433. Other Anderson Schools courses or courses outside Anderson Schools may be substituted with faculty advisor prior written consent.

Organizational Behavior/Human Resources Management-12 hours

Students must take four upper-division OB/HRM courses (Mgt 463, 464, 465, 466, 467, 493), one of which may be a graduate OB/HRM course. Other Anderson Schools courses or courses outside of the Anderson Schools may be substituted with OB/HRM department's prior written approval.

Production and Operations Management—15 hours

Five courses from Mgt 333, 432, 433, 434, 462, 486, 488, M E 356, and C S 452 or other courses approved by faculty advisor. Mgt 434 is highly recommended.

Travel and Tourism Management—18 hours

The course requirements are: Mgt 411, 412, 413, and 493, plus two courses from Mgt 324, 462, 474, 480, 481, 483, 489, 490 (with approval) or 495.

Minor Study

For those schools and colleges accepting a minor in management, the requirements are a minimum total of 18 credit-hours selected from Mgt 113, 195 or 324, 202, 222 or 322, 290, 309, 310, 306 or 361, and Econ 106 (for non-economics majors only).

Equivalent 300-level management courses may also be accepted for the minor as approved by the Dean. At least 6 hours must be taken at UNM.

Additional Information

Air Force and Naval ROTC

Students enrolled in the Air Force or Naval ROTC may need an extra semester beyond four years to complete the requirements for the degree of Bachelor of Business Administration and their commission. It is possible, however, for students to complete these requirements in four years by using their required Naval and Air Force courses as their free electives. It is important that such students make sure that they are taking the courses required for the degree in the proper sequence.

Pass/Fail (CR/NC) Option

Course work in the following areas cannot be taken on a pass/fail (CR/NC) basis either at UNM or another institution: specific requirements, management core, upper-division humanities/social/behavioral sciences, 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 may take up to 9 credit-hours of 300-level management courses prior to admission to the Anderson Schools of Management. Students enrolled in two sections of the same course may be dropped from both sections.

Honors Program—General

Students who accept an invitation to join the University of New Mexico General Honors program may apply their various seminars to satisfy appropriate general education requirements when approved in advance by the BBA Advisement Center. General Honors classes are acceptable as free electives without prior approval.

Management/Economics Grade-Point Average

Management/Economics grade-point average is defined as a grade-point average computed on all Management and Economics courses required for the BBA degree (core and

concentration as well as those Management/Economics courses required for admission and acceptable toward the degree).

Service courses—those specifically approved for a business minor, which state *not applicable toward the BBA degree* in the course description, as well as those specifically offered for two year Associate Programs are exempt from the above calculation.

University policy regarding repetitions is followed. Transfer work is not included in the above calculation.

Prerequisites

It is the firm policy of the school that course prerequisites must be observed. Management courses taken out of sequence will 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.

Probation and Suspension

Please see the regulations concerning academic probation and suspension shown in the *General Academic Regulations* section of this catalog.

Internal Probation and Dismissal

Those with a Management/Economics grade-point average less than a 2.00 will be placed on internal Anderson Schools probation.

A student is subject to dismissal from the Anderson Schools any semester after being placed on probation in which academic status does not improve.

Petitions for readmission after dismissal may be made to the Dean.

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 toward humanities, social sciences, and free electives, provided appropriate scores have been achieved.

Please refer to the *Alternate Credit Options* section in this catalog.

Transfer Policies

Transfer from Other Accredited Institutions

Undergraduate programs in management or business administration in universities normally concentrate the professional courses in the last two years of a four-year program. Only a limited amount of work in business courses is offered prior to the junior year. The objective of this policy is to permit the student to acquire a foundation of work in the basic arts and sciences as a prerequisite for professional courses in management.

Students planning to complete their first two years of study at a junior college or at a four-year college other than UNM 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 (statement of advanced standing) 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 how this transferable work will 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 nonbinding.

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 BBA Advisement Center at the Anderson Schools.

Each area will determine how many hours must be taken in residence at UNM in concentration area courses in order to obtain a concentration in the area. The Anderson Schools will not accept credit from educational programs of noncollegiate organizations.

All other current admission and transfer credit policies now being used by the Anderson Schools will continue to apply except as modified in this Catalog. Additional information is available at the Anderson Schools BBA Advisement Center.

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 UNM unless specifically articulated. Lower-division credit will be determined in the manner mentioned above. In addition, the student must maintain at least a 2.00 GPA on the first 12 hours of management and economics courses undertaken. Failure to do so will cause the student to be placed on *internal probation*, during which he or she must earn a GPA sufficiently high enough to raise his or her GPA in management and economics courses to a minimum of a 2.00 upon completing 24 hours of such course work.

A student on probation who does not show such improvement in his or her management and economics GPA is subject to dismissal by the Anderson Schools.

Students transferring from a recognized junior or community college not fully accredited should note that the same policy as indicated above for transfers from accredited junior or community colleges applies to them, except that they will automatically be placed on probation upon entry and must maintain a 2.00 GPA on the first 12 hours of management and economics course work undertaken. Failure to do so will make the student subject to dismissal by the Anderson Schools.

Transfer from Other Accredited Institutions

Transfers must meet normal requirements for admission to this university and must have completed 30 credit-hours of course work at the University of New Mexico before being admitted to the first year of the MBA program (fourth year of the "Three-Two" Program).

Graduate Program

Application Deadlines

- Fall semester: July 1
- Spring semester: November 15
- Summer session: April 15

Degrees Offered

Master of Business Administration

Concentrations: accounting, tax accounting, financial management, general management, human resources management, international management, management information systems, management of technology, operations and management science, marketing management, and policy and planning.

Master of Accounting

For additional information not included in the following pages concerning *graduate-level course offerings, degree requirements, and other program information*, see the Bulletin of the Robert O. Anderson Graduate School of Management.

The M.B.A. Program

The Robert O. Anderson Graduate School of Management at the University of New Mexico has as its fundamental objective to contribute to the development of the creative and responsible management leadership necessary to meet the changing complex of social-economic problems confronting our state, nation, and world. The Schools faculty has therefore elected to focus its resources on professional management education and continuing management development programs.

As the name of the School is intended to stress, it is committed to an effective integration between the administrative sciences and the professional skills and personal values essential for management and leadership. The Schools programs, therefore, emphasize conceptual frameworks which link narrative and descriptive administrative theory with interdisciplinary contributions from the physical, biological, and social sciences. Team teaching, computer simulations, in-depth tutorials, field research, and internship programs are utilized to achieve integration between management scholarship and practice at all professional levels.

The key to such a program is a student-centered curriculum which responds to individual differences, capabilities, and areas of interest. This is the basis of learning experiences relevant to the development of individual life styles of balanced growth and self-fulfillment.

Students desiring to achieve competence in a particular area should plan their electives to satisfy the requirements for that concentration. A reasonable degree of specialization is possible in the following areas of concentration: accounting, financial management, general management, human resources management, international management, management information systems, management of technology, operations and management science, marketing management, and policy and planning.

The Master of Accounting Degree

The Master of Accounting degree is designed for the individual who has already earned a BBA with a concentration in accounting, and who wishes to pursue graduate study in accounting or related disciplines. It is a 33-credit-hour program of study which includes 15 credit hours of graduate accounting courses and 18 credit hours of graduate study in related disciplines.

The minimum requirements for admission to the Master of Accounting Program are a grade point average of 3.0 for all undergraduate course work as well as an average of 3.0 for all accounting courses. An acceptable score on the Graduate Management Admission Test is required (normally, this means a minimum score of 500).

A formal application plus all additional admission requirements are required of all students, including graduates of the Anderson School of Management. Application blanks are available from the Anderson Schools Graduate Program Office. A nonrefundable application fee of \$25 must accompany the application.

Students graduating with a Master of Accounting degree will be qualified for positions in public accounting practice, industry, not-for-profit organizations and government. Both industry and public accounting are demanding an increasing number of graduates with Master of Accounting degrees. For additional information contact the Graduate Program Office, Anderson Schools of Management, University of New Mexico, Albuquerque, New Mexico 87131-1221. Telephone: (505)277-3147, Fax: (505)277-9356

Other Programs

Students desiring to follow a program of study different from those afforded by the above-listed concentrations may, in consultation with their advisors, select their electives (including graduate-level courses outside the School) in a fashion which satisfies their individual career objectives, subject to the Anderson Graduate Schools general regulations.

Students with degrees in any discipline may be admitted to the graduate programs.

It is a general policy of the School that enrollment in all courses numbered 500 and above shall be limited to:

1. students who have been accepted for graduate study in management by the Robert O. Anderson Graduate School of Management
2. students from other colleges in the University who have regular graduate status and who receive permission of the instructor,
3. undergraduate students admitted to the Three-Two M.B.A. program, and
4. selected undergraduate students in the Robert O. Anderson School of Management with permission of the Dean office.

Non-degree students are not normally permitted to enroll in graduate-level courses in the Anderson Graduate School. Prospective applicants with questions concerning the curriculum or other matters are invited to write or contact the M.B.A. Program Office, Robert O. Anderson Graduate School of Management, University of New Mexico, Albuquerque, New Mexico 87131-1221. Telephone: (505) 277-3147, Fax: (505) 277-9356.

Applicants will be sent an application blank and detailed information concerning admission procedures.

The "Three-Two" Program for the Master of Business Administration Degree

Completion of the "Three-Two" Program is accomplished in the following manner:

1. For the first three years of university studies, the student pursues a normal program of undergraduate work (15-18 hours per semester) in either (1) the College of Arts and Sciences, (2) one of the other colleges in the university, or (3) the Bachelor of University Studies program.
2. During the third year of academic work, the student applies for admission to the MBA program of the Anderson Graduate School. The student is expected to meet the following requirements by the end of the fourth year:
 - a. Complete the bachelor's degree requirements with a 3.00 or higher GPA.
 - b. Maintain a B average in management courses.
 - c. Take the Graduate Management Admission Test (GMAT) prior to admission.
 - d. Be accepted for admission to the Robert O. Anderson Graduate School of Management.
3. In the fourth year of academic work, the student begins the first year of the MBA program and also completes the requirements for a bachelor's degree in the undergraduate field. Each student should consult with the MBA Program Office for a transcript evaluation. Cooperating departments throughout the uni-

versity will accept the courses in management taken during this year as constituting a minor for the purposes of the bachelor's degree. Normally 18 hours of graduate management courses will constitute a minor. However, each student should verify this with the cooperating department.

4. Prior to being awarded the bachelor's degree, the student applies for admission to the Robert O. Anderson Graduate School of Management.
5. In the fifth year of study, the student completes the second-year requirements and electives of the MBA program.
6. In order to satisfy the requirements for the MBA degree, the student must earn a minimum of 33 hours credit beyond the bachelor's degree, 32 hours of which must be completed while the student is enrolled in the University of New Mexico Graduate Program. At the beginning of each semester in which the student is enrolled as an undergraduate in the MBA courses, he or she must apply for graduate credit. Contact the MBA Program Office for information.

Admission to "Three-Two" Program

As indicated above, students electing the "Three-Two" Program must apply for admission to the MBA program during the third year of their undergraduate studies. Application should be made to the MBA Program Office of the Anderson Graduate School in the semester preceding the beginning of the fourth year. *No undergraduate student will be permitted to enroll in any 500-level course offered by the School unless he or she has been officially admitted for study except when approved by the MBA Program Office. Such approval will be given only in special cases.*

Requirements for admission are:

1. Completion, by the end of the semester application is made, of at least 90 hours of course work toward a bachelor's degree in a discipline other than business. No fewer than 30 of these hours must have been taken at the University of New Mexico.
2. A minimum grade-point average of 3.00 on all work taken at the University of New Mexico.
3. Demonstration of sufficient breadth in the undergraduate program (see *Breadth Requirements* following).
4. Completion, with a grade of C or better, of the following courses in mathematics and economics (or their equivalents): Math 162 and 163 or 180 and 181; Econ 106, 300, and 303.

NOTE: These requirements can be met after admission to the School— see below.

5. A satisfactory score on the Graduate Management Admission Test must be submitted to the School. This examination is administered four times annually by the Educational Testing Service. Detailed information about the test and application forms may be acquired from the UNM Testing Center or by writing directly to Educational Testing Service, Box 966, Princeton, New Jersey 08540. Since an application cannot be considered without the results of this test, students are urged to make arrangements to take it early in the semester preceding admission to the program.

Breadth Requirements

It is the objective of the Robert O. Anderson Graduate School of Management to offer graduate, professional education within an intellectual framework provided by a broad liberal arts pre-professional program. As a general guideline, minimum breadth requirements for entry into the fourth year of the program are:

Humanities—15 hours

English, including literature; modern and classical languages, philosophy, communication and journalism.

Social Sciences—24 hours

1. Geography, history, political science
2. Behavioral sciences; psychology or sociology, anthropology
3. Economics

* Students who are exempt from English 102 or Math by virtue of ACT or SAT scores should add electives to equal the 62 hours required for admission (English 219 or 320 are recommended).

Laboratory Sciences—8 hours

Biology, chemistry, earth and planetary science, physics.

Mathematics—6-8 hours

It is recommended that Math 180 and 181 or 162L and 163L be taken.

It is recommended that students fulfill the breadth requirements listed prior to being admitted to the first year of the MBA program. Many alternative combinations of course work in the arts and sciences or in other colleges of the university can provide acceptable preparation for study in the Anderson Schools. For this reason, few specific course requirements have been established as prerequisites for admission. Each application will be considered individually with respect to the breadth requirement. In instances in which a student's prior academic record appears lacking in breadth, the student will be advised as to the additional course requirements necessary to correct the deficiencies. Such additional work will, in most cases, extend the time required to complete the "Three-Two" Program by at least one semester. A student who has not taken Math 180 and 181 or 162L and 163L and Econ 106 and 300 may still be admitted. He or she will, however, be required to take one or two additional courses offered by the School during the fourth year. These additional courses may increase the length of the program by a semester or summer session. In order to reduce the possibility of lengthened program, students who are considering the "Three-Two" Program are encouraged to consult with an advisor in the Anderson Graduate School of Management at the earliest possible date in their academic career. Certain graduate courses can be waived on the basis of undergraduate work with a B or above and the permission of the course instructor. Cooperative planning by the student, the advisor in the major field, and an advisor from the Anderson Schools should permit the development of an undergraduate program which meets the needs and interests of the student while, at the same time, providing the background required for admission to the MBA program.

Dual-Degree Programs

For information on the J.D./M.B.A. and M.B.A./M.A. in Latin American Studies (with international management concentration), dual-degree programs, see page 55.

The Executive M.B.A. Program

The Robert O. Anderson Graduate School of Management accepts as a major part of its role the development of a program of continuing lifelong management education for the executives of private, public, and not-for-profit organizations.

The Executive M.B.A. program, a fundamental step in that direction, brings working executives to the School for sessions during Friday and Saturday every other week during the academic year. (During the summer session the program meets weekly.) Working within this schedule, busy executives continue their business commitments without undue inconvenience, while they strengthen their grasp of modern administration principles and learn new developments in decision theory, management technology, organizational concepts, mathematical tools, computer applications, and a wide range of political, economic, and social factors influencing organizational planning and strategy.

To be admitted to the program, candidates should be nominated and sponsored by their organizations, should have

demonstrated mature administrative competence, and should possess intellectual curiosity. A personal interview by the Director of the Management Development Center is required. Successful completion of the program leads to the Executive M.B.A. degree.

Participants must fulfill all the requirements for admission to the graduate program of the School.

The Executive M.B.A.s curriculum is a 48-hour program of specified courses requiring two years to complete. This program also offers an option for an M.B.A. degree for the practicing manager.

For additional details about this program, consult the bulletin of the Robert O. Anderson Graduate School of Management, or contact:

Director, Management Development Center
Robert O. Anderson Graduate School of Management
University of New Mexico
Albuquerque, New Mexico 87131
Telephone: (505) 277-2525 Fax: (505)277-0345

Applications should be submitted to the address above.

Post-Masters Professional Certificate Program

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

The program consists of five courses (fifteen credit hours) to be selected by the student and approved at the time of admission. The courses must be completed within four years, and a 3.0 (B) average is required for the certificate.

Course plans may be filed in the following academic areas: accounting; policy and planning; financial management; general management; human resources management; international management; management information systems; management of technology; operations and management science; and marketing management.

Further information and application forms may be obtained from the Graduate Program Office of the Anderson School of Management.

The Ph.D. Program

The Ph.D. in Business and Administrative Sciences is authorized to be offered in the various areas of management. General requirements for the Ph.D. degree are specified in earlier pages of this Catalog. The Anderson School of Management is not currently accepting applications to the Ph.D. program. Further information may be obtained by writing to the Graduate Program Office of the Anderson School of Management.

Management (Mgt)**Prerequisites and Corequisites**

Prerequisite for all 200 and above level courses: Open only to students enrolled at UNM.

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 reserves the right to disenroll from a class any student who lacks proper prerequisites, or who is enrolled in more than one section of the same course.

101. Fundamentals of Accounting I. (3)
The development of the accounting cycle, special journals and financial statements. (Credit not applicable toward BBA degree.) {Fall, Spring}

102. Fundamentals of Accounting II. (3)
Continuation of 101, including corporation and manufacturing accounting and decision making. (Credit not applicable toward BBA degree.)
Prerequisite: 101.

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. An overview of functional activities within business and other organizations. {Fall, Spring}

195. Introduction to Entrepreneurship. (3)
A survey course which examines topics including: the entrepreneurial process and economy, the entrepreneur's profile and characteristics, youth and social entrepreneurship. (Credit not applicable towards BBA degree.) {Fall, Spring}

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. {Fall, Spring}

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 BBA degree.) {Fall, Spring}

270. Introduction to Real Estate. (3)
Shows how financing, the tax system, and supply and demand factors influence real estate values. Specific topics include real estate property rights and law, property evaluation and appraisals, land-use planning, interest rate determination, real estate financial mathematics, sources of equity and debt financing, risk analysis, and managing the real estate portfolio. Case studies are used. (Credit not applicable toward BBA degree.) {Fall, Spring}

271. Introduction to Insurance. (3)
Protection and savings features of insurance contracts covering personal risks including life, health, and disability. Contract analysis, legal aspects, pricing, underwriting, and marketing methods. Insurance coverages available for protection of property, casualty, and liability insurance contracts from the viewpoint of the insured, insurers and creditors. (Credit not applicable toward BBA degree.) {Fall}

290. Introduction to Business Statistics. [Statistical Methodology.] (3)
(Also offered as Math 245.) An overview of the use of statis-

tics 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. [Operations Research.] (3)
Introduction to the design, planning, and control of the manufacturing and service systems required to transform an organization's inputs into useful goods and services. Managerial challenges in productivity, quality, and just-in-time systems are considered.
Prerequisites: 290.

301. Computer-Based Information Systems. (3)
Introduction to computer-based management information systems, intended to provide a foundation for the intelligent use of computers as management tools. Computer hardware and software fundamentals, computer systems analysis, design, and implementation.
Prerequisite: 202, C S 150.

303. Accounting for Management Control. (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, C S 150.

306. Organizational Behavior and Diversity. [Organizational Behavior--Applications.] (3)
Emphasis on application of behavioral science theory and concepts. Focus on individual, interpersonal, group, and organizational processes in a diverse work force.
Prerequisite: Engl 102, 6 hours of behavioral science.

307. Organizational Innovation. (3)
Intensive examination of behavioral science research and theory as a basis for understanding, managing and changing organizations. Emphasis is upon a comparative organizational approach which applies to every organization, public or private, as a socio-technical system.
Prerequisites: 306

308. Ethical, Political, and Social Environment of Business. (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 Environment of Management. (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 BBA degree.)
Prerequisite: 222.

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. {Summer, Fall, Spring}

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, 290, Math 180, Econ 106, C S 150.

327. Business Data Processing. (3)

The development of complex business application programs using COBOL. Coverage of IBM MVS job control language and operating system utilities.

Prerequisite: C S 237.

***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: 459, either C S 151L or C S 237. {Fall}

331. Business Application Programming. (3)

The development of complex business application programs using C. Coverage of UNIX operating system control languages, utilities, and libraries.

Prerequisite: C S 151L. {Spring}

333. Quantitative Methods for Managerial Decision Making. (3)

Focuses on readily available software (e.g., Excel) for enhancing the decision making skills of managers. Coverage includes statistical analysis, optimization, and simulation. Emphasizes managerial applications in such areas as operations management, marketing, and finance.

Prerequisite: 290. {Fall, Spring}

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.

Prerequisite: C S 150L, any 3 credit hour programming class. {Fall}

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. {Fall, Spring}

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.

Prerequisites: 340. {Fall, Spring}

***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. {Fall, Spring}

***343. Income Tax Accounting II. (3)**

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

Prerequisite: 342. {Fall, Spring}

***346. Managerial and 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. {Fall, Spring}

***348. Legal Concepts for Accountants. (3)**

An intensive examination of the legal concepts underlying accounting theory and practice. Specific topics: contracts, agency, sales, and legal liability of accountants.

Prerequisites: 310, 340. {Fall}

361. Organization Theory. (3)

Fundamentals of organization and management which apply to organizations involving sizeable groups of people. The manager's job in setting goals and utilizing human and material resources to meet organization objectives. Human relations case problems. For non-business students. (Credit not applicable toward a BBA degree.)

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, 324.

398. Management Career Planning. (1 credit hour for undergraduate students; 0 credit-hours for graduate students)

Career planning and practical preparation for entrance into the job market. Emphasis on investigating career alternatives, self-evaluation, resumes, interviewing, and current job prospects. Available only to students enrolled in the Anderson Schools. At the undergraduate level, only second-semester juniors or seniors are eligible to enroll. At the graduate level, students must be within two semesters of graduation to enroll. **Graded on a CR/NC basis.** {Fall, Spring}

***411. Travel and Tourism Management I. (3)**

Introductory coverage of particular management skills needed and special managerial problems in management of motels and hotels, restaurants, travel agencies, airline customer services, convention centers, tours, car rentals, vacation lodges, and related recreation facilities.

Prerequisites: 202, 290; Econ 105, 106. {Fall, Spring}

***412. Hotel and Restaurant Management. (3)**

Scope and importance, managerial organization, management functions, and particular managerial problems of the hotel and restaurant industry. Special emphases on economic, legal, and technological environments of the industry, and their impacts on management.

Prerequisite: 411. {Fall}

***413. Travel and Tourism Management II. (3)**
 Scope and importance, managerial organization, management functions, and particular problems of travel and tourism industry (excluding hotel and restaurant sector). Special emphases on industry's economic, legal and technological environments, and their impacts on management.
 Prerequisite: 411. (Spring)

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.
 Prerequisites: 326. (Fall, Spring)

432. Applied Decision Analysis. [Quantitative Methods for Managerial Decision Making.] (3)
 Quantitative approaches to solving operational problems in realistic settings through case discussion and presentation.
 Prerequisite: 300. (Spring)

433. Management of Service Operations. (3)
 This course explores the management of service systems through an analysis and discussion of the mix of tangible and intangible attributes that constitute a service package. Text and case study materials will be utilized.
 Prerequisite: 300. (Fall)

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. (Fall)

***437. [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. (Fall)

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. (Spring)

***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. (Fall, Spring)

***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. (Fall, Spring)

***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. (Spring)

***445. Contemporary Accounting Topics. (3)**
 An examination of selected theoretical issues related to current controversy in accounting.
 Prerequisite: 440, or permission of instructor. (Fall)

***449. Accounting Information Systems. (3)**
 An examination of the relationship between computer-based management information systems and accounting. Applications of M.I.S. techniques in the design and operation of accounting systems.
 Prerequisite or corequisite: 346 or permission of instructor. (Fall, Spring)

451-452. Problems. (1-3, 1-3 hrs. each semester)
 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 BBA degree. (Summer, Fall, Spring)

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. (Offered upon demand)

459. Information Analysis. (3)
 Information system analysis and logical system design in organizations. Topics include application development strategies, information system life cycle, requirements determination, analysis, and specification.
 Prerequisite: CS 151L or permission of instructor. (Spring)

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.
 Prerequisite: 459. Pre- or corequisites: 329, 459, or 331. (Fall)

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. (Spring)

462. Management of Quality. (3)
 The management of quality is studied using managerial strategic/policy tools and statistical process control methodologies.
 Prerequisite: 300. (Spring)

***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, 307.

***464. Human Resources Theory and Practice. (3)**
 Behavioral theories and applications in HR. HR planning, job analysis and design, recruitment, selection, performance management, training and development, employee involvement, compensation, labor relations, occupational health and safety.
 Prerequisites: 306 and 307.

***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, 307.

***466. Advanced Concepts and Problems in Organizational Behavior. (3)**
 Selected topics, problems, learning designs, and models in organizational behavior.
 Prerequisites: 306, 307, or permission of instructor.

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: 306, 307, 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. {Fall}

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. {Fall, Spring}

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. {Spring}

***474. International Financial Management. (3)**

Covers 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. Touches on problems of corporate financial accounting and the effects of currency valuation on income and asset values. 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. Surveys the financial institutions, instruments, and markets of international business.
Prerequisite: 326. (526 for graduate students). {Fall}

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. {Fall, Spring}

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; recommended: 480. {Fall, Spring}

***482. Marketing Research II. (3)**

Continuation of Marketing Research I with emphasis on more advanced analysis of data, computer applications, model building, and report preparation. Project orientation.
Prerequisites: 322, 481; recommended: 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, 480; recommended: 481.

485. Retailing Management. (3)

Management of the retail level of the distribution system. Emphasis on management decision making. Project orientation.
Prerequisite 322; recommended: 480 and 481.

***486. Distribution Systems Management. (3)**

Management of the marketing channel including the manufacturing, wholesale, and retail levels and related physical distribution activities. Focus on structural and functional analysis, design, and evaluation of distribution systems.
Prerequisite: 322; recommended: 480, 481, (522 or equivalent for graduate students).

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; recommended: 480, 481.

488. Procurement Management. (3)

Management of the procurement system as a part of the buying and selling process in an industrial or commercial marketing context in both the private and public sectors.
Prerequisite: 322; recommended: 480, 481.

***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.

490-491-493. Special Topics in Management. (3, 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 Business. (3)**

Objectives of the course are to stimulate creative, entrepreneurial management in small businesses. Specifically, the problems of managing small, growing, businesses facing resource constraints are considered.
Prerequisite: 324.

***496. Seminar in Entrepreneurial Financing. (3)**

Focuses on the various requirements for as well as the problems encountered during the capital acquisition process for small businesses. Numerous methods and avenues for raising capital are considered.
Prerequisites: 324, 326.

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 BBA Program.
Prerequisites: students must be within the last 15 hours of completing the B.B.A. to take this course. {Summer, Fall, Spring}

General Prerequisites for Graduate-Level Courses

The following are the general prerequisites or corequisites that apply to all graduate-level courses offered by the Anderson Graduate School:

Mgt 500, 502, 504, 506, 509, 510: admission to the Anderson Graduate School or permission of instructor and M.B.A. Program Director. All other courses: prerequisites or corequisites are Mgt 500, 502, 504, 506, 509, 510.

- 500. **Quantitative Analysis I.** (3)
- 501. **Statistical Analysis for Management Decisions.** (3)
Prerequisite: general. {Fall, Spring}
- 502. **Accounting and Management Information Systems I.** (3)
{Fall, Spring}
- 503. **Managerial Accounting.** (3)
Prerequisites: general. {Fall, Spring}
- 504. **Microeconomics for Managers.** (3)
- 505. **Macroeconomics for Managers.** (3)
Prerequisite: 504 or equivalent.
- 506. **Organizational Behavior and Diversity.** (3)
Prerequisites: general.
- 507. **Organizational Behavior II.** (3)
Prerequisite: 506.
- 508. **Ethical Political & Social Environment of Business.** (3)
- 509. **Legal Environment of Management.** (3)
{Fall, offered upon demand}.
- 510. **Introduction to Information Processing.** (3)
- 511. **Management of Technology and Competitive Markets.** (3)
- 512. **Strategic Management of Technology.** (3)
- 513. **Technological Forecasting and Assessment.** (3)
- 514. **Technological Entrepreneurship.** (3)
{Offered upon demand}
- 515. **Innovative Product Development.** (3)
- 516. **Technology-based Strategic Alliances and Consortia.** (3)
- 519. **Project in Technology Commercialization.** (3)
- 520. **Operations Management.** (3)
Prerequisites: 501.
- 521. **Manufacturing Systems Management.** (3)
- 522. **Marketing Management.** (3)
{Summer, Fall, Spring}
- 523. **Service Operations Management.** (3)
- 525. **Management of Quality.** (3)
- 526. **Financial Management.** (3)
Prerequisites: 501, 503, 504. {Summer, Fall, and Spring as scheduled}
- 527. **Strategy and Technology in Manufacturing.** (3)

- 528. **International Management.** (3)
Prerequisites: General, 501, 503, 504, 506, 508, 510, 522, 526. {Summer, Fall, Spring}
- 529. **Applied Decision Analysis.** [Intermediate Operations Research.] (3)
Quantitative approaches to solving operational problems in realistic settings through case discussion and presentation.
Prerequisite: 520. {Spring}
- 530. **System Perspectives.** (3)
Pre- or corequisite: 520 or permission of instructor. {Spring}
- 532. **Simulation.** (3)
(Also offered as C S 452.)
Pre- or corequisite: 300 or 520 {Fall, Spring}
- 533. **Business Forecasting Methods.** (3)
Prerequisite: 501 or permission of instructor. {Fall}
- 534. **Management of Information Systems.** (3)
Prerequisite: 510; Pre- or corequisite: 535. {Spring}
- 535. **Information System Analysis and Design.** (3)
Prerequisite: 510. {Spring}
- 537. **Database Management Systems.** (3)
Prerequisites: C S 237 (COBOL), 510 {Spring}
- 538. **Management Information Systems Design Applications.** (3)
Prerequisites: 535, 537. {Fall}
- 539. **Decision Support Systems.** (3)
Prerequisites: 535, 537. {Spring}
- 540. **Financial Accounting.** (3)
Prerequisite: 502. {Fall}
- 541. **Advanced Accounting Theory and Practice.** (3)
Prerequisite: 540. {Spring}
- 542. **Seminar in Personal Tax Planning.** (3)
Prerequisite: 343. {Fall}
- 543. **Seminar in Business Tax Planning.** (3)
Prerequisite: 343. {Spring}
- 544. **Advanced Auditing.** (3)
Prerequisites: 443, 449.
- 545. **Seminar in Accounting Theory and its Development.** (3)
Prerequisite: 540 or equivalent. {Fall}
- 546. **Seminar in Controllershhip.** (3)
Prerequisite: 346 or equivalent. {Spring}
- 547. **Tax Research, Procedure, Compliance, and Practice.** (3)
Prerequisite: 343. {Spring}
- 548. **Seminar in International Accounting.** (3)
Prerequisite: 503 or permission of instructor. {Fall}
- 549. **Seminar in Managerial Control.** (3)
Prerequisite: 503 or equivalent. {Fall}
- 550. **Professional Accounting.** (3)
Prerequisite: 545 or permission of instructor. {Spring}
- 551-552. **Problems. (1-3, 1-3)††**
{Fall, Spring}
- 554. **Public Control of Business.** (3)
Prerequisite: 504.

- 556. Financial Planning and Capital Budgeting. (3)**
Prerequisite: 526.
- 558. Seminar in Corporation and Society. (3)**
Prerequisite: 508.
- 560. Seminar in Cross-Cultural Organizational Behavior. (3)**
Prerequisite: 506.
- 561. Interpersonal Dynamics. (3)**
Prerequisite: 506.
- 562. Organizational Design and Development. (3)**
Prerequisite: 506.
- 563. Human Resources Management: Theory and Applications I. (3)**
Prerequisite: 506.
- 565. Seminar in Administrative Theory and Decision Making. (3)**
Prerequisites: 506.
- 566. Diversity in Human Relations Lab. (3)**
Prerequisite: 506
- 567. Women in Management. (3)**
- 568. Creative Leadership and Innovating Organizations. (3)**
Prerequisite: 506
- 570. Analysis of the Financial System. (3)**
Prerequisite: 526. Corequisite: 556. {Fall}
- 571. Security Analysis and Investment Management. (3)**
Prerequisite: 526. Corequisite: 556. {Fall, Spring}
- 573. Seminar in Management of Financial Institutions. (3)**
Prerequisite: 526. {Spring}
- 574. Seminar in International Financial Management. (3)**
Prerequisite: 526. {Spring}
- 575. Seminar in Finance. (3)**
Prerequisite: 526. {Fall in alternate years}
- 577. [592] Starting New Business. [Environmental Factors in Health Systems Planning.] (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*).
- 579. [593.] Entrepreneurial Internship. [Field Study in Health Systems Management.] (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.
- 580. Buyer Behavior. (3)**
Prerequisite: 522.
- 581. Research for Marketing Management. (3)**
Prerequisite: 522, 580 recommended
- 582. Strategic Marketing Planning. (3)**
Prerequisite: 522.
- 583. International Marketing Management. (3)**
Prerequisite: 522, or equivalent.
- 584. Sales Management. (3)**
Prerequisite: 522; 580, 581 recommended.
- 586. Industrial Marketing Management. (3)**
Prerequisite: 522, 580 or permission of instructor.
- 587. Marketing Communications Management. (3)**
Prerequisite: 522; 580 and 581 recommended.
- 589. Marketing for Nonprofit Organizations. (3)**
Prerequisites: 501, 504, 522, or permission of instructor.
- 590. Problems for Interns. (1-6)**
Offered on a CR/NC basis only.
- 591. Introduction to Health and Health Care Organizations. (3)**
Prerequisite: general. Contact department for availability. {Fall}
- 594. St/International Management Seminar. (3)**
Prerequisite: permission of instructor.
- 595. Management in Latin America. (3)**
Prerequisite: 528, or equivalent. {Offered upon demand}
- 597. General Management of International Operations. (3)**
Prerequisite: 528, and at least one of 548, 574, 583. {Spring}
- 598. Strategic Management. (3)**
Prerequisite: at least 45 credit-hours hours completed in the MBA program. {Fall, Spring}
- 699. Dissertation. (3-12 hrs. per semester)**
- 700. Management Perspectives. (2)**
- 701. Statistical Analysis for Decision Making. [Statistics and Management Science.] (3)**
- 702. Accounting. (3)**
- 703. Management Accounting. (2)**
- 704. Economics for Managers. [Economic Analysis.] (3)**
- 706. Organizational Behavior and Diversity. [Organizational Behavior I.] (3)**
- 707. Organizational Innovation and Leadership. (3)**
- 708. Political, Social, and Ethical Environment of Business. (3).**
- 709. Legal Environment of Business. (2)**
- 710. Introduction to Information Processing. [Computer-Based Information Systems.] (3)**
- 711. Management of Technology and Competitive Markets. (3)**
- 712. Business Communications. (2)**
- 720. Operations Management. (3)**
- 722. Marketing Management. (3)**
- 726. Financial Management. (3)**
- 728. International Management. (3)**
- 751. Practicum. (3)**
- 798. Strategic Management. [Integrative Seminar.] (3)**

SCHOOL OF ARCHITECTURE AND PLANNING

James R. Richardson, Interim Dean
The University of New Mexico
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Stephen Schreiber, Architecture

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Richard S. Nordhaus, M.Arch., University of Pennsylvania
William J. Siembieda, Ph.D., University of California
(Los Angeles)
Anne P. Taylor, Ph.D., Arizona State University
Mete Turan, Ph.D., Columbia University

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Teresa Córdova, Ph.D., University of California (Berkeley)
Stephen Dent, M.Arch., Arizona State University
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Adjunct Research Assistant Professor

Charlene Brown, M. Arch., University of New Mexico
Kim Sorvig, M.L.A., University of Pennsylvania

Lecturers

Barbara Coleman, MCRP, University of New Mexico
Edward B. Norris, B.Arch., Howard University

Professor Emeritus

George Anselevicius, Diploma of Arch., Leeds School of
Arch (England)
Michel Pillet, M. Arch. University of California (Berkeley)

Introduction

There is growing concern with the influence of the built environment on the quality of life. Societal responses will be wide ranging in scope and continuously changing. People capable of meeting the challenges of the future will be needed. The fields of architecture, planning, and environmental design offer a significant share of the knowledge and skills necessary to work in the complex relationships between people and the built environment.

The curricula of the school provide students with the ability to analyze and synthesize. Students deal with concepts and methods which will enable future professionals to address,

through creative design, complexities of historical and cultural context, and of behavioral, technological and socio-economic factors. This knowledge will permit graduates to play an important role in the making of an effective and responsive environment.

Accreditation

The 2 and 3-1/2 year Masters of Architecture program is nationally accredited by the National Architectural Accrediting Board (NAAB). The Master's program in Community and Regional Planning is nationally accredited by the Planning Accrediting Board (PAB). Both programs received full, five-year renewals of their accrediting in 1992.

Degree Programs

Undergraduate

Bachelor of Arts in Architecture (BAA).

The BAA is a preprofessional degree for students who wish to gain admittance to a two-year graduate program in architecture. The overall intent of the program is to provide a firm grounding in the essential ideas, principles, theories and technologies that are the basis for the design of the built environment. The program is centered on the design studio sequence where all the elements of the design process come together in exercises formulated to build increasing skill and sophistication in the student designer.

Bachelor of Arts in Environmental Design (BAED).

The BAED is a broadly based program for those students who wish to concentrate their education in the fields related to architecture including landscape architecture, interior architecture, building construction, or planning. The approach to each of these emphases is design based. Students who wish to pursue careers as landscape architects or planners should expect to continue with graduate work.

Graduate

The Master of Architecture (M.Arch.)

The University of New Mexico offers two programs that lead to the nationally accredited *first* professional degree, Master of Architecture.

2 Year Program. This program is composed of two parts: a four year undergraduate program that results in the Bachelor of Arts in Architecture degree, and a two year program that leads to the 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 preprofessional degree program in architecture.

3 1/2 Year Program. Students with bachelor degrees from any field may apply to our 3 1/2 year program leading to the Master of Architecture degree (also call the *Non-Architectural Graduate*, or *NAG*, program). 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 3 1/2 year program bring a breadth of knowledge based on previous education and experience to the program. The program thrives on the diversity, maturity and motivation that these students bring to the school.

In addition to the above first professional degrees, we offer a *second* professional degree:

1 1/2 Year Program. This program, leading to the Master of Architecture degree, is for students who have already com-

pleted an accredited first professional degree (usually the five-year Bachelor of Architecture) and wish to obtain an advanced degree. There are few specific course requirements in this program in order that the student may generate the most professionally and personally useful course of studies with their 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 NAAB.

The Master of Community and Regional Planning. A professional two-year degree program for training and education in the field of planning. The program emphasizes local and regional planning issues and reflects the Multicultural and resource conscious nature 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, the Division of Public Administration and the graduate Architecture Program. Students are encouraged to engage in field work and professional internship experiences.

Areas of Study

Architecture (M.Arch.)

This accredited professional degree in architecture prepares students for a wide range of important roles as architects shaping the physical environment and encourages the creation of a responsive and adaptive architecture. The program is built around design studios, lecture courses, seminars, and independent work.

The graduate program in architecture attempts to balance aesthetics, social, technical, and environmental issues so that our students learn how to create built environments of real quality. We acknowledge that the perception of the correct balance between these often competing and conflicting factors is not an absolute, but rather an inherent part of the richness of the vision brought to bear by the architect. We also feel that a student in the graduate program should, within limits, organize his or her own program of studies in order to develop a personal vision of design and its consequences for the practice of architecture. Therefore, all graduate students must design a program of studies that includes the required courses and an emphasis. The emphasis must be declared and arranged with the assistance of a faculty advisor and include a minimum of eight credit hours of graduate course work. In addition, the Master's Project or Thesis must be related to the emphasis. Emphasis areas will typically be specific areas within the field of architecture in which we offer enough course work and faculty expertise to create a distinct learning opportunity such as Design/Theory, Energy/Sustainable Environments, Building Technology, Professional Practice, Landscape, and Planning. We also allow students to develop and pursue a general emphasis that would provide the broad based background needed for a traditional practice. In all cases the student will take an active role with their designated advisor in tailoring a program to meet their goals and aspirations.

Each graduate student must complete either a Thesis (Plan I) or a Master's Project (Plan II). The majority of students undertake the Master's Project in which a project of appropriate scale and complexity is identified by the student, researched and programmed in a Research phase of 2-4 credits, and then taken to a comprehensive level of design as approved by their faculty committee.

Community and Regional Planning (M.C.R.P.)

The program for this accredited professional planning degree 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 Master's in Community and Regional Planning (MCRP) program is to advocate for sustainable communities and ecosystems within the Southwest regional context through education, service and research. The program's purpose is to provide future planners with the knowledge and skills necessary to support planning by diverse human communities. Students of the MCRP program learn to assist 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. Graduates of the M.C.R.P. program will be equipped to build upon valued cultural and historical processes to create compelling, future-oriented, sustainable plans and programs that empower culturally diverse populations and encourage economic stability.

The distinctive specialization of planners in the conduct of their work stems from the broad-based perspective of the professional practice of planning, its sense of wholeness, the relationship of its parts, and its concern for the future. These qualities distinguish planners from related social activists and political decision makers. The rich substantive content of community and regional planning draws from many disciplines. Its focus is the concepts and disciplines of planning as an applied field of practice.

The educational model for this degree (M.C.R.P.) is based on the concept of problem solving as a learnable skill and as a context for broader learning. Because much of planning practice involves developing solutions to complex social, physical and resource allocation or conservation problems, the ability to analyze problems as a general mode of practice becomes 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.

Admission Requirements

Undergraduate

Upon completion 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 are accepted from UNM students, as well as transfers from any other accredited universities approved by the Office of Admissions.

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*. This allows student applicants to find out if they are truly interested in the fields of architecture and environmental design, and environmental design and 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. Related experience, background, or course work should be mentioned as well as any particular educational and professional goals.
2. **Portfolio of Drawing and Design Work.** Work submitted should be no larger than 8½" x 11" in a bound portfolio. Work from drawing and art studio courses and personal art work should be presented. The work may be presented as originals, photo reproductions, or quality photocopies. Please do not send slides. Select your best and most representative work.

- Three Letters of Recommendation.** At least two of these letters should be from faculty members. (Forms for letters are available from the student advisor).
- Application Sheet.** This form is available from the student advisor. Do not alter or reproduce this form.
- Transcripts.** UNM students may request unofficial transcripts at the Records & Registration Office in the Student Services Building. If you are a transfer student from another institution, please provide an official transcript from all colleges previously attended. You must also send official transcripts to the Admissions Office.
- Required Entry Courses.** The following courses, or their equivalents, must be successfully completed before a student is granted admission.
 Arch 101, *Intro to Architecture*
 Arch 104, *Intro to Architectural Drawing* or
 Art St 106, *Drawing I*
 Art St 121, *2-D Design* or
 Art St 122, *3-D Design*
 CRP 165, *Intro to Comm & Reg Planning* or
 CRP 181, *Intro to Environmental Problems*
 Math 123, *Trigonometry*
 Engl 102, *Comp II: Analysis & Argument*
 Physcs 102, *Intro to Physics* or
 Physcs 151 or 160, *General Physics*
- Required GPA.** A cumulative GPA of 2.50 or higher and a B- or better in Arch 104 or Art St 106 is required.
- Application Date.** All of the above information and forms must be submitted by May 15th. This allows spring semester course work to be evaluated equally with fall and summer. Any material missing will disqualify your application for consideration. Please address all inquiries and submit all materials to: Undergraduate Admissions, c/o Student Advisor, UNM School of Architecture, Albuquerque, NM 87131-1226.

Graduate

In addition to Office of Graduate Studies application requirements, each student must submit to the department:

- A resume; (Arch & Planning)
- Three letters of reference; (Arch & Planning)
- A portfolio of design and/or other work (Architecture only) 8 1/2 X 11" format, slides not recommended;
- Copy of course descriptions of all architecture classes completed from college catalog. (Arch only)

The self-managed application packet is to be sent directly to the Graduate Office of the University of New Mexico. The portfolio, resume, references and course descriptions must be sent directly to the School of Architecture and Planning.

Graduate Committee

- Edith Cherry, M.Arch., Associate Professor of Architecture
- Stephen D. Dent, M. Arch., Associate Professor of Architecture
- Teresa Cordova, Ph.D., Associate Professor of Planning
- Carla Yanni, Ph.D., Assistant Professor of Planning and Architecture
- Paul Lusk, M.Arch, Associate Professor of Architecture and Planning

Graduate Advisors

- Edith Cherry—Architecture
- Richard S. Nordhaus—Architecture, 3 1/2 year Program
- William J. Siembieda—Planning

Application Deadlines

- Fall semester ONLY:
 (Architecture) February 15
- Fall semester ONLY
 (Planning) February 15

- Fall semester ONLY:
 (Architecture 3 1/2 year Program) February 15
- Spring semester:
 (Planning): on a case-by-case basis only) November 1
- Summer session:
 (Architecture and Planning):None accepted

Graduation Requirements

Bachelor of Arts in Architecture

Second Year — Required Courses, Typical Sequence

			Credits
Arch 201	Design I, Lecture	Fa	2
Arch 201L	Design I, Studio	Fa	4
Arch 285	Construction I	Sp	3
Arch 261	World Architecture I	*	3
Arch 202	Design II, Lecture	Sp	2
Arch 202L	Design II, Studio	Sp	4
Arch 262	World Architecture II	*	3
Math 180	Elements of Calculus I	Fa/Sp/ Su	3
-or- Math 162L	Calculus I	Fa/Sp/ Su	4
Required			24
Elective			8

Third and Fourth Year — Studio of Choice

(Students must take all three, but may do so in any order)

			Credits
Arch 401	Interior Architecture Studio	Fa/Sp	6
Arch 402	Building Design Studio	Fa/Sp	6
Arch 403	Urban Design Studio	Fa/Sp	6
Required			18

Third and Fourth Year — Optional Studios

(Students must take one, preferably in fourth year)

			Credits
Arch 404	Special Topics (variable)	Sp	6
Arch 408	Design & Planning Assistance		
	Ctr	Fa/Sp/ Su	6
Required			6

Third and Fourth Year—Required Courses, Typical Sequence

			Credits
Arch 356	Site/Environment	Fa	4
Arch 381	Structures I	Fa	3
Arch 385	Environmental Controls I	Fa	3
Arch 371	Human Factors in Design	Sp	3
Arch 382	Structures II	Sp	3
Arch 263	World Arch Literature III	*	3
Required			19
Elective			21

* Schedule Varies

Electives for Bachelor of Arts in Architecture. Of the 41 possible credit-hours of electives, a minimum of 24 hours must be taken outside Architecture and Planning of which 9 hours must be 300-level or above in Arts and Sciences. A minimum distribution follows:

	Credits
Sciences: Biology, Psychology, Anthropology, Archeology, Astronomy, Physics, Chemistry, Geology, or Mathematics	6
Humanities: Literature, History, Philosophy, Sociology, Religious Studies, Economics, Geography, Political Science, Languages, American Studies, or General Honors	12
Fine Arts: Art Studio, Art History, Theory/Criticism	3
Communications: Writing, Communications, Linguistics, or Journalism	3

Total Credit-Hours for Bachelor of Arts in Architecture.

Entry Courses	20
Degree Core	67
Electives	41
Total, BA Architecture	128

Minimum Grade-Point Average. A minimum cumulative grade-point average of 2.50 is required for graduation.

Portfolio Reviews: Student will be required to submit portfolios for review by a faculty committee at the end of the 201/202 sequence, and immediately prior to graduation.

Bachelor of Arts in Environmental Design

Entry Requirements 20

Core Requirements

			Credits
Arch 201	Design I, Lecture	Fa	2
Arch 201L	Design I, Studio	Fa	4
Arch 202	Design II, Lecture	Sp	2
Arch 202L	Design II, Studio	Sp	4
Arch 261	World Architecture I: Ancient Cultures		3
Arch 262	World Architecture II: Medieval & Renaissance Cultures		3
Arch 263	World Arch III -or- Arch 463 20th Century Architecture		3
Arch 356	Site/Environment	Fa	4
Arch 371	Human Factors in Design	Sp	3
Total			28

NOTE: World Architecture I, II and III are taught in sequence. See class schedule for availability in any one semester.

Additional Required Courses for Emphases**Landscape Design**

			Credits
Arch 357	Landscape Design		3
Arch 402	Building Design	Fa/Sp	6
Arch 403	Urban Design Studio	Fa/Sp	6
Arch 411	Problems (Landscape Topic)		2
Arch 412	Seminar (Landscape Topic)		3
Arch 457	Landscape Architecture: Advanced		3
Arch 458	Plant Materials		3
Arch 473	Architectural Programming		3
Biol 121L	Principles of Biology	Fa/Sp/Su	4
Biol 122L	Principles of Biology	Fa/Sp/Su	4
E&PS 103	Earth's Environment & Global Change		3
Biol 463	Flora of New Mexico	Sp	4
Total			44

Liberal Arts and other Electives 36

Minimum distribution requirement of Electives is the same as for Bachelor of Arts in Architecture except for the 6 credits of science which are met by the biology requirements.

Planning

For entry requirement students may substitute Biology 121L, or E&PS 101 for Physics 102.

			Credits
CRP 165	Comm & Reg Plng, Intro		3
-or- CRP 181	Intro to Environmental Problems (whichever was not taken for entry requirement)		
CRP 265	Comm Planning: Concepts & Methods		3
CRP 376	Human Settlements		3
CRP 465	Land Development Economics		3
CRP 474	Cultural Aspects of Comm Development		3

CRP 480	Comm Growth & Land Use Planning		3
Arch 357	Landscape Design		3
Arch 403	Urban Design Studio	Fa/Sp	6
Arch 412	Seminar (in Planning topic)		3
Math 145	Introduction to Statistics		3
Geog 263	Economic Geography		3
Geog 383	Spatial Organization		
-or- Geog 367	Urban Spatial Patterns		3
Econ 106	Intro Microeconomics		3
Total			42

Liberal Arts and other Electives 38

Minimum distribution requirement of Electives is the same as for Bachelor of arts in Architecture except that 3 of the 12 credits of humanities are met by the geography requirements.

Building Construction

			Credits
Arch 285	Construction I	Sp	3
Arch 381	Structures I	Fa	3
Arch 382	Structures II	Sp	3
Arch 385	Environmental Controls I	Fa	3
Arch 402	Building Design Studio	Fa/Sp	6
Arch 473	Architectural Programming		3
Arch 485	Construction II	Fa/Sp	4
Arch 487	Environmental Controls II	Sp	3
Math 180	Elements of Calculus I	Fa/Sp	3
C E 350	Engineering Economy		3
C E 472	Construction Contracting		3
C E 277	Intro to Planning and Estimating		
-or- C E 477	Advanced Planning and Estimating		3
Total			40

Liberal Arts and other Electives 40

Minimum distribution requirement of Electives is the same as for Bachelor of Arts in Architecture.

Interior Architecture

			Credits
Arch 285	Construction I	Sp	3
Arch 381	Structures I	Fa	3
Arch 385	Environmental Controls I	Fa	3
Arch 401	Interior Architecture, 2 sem	Fa/Sp	12
Arch 411	Problems (with interior Architecture topic)		
-or- Arch 412	Seminar (with design topic)		6
Arch 473	Architectural Programming		3
Arch 482	Lighting	Fa	3
Arch 483	Acoustics	Sp	2
Arch 485	Construction II	Fa/Sp	4
Arch 487	Environmental Controls II	Sp	3
Math 180	Elements of Calculus I		3
Total			45

Liberal Arts and other Electives 35

Minimum distribution requirement of Electives is the same as for Bachelor of Arts in Architecture.

Minimum Grade-Point Average

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

Master of Architecture

The following graduate and undergraduate courses are required for the accredited M.ARCH. degree:

Required Graduate Courses**2 and 3½ Year Program**

Arch 501	Graduate Design Studio	(6)
Arch 502		
-or- 503	Graduate Design Studios	
-or- Arch 408	DPAC	(6)

Arch 531	Professional Practice	(2)
Arch 598	Thesis Research (Plan I) or	
Arch 596	Independent Project Research (Plan II)(2-4)	
Arch 599	Thesis (Plan I) or	
Arch 597	Independent Design Project (Plan II)	(6)

Required Undergraduate Courses

An integral part of the requirements for the accredited MARCH degree are the undergraduate courses listed below:

Architectural Design: Design preparation should include a minimum of 6 semesters of 6 credit-hour design studios, (equivalent to our Arch 201, 202, 401, 402, 403 and either 404 or 408). Incoming graduate students will be evaluated and placed in an appropriate undergraduate design studio if they are not prepared for a graduate design studio.

- 1 Semester of Physics
- 1 Semester of Calculus
- 2 Semesters of Building Technology
 - Arch 285 Construction I
 - Arch 385 Environmental Controls I
- 2 Semester of Structures
 - Arch 381 Structures I
 - Arch 382 Structures II
- 3 Semesters of Architectural History
 - Arch 261 World Architecture I: Ancient Cultures
 - Arch 262 World Architecture II: Medieval and Renaissance Cultures
 - Arch 463 20th Century Architecture
 - or- Arch 461, Architecture in Europe, 1750-1914
 - or- Arch 477, American Architecture-
- 1 Semester of Environmental Studies
 - Arch 356 Site/Environment
- 1 Semester of Behavior and Environment
 - Arch 371 Human Factors in Design
- 1 Semester of Planning
 - CRP 181 Intro to Environmental Problems
 - or- CRP 165, Community and Regional Planning Introduction

NOTE: Graduate students may substitute electives for those courses taken as an undergraduate.

Additional Requirements (May be taken as undergraduate or graduate)

- Arch 485 Construction II (Construction Documents)
- Arch 481 Structure and Form
- Arch 487 Environmental Controls II

NOTE: Students in the 3 year program are exempt from the following requirements: 1 semester of planning Arch 201 and 202. They are required to take two semesters of undergraduate studio.

1 1/2 Year Program

- Arch 501, 502, 503, or 408(6)
- Arch 598, Thesis Research (Plan I)(2-4)
 - or- Arch 596, Independent Project Research (Plan II)
 - Arch 599, Thesis (Plan I)(6)
 - or- Arch 597, Independent Design Project (Plan II)

A minimum of 32 graduate credit hours is required for graduation

Plan I and Plan II

Plan I requires the completion of a written Thesis while Plan II requires the presentation of a complex design problem in the Master's Project. The course requirements for Plans I and II are identical with the exception that Arch 598 (*Thesis Research*) and Arch 599 (*Thesis*) are required for Plan I while Arch 596 (*Independent Project Research*) and Arch 597 (*Independent Design Project*) are required for Plan II. In Plan I, 6 credit hours of Problems are allowed. In Plan II, 12 credit hours of Problems are allowed.

Students are required to work in the Master's Studio while completing Arch 598/599 or Arch 596/567.

Master of Community and Regional Planning

The MCRP 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	Quantitative Methods	(4)
CRP 520	Urban Studio	
	-or- CRP 521 Advanced Planning Studio	
	-or- CRP 408 Design and Planning Assistance Center	
	-or- Pub Ad 573 Interdisciplinary Field Course in Water Resources Administration	(4)
CRP 545	Land Use Controls	(3)

Second Methods and Foundations Courses

Students are required to take a second methods course (3 units) from a cluster of methods course options designated by the faculty. Students are also required to take a foundations course designated by the faculty, in the area of emphasis in which she or he has chosen to specialize. This course may be selected from a course or set of courses designated by the faculty.

Exit Requirements

CRP 588/598	Profess Project/Thesis Prep Seminar	(2)
Plan I -	CRP 599 Thesis	(6)
Plan II -	CRP 589 Professional Project	(6)

Master's Examination

M.Arch: This requirement is divided into two parts. The first part, the Graduate Review, can occur after a student completes 12 hours of graduate study. For students in the 2 Year Program or the 3 1/2 Year Program, it is strongly recommended that they have this part of the exam near the end of or following completion of their second graduate design studio. A faculty committee will review each student's prior academic achievement, program of studies, Thesis or Master's Project proposal, and other relevant matters. Assessment of performance regarding the items above and direction for future work will guide the students remaining academic efforts.

The second part will occur at the time of thesis presentation or when the Master's Project is completed. The student's committee evaluates the depth and breadth of understanding in the student's chosen field of study and area of emphasis in a formal public presentation and review.

M.C.R.P. This requirement is divided into two parts. The first part, the Graduate Review, may 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 prep 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, the thesis or professional project proposal, and other relevant matters. Assessment of the student's performance in the program to date and proposals for future work will guide the committee's recommendations for the student's remaining efforts to complete the M.C.R.P. degree and the approval of the advancement to candidacy form.

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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 evaluates the scope of the work, the quality of analytical work and the content of the finds 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.

Curriculum Design and Advisement

Each student will be assigned a major advisor upon entering the School. The advisor will assist the student in planning a program of studies, which will be recorded in the student's file. Students working towards a Master of Architecture degree are required to develop an emphasis in their curriculum. This emphasis will require at least 8 graduate credit hours plus substantial related content in the Thesis or Master's Project. 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 the advisor. Successful completion of a program of studies is the basis for attaining a degree.

Students working toward a Master of Community and Regional Planning degree are required to develop an emphasis in consultation with their faculty advisor. The emphasis may focus on either of two areas: Natural Resources and Environmental Planning, or Urban and Rural Community Development. Demonstrated competence in an area of emphasis requires the completion of a second methods option and the foundations course in the emphasis cluster of courses plus substantial related content in the thesis or professional project.

The student, together with the advise 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.

Additional Information

Advisement. Advising for undergraduate students is available from the Student Advisor. Individual faculty members are also available for advising on matters relating to professional education, course selection, etc.

Licensing for Architects in the State of New Mexico. An applicant for examination for registration as an architect, must have a first professional degree from an architectural program accredited by NAAB, and also an NCARB certificate showing compliance with IDP (Intern Development Program) Training requirements. UNM's Master's program in architecture is an accredited, professional degree program.

Licensing for Planners. There are no licensing requirements for planners in the State of New Mexico. Planners can be certified through the American Institute for Certified Planners (AICP).

Design and Planning Assistance Center (DPAC). Listed as Arch/CRP 408. Through the Design and Planning Assistance Center, (DPAC), the School provides architectural and planning services to individuals and groups in New Mexico who have inadequate financial resources to obtain services from practicing professionals. The program provides a clinical learning opportunity for students to work on real problems in communities under faculty supervision.

Institute for Environmental Education. Knowledge of human growth and development needs are emphasized as

they apply to the process of designing optimal environments for learning and living. The institute engages in research and graduate training of resource personnel to assist public schools and institutions in raising the levels of awareness, understanding, and knowledge of the interrelationships between design and behavior and between people and their physical environment. The institute also trains teachers to use architecture and design as an interdisciplinary way of teaching math, social science studies and art.

Students are reminded that charges for classroom supplies and student resource fees for certain architecture courses must be paid during the first three weeks of each semester.

Research/Studies

Arid Americas Center

The proposed Arid Americas Center would engage in interdisciplinary research and design. The Center will concentrate on four major areas of New Mexico regional architecture and planning: energy conservation, sustainable human settlements, water issues, and adobe/earthen architecture.

The Design and Planning Assistance Center (DPAC)

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 Institute for Environmental Education

The Institute 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.

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.

Joint/Dual Degrees Between the M.C.R.P. and Other Programs

Formal dual-degree programs have been established with the Latin American Institute and the Division of Public Administration. The dual-degree programs allow a student to complete both degrees in approximately 60% 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. The dual-degree option thus allows students to obtain a M.C.R.P. and a M.A. (Latin American Studies) or a M.C.R.P. and a M.P.A. (Master of Public Administration) (see page 459 of this Catalog.) A dual degree program by Planning and Architecture faculties between Architecture and Community and Regional Planning has been approved.

Other Degree Opportunities

Generic dual degree opportunities are also available for the student with other departments on campus. These individualized programs are developed by the student and supported by the participating departments. Students should begin the process of a generic dual degree by talking with their assigned graduate advisor.

Assistantships

Graduate students in good standing in the School of Architecture and Planning may apply for assistantships. A

number of merit scholarships are also available. Contact the School or Financial Aid Office for additional information on financial aid.

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.

104L. 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.

120. Microcomputer Orientation. (1)

Orientation to microcomputer facilities and software. Content includes an introduction to word processing and an overview of micro computer applications relevant to architecture and planning. Priority to department majors. Offered on a CR/NC basis only.

201. Design I, Lecture. (2)

Introduction to architectural theory as applied to the actual development of design solutions in Studio.
Prerequisite: Enrollment in School of Architecture.
Corequisite: 201L Studio.

201L. 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: 201

202. Design II, Lecture. (2)

Structural, construction, and technical history as applied to the development of design solutions in Studio.
Prerequisites: 201, 201L. Corequisite: 202L.

202L. 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, 201L. Corequisite: 202.

261. World Architecture I: Ancient Cultures. (3)

(Also offered as Art Hi 261.) Survey of the architectural traditions of ancient or indigenous Old and New World cultures.

262. World Architecture II: Medieval and Renaissance Cultures. (3)

(Also offered as Art Hi 262.) Survey of the history of Western architecture from the Renaissance palace to the Post-Modernist house.
Prerequisite: 261 or permission of instructor.

263. World Architecture III. (3)

(Also offered as Art Hi 263.) Survey of the architectural traditions tracing the rise of the modern cultures around the world during the last three centuries.
Prerequisites: 261 and 262 or permission of instructor. (Offered upon demand)

285. Construction I. (3)

Lab and lectures—introduction of technological aspects of building design and construction.
Prerequisite: 201 or 409 or permission of instructor.

321. Introduction to Computer Graphics for Architects and Planners. (1)

Introduction to 2-D paint and draw applications. Course introduces use of computer as a graphic design and communication tool.
Prerequisite: 120.

322. Spreadsheet Applications for Architects and Planners. (1)

Course will develop working competence with spreadsheet, database, graphing, statistical and financial functions applied to architecture and planning.
Prerequisite: 120.

356. Site/Environment. (4)

Introduction to site analysis and site landscape design from individual building to regional scale. Environmental improvement as a requirement of the building process.
Prerequisites: 202, 202L studio or equivalent.

357. Landscape Design. (3)

Lecture, field, and studio assignments—concepts and methods of site and landscape design plus use of plant material and other media.
Prerequisite: 201.

*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.

371. Human Factors in Design. (3)

Explores the interactions between people and the designed environment.

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: 1 semester of Calculus, 202, 202L or equivalent.

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, 202L, 285.

401. Interior Architecture, Studio. (6) Δ

The development of design skills in the creation of the interior environment through problems in space planning, space making, user needs, and the integration of interior support systems and materials. May be repeated for credit for BAED students in Interior Architecture Emphasis because subject matter varies.
Prerequisites: 202, 202L, 285, or permission of instructor.

402. Building Design, Studio. (6)

The development of skills in building design conceptualization, form and massing, spatial organization and articulation, and site relationships.
Prerequisites: 202, 202L, 285, or permission of instructor.

403. Urban Design, Studio. (6)

Design of groups of buildings with special concern for urban context, and the spaces created between and by buildings.
Prerequisites: 202, 202L, 285, or permission of instructor.

404. Special Topics, Studio. (6)

Development of a specific project or building type over the semester. Topics are selected by the instructor and are variable from year to year.
Prerequisite: 4th year standing or permission of instructor.

***408. Design and Planning Assistance Center. (6) Δ**

(Also offered as CRP 408.) 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.

409. NAG Design Studio. (6) Δ

Introduction to architectural theory and design. Two semesters required for students in the 3½ year program. (Non-Architectural Graduates). Offered on CR/NC basis.

411. Problems. (1-3) †

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

412. Seminar. (2-3)

Individually listed topics vary each semester.

***420. Computer Applications for Architects and Planners. (1-3)**

Offered as 4, 8, or 12 week courses. Topics will cover computer applications and topics relevant to the School's curriculum. May be repeated for credit.
Prerequisite: Arch 120 and additional courses as required.

***421. Microcomputer CAD for Architects. (2)**

Introduction to microcomputer CAD applications appropriate to architecture, including principles of 3-D modeling and viewing and 2-D and 3-D functions. Emphasizes the computer as an architectural design medium.
Prerequisite: 321.

422. Contemporary Architecture. (3) Mead

(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 thirty years.
Prerequisite: permission of instructor. {Offered upon demand}

423. Frank Lloyd Wright and American Architecture. (3) Mead

(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. {Offered upon demand}

***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.

457. [457.] Landscape Architecture: Advanced. (3)

Design development and study of landscape architectural history, professional practice, plant materials, and landscape architecture as function of site planning and urbanism. Special attention is paid to New Mexico conditions, public and commercial scale.
Prerequisite: 357 or equivalent.

458. [458.] Plant Materials. (3)

Emphasis will be on planting design, basics of irrigation and landscape design development.
Prerequisite: 357 or equivalent.

***461. Architecture in Europe from 1750 to 1914. (3)**

(Also offered as Art Hi 461.) European architecture from Neoclassicism to Protomodernism.
Prerequisites: 261, 262, or permission of instructor.

***463. 20th Century Architecture. (3)**

(Also offered as Art Hi 463.) Modern architecture in Europe and America.
Prerequisites: Art Hi 261, 262, or permission of instructor.

***464. Architectural Theory and Criticism. (3)**

(Also offered as Art Hi 462.) Seminar on the theoretical and critical significance of a selected architect or architectural movement.
Prerequisites: 261, 262, or permission of instructor.

***471. Psycho-Social Aspects of the Environment. (3)**

(Also offered as CRP 471.) Theory and research of the effects of the built environment on urban populations.
Prerequisite: 371 or permission of instructor.

473. [473.] Architectural Programming (3)

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

***477. American Architecture. (3)**

(Also offered as Art Hi 477.) Architecture in America from the colonial period to 1914.
Prerequisites: 261, 262 or permission of instructor.

***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.

482. [482.] Lighting. (3)

Explores principles of architectural lighting. Includes: daylighting, electric lighting, and lighting design.
Prerequisite: 385.

483. [483.] Acoustics. (2)

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

485. [485.] Construction II. (4)

Course develops an understanding of the production of construction documents as a part of the whole design process.
Prerequisites: 285, two semesters of 400 studio, or equivalent.

486. [486.] Construction III. (3)

Advanced course deals with the materials and methods of construction and how they inform and influence the design and realization of buildings.
Prerequisite: Arch 285, or permission of instructor.

487. [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.

501. Graduate Design Studio. (6)

Entry by graduate standing or special permission. Studio projects deal with complex design issues in the built environment. Taught by senior faculty or visiting professors, the studio will have a specific focus or topic. Project topics are widely varied and may encompass an entire semester. Enrollment limited to students admitted to the graduate architecture program.

502. Graduate Design Studio. (6)

Studio projects deal with complex design issues in the built environment. Taught by senior faculty or visiting professors, the studio will have a specific focus or topic. Project topics are widely varied and may encompass an entire semester. Enrollment limited to students admitted to the graduate architecture program.

503. Advanced Design Studio. (6)
Advanced planning and design studio with emphasis on spatial and aesthetic qualities and design theory. Prerequisite: Arch 502.

510. Planning Communication Techniques. (4)

511. Problems. (1-3)
May be repeated to a total of 12 hours. Independent study initiated by student. Must obtain instructor approval. May be repeated to a total of 12 hours.

512. Seminar. (2-3)
A number of seminar topics are offered each semester and vary from year to year.

522. 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 thirty years. Prerequisite: permission of instructor. (Offered upon demand.)

523. 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.)

531. Professional Practice I. (2)
Exploration of issues involved in the establishment and operation of an architectural practice.

557. Landscape Architecture: Advanced. (3)
Design development and study of landscape architectural history, professional practice, plant materials, and landscape architecture as function of site planning and urbanism. Special attention is paid to New Mexico conditions, public and commercial scale. Prerequisite: 357 or equivalent.

558. Plant Materials. (3)
Emphasis will be on planting design, basics of irrigation and landscape design development. Prerequisite: 357 or equivalent.

560. Seminar in Spanish Colonial Art. (3) Δ
(Also offered as Art Hi 560.) Prerequisite: 450.

571. Urban Design Theory. (3)
(Also offered as CRP 571.) In-depth exploration and synthesis of the research literature on selected topics, e.g., aesthetics, spatial behavior, etc. Undergraduates with senior standing may be admitted.

572. Research Methods. (3)
(Also offered as CRP 572.) 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.

582. Lighting. (3)
Explores principles of architectural lighting. Includes: daylighting, electric lighting, lighting design. Prerequisite: 385.

583. Acoustics. (2)
Concepts, theory, and methodology for analysis and design of acoustical environments.

585. Construction II. (4)
Course develops an understanding of the production of construction documents as a part of the whole design process. Prerequisites: 285, two semesters of 400 studio or equivalent.

586. Construction III. (3)
Advanced course deals with the materials and methods of construction and how they inform and influence the design and realization of buildings. Prerequisite: Arch 285, or permission of instructor.

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.

596. Independent Project Research. (2-4)
First semester course where project dimensions are explored, program for 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). Almost always taken for 3 credits; approval of students committee required for 2 or 4 credits. Prerequisites: 501 or equivalent, advance approval by instructor. Plan II only. Prerequisite: 501 or equivalent; advance approval by faculty member. **Offered on a CR/NC basis only.**

597. Independent Design Project. (1-6)
Student undertakes to implement the project as determined in 596. At culmination of the work, formal presentation is made before a committee to determine the extent to which the student has provided synthesis and product necessary for successful project. Prerequisites: 596 and advance approval by instructor. Plan II only. Prerequisite: 596. **Offered on a CR/NC basis only.**

598. Thesis Research. (2-4)
Plan I only. Requires advance approval by thesis chairperson. **Offered on a PR/CR/NC basis only.**

599. Thesis. (1-6)
Plan I only. Prerequisites: 598 or equivalent and advance approval. **Offered on a CR/NC basis only.**

* No graduate credit is given for Arch 409. Sixteen credit hours are required of 3 1/2 Year Program students over and above degree requirements.

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.

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. [Natural Resources 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)
Exploration of land-use activities, transportation systems, municipal services, and design as related to the community planning process.

338. The City in History. (3)

(Also offered as Soc 338.) 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. [*373.] 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.

***408. Design and Planning Assistance Center. (4-6) Δ**

(Also offered as Arch 408.) 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.

462. [*463.] The Housing Process. (3)

A broad introduction to the housing system, housing policies, finance and funding mechanisms, and development dynamics.

465. [*464.] 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.

***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. [*472.] 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.

470. Seminar. (1-3 hrs., to a maximum of 6) [3] Δ

Various topics related to planning in the southwest.

***471. Psycho-Social Aspects of the Environment. (3)**

(Also offered as Arch 471.) Theory and research of the effects of the built environment on urban populations. Prerequisite: Arch 371 or permission of instructor.

473. [*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.

474. [*474.] Cultural Aspects of Community Development. (3)

Topics relevant to community planning. Theories of human behavior under varying cultural conditions as made evident in time, space, and location. Special attention is given to the use of qualitative and quantitative methods in community profiling.

480. [*480.] Community Growth and Land Use Planning. (3)

The purpose of this course is to study land use planning and growth management dynamics at the local level, in its physical, legal administrative and economic contexts.

485. [*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.

500. Planning Theory and Process. (4)

This course provides 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.

510. Techniques of Planning Communication. (4)

The course provides 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.

511. Analytical Methods for Planning. (4)

Introduction to use of comparative analysis, building of data sets, assembly and organization of planning information. Use of statistical method in problem and plan development. Use of survey research and beginning forecasting techniques. Basic statistics course should have been taken prior to enrollment.

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.

520. Urban Planning Studio. (4)

Application of planning methods to real world settings. Development of a synthesis of the application of theory to professional practice. Case problems pertaining to various planning situations.

521. Advanced Planning Studio. (4)

Research and application of planning principles appropriate to small communities and rural areas. Emphasis on: natural area protection, conservation zoning, provision of recreational facilities, protecting agricultural land; and improving water quality. Prerequisite: 510 or permission of instructor.

530. Internship. (2)

Professionally based experience in of 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.**

536. Social Policy and Planning. (3)

(Also offered as PA 536.) This seminar is designed to explore the process of policy formation by examining current policy and planning issues. Prerequisite: senior standing.

543. Seminar on 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.

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.

551. Problems. (1-3)

Individual study of problems in planning undertaken with faculty advisement and supervision.

562. The Housing Process. (3)

A broad introduction to the housing system, housing policies, finance, funding mechanisms and development dynamics.

563. Housing Seminar. (3)

Seminar examines 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 implication of energy constraints.

564. Natural Resource Planning. (3)

This course is a research seminar designed to characterize the substance, use and limitations of natural resources in regions, using southern New Mexico and northern Chihuahua as the geographical domain.

Prerequisite: 467 or permission of instructor.

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.

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: 511 or permission of instructor.

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)

(Also offered as Pub Ad 569.) Principles and practice of rural area development. Emphasis on rural issues of the Southwest. Includes field studies and analysis of theory.

570. Seminar. (1-3 hrs.; to a maximum of 6) [3] Δ

Various topics related to planning in the southwest.

571. Urban Design Theory. (3)

(Also offered as Arch 571.) In-depth exploration and synthesis of the research literature on selected topics, e.g., aesthetics, spatial behavior, etc. Undergraduates with senior standing may be admitted.

572. Research Methods. (3)

(Also offered as Arch 572.) Conceptualizing research questions and translating those into research strategy.

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.

574. Cultural Aspects of Community Development. (3)

Theories of human behavior under varying cultural conditions made evident in time, space, and location. Special attention is given to the use of qualitative and quantitative methods in community profiling.

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 set-

tlements are organized, the way they are, and how various elements of settlement system interact.

575. Natural Resource Economics. [Seminar: Energy Policy and Administration.] (3)

(Also offered as Econ 343, 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.

577. Practice of Policy Development. (3)

(Also offered as Pub Ad 577L.) 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.) 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.

580. Community Growth and Land Use Planning. (3)

The purpose of this course is to study land use planning and growth management dynamics at the local level, in its physical, legal administrative and economic contexts.

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.

588. Professional Project/Thesis Preparation Seminar. [Professional Project I.] (2) [1-4] 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. (1-6) 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

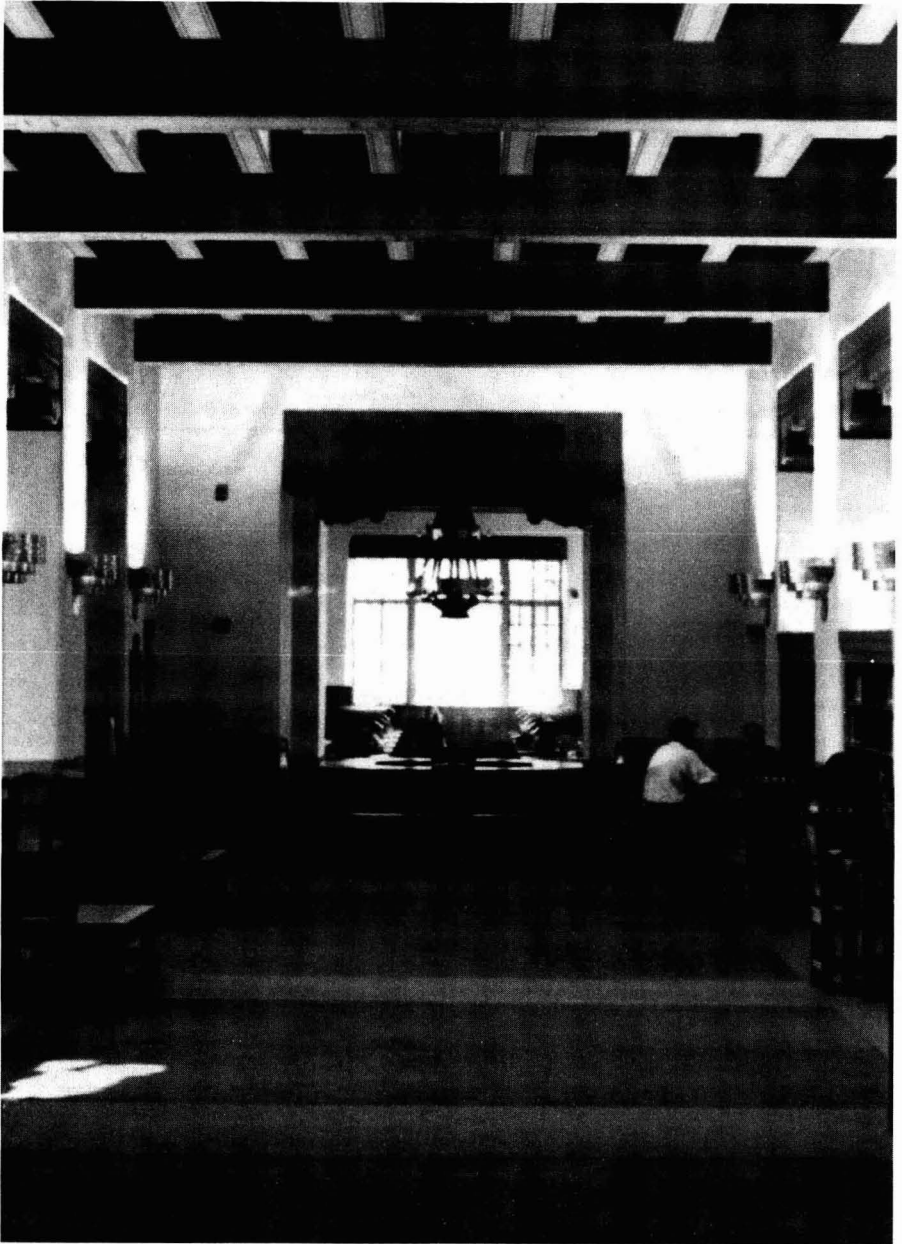
598. Thesis Research. (1-4)

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. Thesis. (1-6)

Development of a research project reflective of advanced inquiry into a planning topic. Thesis should make concrete contributions to guide planning practice.

Prerequisite: 598 or equivalent and approval by thesis chairperson. Offered on a PR/CR/NC basis only.



COLLEGE OF ARTS AND SCIENCES

Michael Fischer, Interim Dean
The University of New Mexico
College of Arts and Sciences, Ortega Hall 201
Albuquerque, NM 87131-1081
(505) 277-3046

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).

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 201 and advisors are available during regular university hours, including the noon hour. Appointments are not needed.

Transfer from Other Units Within the University

1. A minimum of 26 hours; 23 must be in courses acceptable toward graduation.
2. A cumulative GPA of at least 2.00 on all work attempted.

-or-

A cumulative grade-point average of 2.00 on the most recent 26 hours, and an overall grade-point average of 1.80. Such students will be admitted on Probation and should refer to the section on *Probation, Suspension and Dismissal*

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. A score of 51 or better plus a passing essay on the Freshman College Composition CLEP Subject Examination.
 - e. Credit for Engl 102 through CEEB advanced placement program.
4. Students should apply to the College of Arts and Sciences and declare a major as soon as these requirements are met.
5. Non-degree students apply to the Office of Admissions.
6. Any exception to the above must be approved by the Dean of Arts and Sciences.

Transfer from Accredited Universities

1. A cumulative GPA of at least 2.00 on all work attempted.

CLEP

The College of Arts and Sciences accepts credit earned through the general CLEP and the ACT only as elective credit unless UNM course equivalent is specified, 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 the 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. 42 hours of courses numbered 300 or 400 with at least a 2.00 average on all hours counted.

The College of Arts and Sciences does not normally accept in fulfillment of the requirement of 42 credit-hours of upper-division courses any lower-division courses transferred to UNM as the equivalent to a UNM upper-division course. While the basic material and information may be adequately covered in such lower-division courses, to such an extent that the student need not be required to repeat the courses, nevertheless it is assumed that upper-division courses are taught with a degree of maturity and sophistication on the Junior/Senior level, which is not normally encountered in a lower-division course.

5. A major and minor or a double major, or one of the special curricula of the College. Half of the major must be completed at UNM. A quarter of the minor must be completed at UNM.
6. Group requirements as described below.
7. Demonstration of competence in the writing of English.
8. Subsequent to admission to the College of Arts and Sciences, one semester of resident enrollment, with a minimum of six semester hours in courses taught by Arts and Sciences departments.
9. Students should also be familiar with the 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 requirements of the current catalog upon re-enrollment.

Group Requirements

The purposes of the following group requirements are to ensure that students will explore various fields of knowledge before beginning to concentrate too heavily in their major and minor fields and to provide a broad base in several areas necessary to a well-rounded general education. Introductory Studies (100) courses are not acceptable. To fulfill the group requirements students must complete SEVEN of the following eight groups:

- I. Communications: 9 credit-hours (not more than 6 from any one area) in English writing, communication and journalism, or linguistics.
- II. Humanities: 9 credit-hours (not more than 6 from any one area) in literature, including English, American, foreign and comparative literature, history, philosophy, Religious Studies (except 333, 422 and 430).
- III. Biological/Behavioral Sciences: 6-7 credit-hours in Anthropology (courses numbered between 150-169, 250-269, 350-369, 450-469), biology or psychology. A student who successfully completes Math 145 or Soc 381 may not use Geog 356, 455, or Psych 200 in order to fulfill the requirements of this group.
- IV. Physical Sciences: 6-7 credit-hours in chemistry, earth and planetary sciences, Geography 101 and 105L, 251, 351, 353, 359, 452, 453 or physics/astronomy.
- V. Mathematics: 6 credit-hours (Math 111, 112, 120, and 215 may not be used to satisfy this requirement.) Please note that credit is not given for both Math 121 and 150. For other restrictions on Math courses, see page 196.
- VI. Social Sciences: 9 credit-hours (not more than 6 in any one area) in Anthropology (except courses numbered between 150-169, 250-269, 350-369, 450-469), economics, geography, political science, or sociology (not acceptable are Pol Sc 250, 291, 309, 478, and 499 and Soc 338, 381, 478, 481L, 490, and 499).
- VII. Foreign Language: As many credit-hours as needed to complete the fourth semester of a language. Satisfaction of this group requirement may be established through testing. Students with prior exposure to a foreign language should consult with the department offering that language for advisement and placement. Satisfaction of this group requirement can be met by completion of one of the following courses or by passing the challenge examination for one of these courses: French 202, 276, German 202, 276, Navajo 202, Greek 302, Italian 276, Latin 202, 352, Portuguese 202 or 276, Russian 202, Spanish 202, 276, Chinese 202, Japanese 202, Sign 310 (American Sign Language III).
- VIII. Fine Arts: 6 credit-hours. Acceptable are selected courses in the history, appreciation, and criticism of art, architecture, music, theatre, and dance. Effective Fall 1997, a student may opt to take 3 hours studio or performance arts in group VIII.

Students planning to offer American Studies, Women Studies, or Native American Studies courses to fulfill group requirements should consult an Arts and Sciences Advisor.

NOTES (Group Requirements).

1. At least one credit-hour of a laboratory in one of the sciences (Group III or IV) is required.
2. No single course may be applied to more than one group.
3. Course work done at other schools or in another UNM college may apply but requires the approval of a senior academic advisor.
4. Courses taken in the General Honors or Undergraduate Seminar Programs may, with the approval of the Dean, be counted toward the group requirements in groups for which course content is clearly appropriate. The question of appropriateness will be determined by the Director of Honors in consultation with a senior academic advisor, and the Dean in each case.

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 UNM. A quarter of the minor must be completed at UNM.

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.

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 nor more than 36 hours. A student should consult with the major department chairperson if a distributed minor is desired.

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 office for further information.

Double 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" MBA program allows students to complete Arts and Sciences group and major requirements in the first three years, and an MBA in the fourth and fifth years. MBA course work in the fourth year will constitute the student's minor requirements. Requirements for admission to the "Three-Two" MBA Program are outlined in the Anderson Schools of Management section of this catalog.

Certification to Teach in High School. Students in Arts and Sciences who wish to acquire certification as secondary school teachers should confer with appropriate personnel in the College of Education regarding suitable majors and minors and necessary education courses.

Cooperative Education Program. The College of Arts and Sciences offers a cooperative education program (Co-op) for

students majoring in some departments in the College. The Co-op curriculum is a work-study program which alternates a semester or a year of full-time academic study with a semester or year of full-time employment. Co-op students gain employment experience in major subject-related areas which provides career guidance and makes their academic study more meaningful. Also, Co-op students earn a substantial part of their educational expenses.

Students who are interested in the Co-op Program should contact the Co-op Director soon after being admitted to the university. Co-op students normally must finish the first semester of the freshman year with at least a 2.50 grade average before beginning interviews for a Co-op job. Thus, Co-op students normally begin their first work phase after the end of the freshman year at the earliest. To be eligible for Co-op a student must be enrolled in a degree-granting college.

While on each work phase, Co-op students must register in a special Arts and Sciences course, Cooperative Education Work Phase, and pay a registration fee. This registration maintains the students' 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 six 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 are: any course numbered 100, and such courses as Psych 109; Libr 110, 120, 160, 220, Women Studies 181, 182.

Library 120 taken Fall 1997 and subsequently, counts for elective credit.

Except as noted below, neither does the College 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, etc.; courses oriented toward professional practice, such as those taught by Nursing, Pharmacy, Elementary Education, Health Promotion, Health Education, Physical 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.

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 (Dance) Department.
2. for courses in methods of high school teaching, provided these courses are required for certification in a single or composite field, up to 12 hours. Secondary Education minors may exceed the 12-hour limit to the extent required for this minor.
3. for USP courses that are approved for credit by the College of Arts and Sciences, up to 4 hours.
4. for non-professional 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.

Probation, Suspension, Dismissal

Students may be admitted to the College of Arts and Sciences on probation if the cumulative grade-point average (GPA) is above 1.80 but 2.00 or better on the last 26 attempted hours. Students admitted on probation must be ineligible to continue at UNM unless admitted to a degree

granting unit. Students ineligible for admission (or readmission) on probation may be admitted if they have not attended UNM for a period of three years. Students denied admission or readmission are encouraged to raise their cumulative GPA by taking courses in another UNM college or program or through UNM Continuing Education correspondence courses.

Students enrolled in the College of Arts and Sciences are placed on probation at the end of any semester in which the cumulative GPA on UNM work falls below 2.00.

Students on probation are liable for suspension at the end of any semester in which the cumulative GPA does not rise to a 2.00 or better.

Students admitted or placed on probation may be continued on probation if they substantially raise the cumulative GPA and are making reasonable progress in meeting Arts and Sciences course requirements. "Substantially raise the cumulative GPA. . . ." is defined as earning 6 grade points above a C average for more than 9 credit-hours or 3 grade-points above a C average for 9 credit-hours or fewer. 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. 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. While suspended, students may take correspondence courses through UNM Continuing Education to raise their GPA. They need a letter of recommendation from their senior academic advisor. Students are reminded that up to 30 credit-hours of UNM correspondence courses may be applied toward a degree.

Departments or Programs of Instruction

A student may not elect both a major and minor outside the college.

Major in A&S

American Studies (BA)
 Anthropology (BA or BS)
 Asian Studies (BA)
 Astrophysics (BS)
 Biochemistry (BA or BS)
 Biology (BA or BS)
 Chemistry (BA or BS)
 Classical Studies (BA)
 Communication and Journalism (BA)
 Comparative Literature (BA)
 Criminology (BA)
 Earth and Planetary Sciences (BA or BS)
 Economics (BA)
 Economics-Philosophy (BA)
 English (BA)
 English-Philosophy (BA)
 European Studies (BA)
 Geography (BA or BS)
 History (BA)

Latin American Studies (BA)
 Languages (BA):
 French
 German

Minor in A&S

African-American Studies
 American Studies
 Anthropology
 Asian Studies
 Astrophysics
 Biology
 Chemistry
 Communication and Journalism
 Comparative Literature
 Criminology
 Earth and Planetary Sciences
 English
 European Studies
 Geography
 History
 Italian Studies
 Latin American Studies
 French
 German
 Greek

Major in A&S

Languages (interdisciplinary)

Portuguese
Russian
Russian Studies
SpanishLinguistics (BA)
Mathematics (BS)Philosophy (BA)
Physics (BA or BS)
Political Science (BA)
Psychology (BA or BS)Religious Studies (BA)
Russian Studies (BA)
Sign Lang Interp (BS)

Sociology (BA)

Speech and Hearing
Sciences (BA)**Minor in A&S**Latin
Portuguese
RussianSpanish
Linguistics
Mathematics
Medieval Studies
Peace Studies
Period Minor
Philosophy
Physics
Political Science
Psychology
Quaternary Studies
Religious Studies
Russian StudiesScience, Technology
and Society
Sociology
Social Welfare
Speech and Hearing
Sciences
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. However, a student may elect to complete either a major or minor, but not both, from the following programs outside the College of Arts and Sciences. (Students should remember that they must have 96 hours in Arts and Sciences.)

Major

Art (BA)

Family Studies (BA)

MinorArt
Management
Computer Science
Electrical and Computer
Engineering
(For mathematics and physics
majors only)
Family Studies
Human Services
(For Psychology, Criminology and
Sociology majors only)
Library Science
Mechanical Engineering
(For mathematics majors only)
Music
Military Science
Secondary Education
Special Education
TESOL
Theatre (Drama, Dance, Media
Arts)

Major and minor requirements and course descriptions will be found listed by departments.

Preprofessional 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.

Preprofessional 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 Arts and Sciences advisor.

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.

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, Illinois 60611. Students interested in Dental School should see an Arts and Sciences advisor.

Graduate Program**A & S Graduate Committee**

Peter White, Chairman

Twenty members, one from each department in the college with a graduate program, plus one to three student members from the Graduate Student Association, make up the College of Arts & Sciences Graduate Committee. Members are chosen in August of each year.

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) (See Romance Language Ph.D.)
Geography (M.A. only)
German Studies (M.A. only)
History
Linguistics
Latin American Studies (M.A., Ph.D.)
Mathematics
Optical Sciences (Ph. D. only-see Physics)
Philosophy
Physics
Political Science
Portuguese (M.A. only). (See Romance Language Ph.D.)
Psychology
Sociology
Spanish (M.A. only) (See Romance Language Ph.D.)
Speech and Hearing Sciences
Speech Pathology and Audiology (M.S. only)
Romance Languages (Ph.D. only)

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
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Faculty

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 Robert Harding, J.D., University of Kentucky
 Pamela Herndon, J.D., University of Texas
 Jonnie Jones, J.D., Georgetown University
 Lenton Malry, Ph.D., University of New Mexico
 Shiame Okunor, Ph.D., University of New Mexico
 Patricia Pamham, Ph.D., University of Texas
 Howard Ross, Ph.D., Southern Illinois University
 Admasu Shunkuri, Ph.D., University of Kansas
 Vera Verhoeven, J.D., University of New Mexico
 Cortez Williams, Ph.D., University of New Mexico

Introduction

African-American Studies is an interdisciplinary minor-degree granting program which provides to the university community the African American perspective to issues relevant to the education of all, especially African Americans for the 21st century. Some of the courses are cross-listed with Political Science, Language, Literacy, and Socio-Cultural 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 students' major department, or as electives.

The program includes in its academic mission a 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 Afro A 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 discipline is possible with prior departmental approval.

Plan A

101 Swahili/Arabic I	3
103 Fdn of African-Amer Studies	3
284 African-American History I	3
299 Black Leaders in the U.S.	
-or- 309 Blacks in Politics	3
300 & above electives (Afro A)	9
391 Problems	3
Total	24

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 African A courses, and the remaining 12 hours out of the department of emphasis. A minimum of 6 of the 12 hours from each of the two departments must be 300 level or above. Afro A 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 (Afro A)	6
300 & above electives (concentration)	6

Concentrations: history, economics, anthropology, psychology, political science, sociology, etc.	6
Total	24

Plan C (Art and Science majors only)

The African-American Studies minor required 24 hours, consisting of a core, and an elective area in a department of the college.

The required core consists of 15 hours, divided into two parts:

1. a. Afro A 284 African-American History I
 b. Afro A 285 African-American History II
2. (These courses must be cross-listed by the relevant Arts and Sciences department, or be taken as courses in such department)
 - a. Afro A 329 African Politics (Political Science)
 - b. Afro A 333 Black Political Theory (Pol. Science)
 - c. Afro A 397 African-American Literature (English)

-or-

Afro A 380 African Literature (English)

-or-

English 411 (when topic is appropriate)

The elective area consists of nine hours, all of which 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.

The Summer Institute In African-American Studies

Director, Shiame Okunor

This is a program jointly sponsored by the African-American Studies, and the History Department. The African American Studies and the Department of History jointly sponsor the Institute. Institute courses are thematic and cross listed with four departments enabling each course theme to be addressed through the lenses of four disciplines. The Institute's courses are taught by distinguished visiting professors and augmented by local faculty members.

396. Emancipation and Equality. (3)

(Also offered as Hist 365.) 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; Socio-Politics: Africa, Culture and Education, Politics of Southern Africa, African American Experience.

398. History of Africa 1800. (3)

(Also offered as Hist 357.) Survey of the African continent during colonial and national periods.

Related Courses

- 250. **Black Woman. (3)** Herndon
- 280. **Black Experience in the U.S. (3)** Williams
- 285. **African-American History II. (3)** Williams
- 297. **Black Family. (3)** Pamham
- 309. **Black Politics. (3)** Shunkuri
- 387. **Blacks in Latin America I. (3)** Williams
- 391. **Problems (01-03)** Okunor
- *397. **Interdisciplinary Topics. (1-3) Δ**

ARTS & SCIENCES

These activities are augmented by sponsorship of the following university-community projects: Team of Excellence.

The Charlie Morrisey Research Hall
Director, Shiame Okunor

The Charlie Morrisey 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 over three hundred photographs, books, and other documents.

The CMR Hall also organizes public lectures and panel discussions by scholars addressing the presence and contributions of Africans and African Americans to the Southwest. Periodic exhibitions of photographs and other artifacts are included in the Hall's activities.

African-American Studies (Afro A)

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.

125. Communication Across Cultures. (3)

{Also offered as C & J 125.} 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.

190. Survey of Africa. (3) Ali

An introductory course on Africa, its society, culture, policy and economy from pre-historic past to the contemporary scene.

200. Research Methods. (3) Okunor

Offers students information on basic research methodology and analyzing research materials on minorities. Students will be involved in research experiences with persons of a minority or ethnic group different from their own.

205. Elementary Arabic II. (3) Ali

{Also offered as M Lang 205.} A course for those with very minimum exposure to modern Arabic Language.

250. Black Woman. (3) Herndon

{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}

280. Black Experience in the United States. (3) Okunor, Williams

{Also offered as Am St 211.} 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, Blackbooks 1.

299. Black Leaders in the U.S. (3) Malry

A comparative study of major African-American leaders and their impact on race relations in the United States. {Spring}

305. Civil Rights Politics & Legislation. (3) Shunkuri, Verhoeven

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

307. Blacks in the US West. (3) Williams

{Also offered as Am St 307.} A survey of the lives of Blacks in the American West (1528-1918).

309. Black in 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}

329. Introduction to African Politics. (3) Shunkuri

An introductory course in the volatile politics in Africa. The various ideologies that underlie political movements and influence African governments will be explored.

Recommended Prerequisite: 190

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.

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.

Recommended prerequisite: 190

387. Peoples and Cultures of the Circum-Caribbean. (3)

{Also offered as Anth 387.} Outlines the sociocultural transformation of the region since 1492. Emphasis upon cultural legacies of, and resistance to colonialism, the Afro-Caribbean and Hispanic heritages, and the contemporary trans-nationalization of island identities.

387. 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}

390. Black Theology and Philosophy. (3) Okunor

Introduction to some traditional western theological and philosophical schools of thought as a basis for intensive examination of the works of prominent Black Theologians and Philosophers. {Spring}

391. Problems. (1-3) Okunor, Shunkuri, Williams
(Summer, Fall, Spring)

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)
(Also offered as Hist 365.) 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; Socio-Politics: Africa, Culture and Education, Politics of Southern Africa. Blackbooks II, Education and African American Educ and free society. (Fall, Spring)

398. History of Africa 1800. (3)
(Also offered as Hist 357.) Survey of the African continent during colonial and national periods.

399. Culture and Education. (3) Okunor
(Also offered as Ed Fdn 424.) This course analyzes the different cultural child-rearing practices and their effects on the academic performances of children. It also analyzes the role of culture in education.

Related Courses

ETSCS 290. Foundations of Education. (3) Okunor
An introduction to the philosophical, social, historical, and comparative foundations of education.

ETSCS *493. Topics. (1-3) Okunor
Education and Free Society
Education and the African American

ETSCS 516. Educational Classics. (3) Okunor

ETSCS 518. Comparative Education. (1-3) Okunor

ETSCS 615. Contemporary Philosophy of Education.
Okunor

ages 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.

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. 15 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)
 - 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. 12 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
-
- Total Hours** **48**

ARTS & SCIENCES

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, 6 hours at the 300 level, and 485. 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 numbered 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

AMERICAN STUDIES

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Professors

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Gerald Davis, Ph.D., University of Pennsylvania
Vera Norwood, Ph.D., University of New Mexico
Ruth Salvaggio, Ph.D., Rice University

Associate Professors

Charles D. Biebel, Ph.D., University of Wisconsin-Madison
M. Jane Young, Ph.D., University of Pennsylvania

Assistant Professor

A. Gabriel Melendez, Ph.D. University of New Mexico
James Treat, Ph.D., Graduate Theological Union

Introduction

American Studies is designed for the student interested in the interdisciplinary study of American culture. It encour-

arts, ecology in America, or may emphasize the interdisciplinary study of a region or the nation as a whole. All students should consult with their major advisor and the American Studies undergraduate advisor as early as possible to obtain approval of their minor program.

Major or Minor: Southwest Concentration

The wealth of courses in various departments and colleges at UNM 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 which is both structured and flexible.

Major Concentration in Southwest Culture Studies includes:

1. American Studies 285, *American Life and Thought*. (3). 186, *Introduction to Southwestern Studies* (3). Courses designed to provide an introduction to interdisciplinary methods and a context for Southwest Studies.
2. 27 hours of Interdisciplinary Studies of Southwest Culture: In consultation with the American Studies undergraduate advisor, the student will structure a coherent program of 9 related courses in five general areas: History and Literature, Social and Cultural Systems, Political and Economics Studies, Arts and Humanities, and Natural History. The major portion of this course work will generally center on a particular historical focus (Spanish Colonial, US Territorial, Contemporary SW, etc.), ethnic or cultural experience (Chicano Experience, SW 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 (courses numbered 300 and above):
 - a. 12 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 US Studies* (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 Southwestern 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 US 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.

Admission

The program is offered at the masters 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 candidates 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 masters 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 (4) 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 comple-

tion of an alternative methodology option to be determined by the student in consultation with the students committee on studies and the chairperson of the department.

Examinations

Students are expected to form a committee on studies after completing twelve 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 consultations 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 candidates 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

285. American Life and Thought. [American Life and Thought II.] (3)

Examination of the development of American cultural values and attitudes from the seventeenth to the early twentieth 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 hrs. per semester, 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}

597. Individual Study-Master's Degree. (1-3 hrs. per semester, to a maximum of 6)

599. Masters Thesis. (1-6 hrs. per semester)
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 hrs. per semester, to a maximum of 12)

For Ph.D. candidates only.

699. Dissertation. (3-12 hrs. per semester)

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.

215. Law in the Political Community. (3)

(Also offered as Pol Sc 215.) Introduction to the role of law and legal institutions in politics and society. Prerequisite for Pol Sc 315 and 415.

310. Topics in Culture Studies. (3)

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. {Alternate Falls}

311. Material Culture in America. (3)

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. {Spring}

312. Class, Caste and Public Culture. (3)

An examination of forces and institutions which have produced class and caste distinctions within the modern United States. Topics include the formation of social and cultural elites, professionalization and dynamics of class representation in public culture. {Alternate Springs}

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}

510. Topics in Culture Studies. (3)

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. {Alternate Falls}

511. Material Culture in America. (3)

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. {Spring}

512. Class, Caste and Public Culture. (3)

An examination of forces and institutions which have produced class and caste distinctions within the modern United States. Topics include the formation of social and cultural elites, professionalization and dynamics of class representation in public culture. {Alternate Springs}

513. 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}

515. Cultural Studies: Theories and Methods. (3)

A graduate-level introduction to the interdisciplinary field of cultural studies. The purpose is to familiarize students with a range of texts in fields such as identity politics, postcoloniality, race and ethnicity, gender, and global culture.

Prerequisite: graduate standing. {Spring}

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. {Alternate Falls}

517. Postmodern Theory. (3)

A graduate-level introduction to interdisciplinary readings in postmodern theory. The purpose of the course is to familiarize students with the development and directions of contemporary critical theory.

Prerequisite: graduate standing. {Alternate Falls}

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)

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. {Alternate Springs}

****321. Technology and Society. (3)**

(Also offered as Engr-N 321.) Surveys the history of technological development in America, transfer from Europe, and new transfer to other countries. Identifies ways in which technology has impacted and been impacted by culture. Examines current and potential trends.

322. Technology and Myth. (3)

Examines the intersections of European-American and Native American myth with techno-scientific worldviews as these appear in scholarly works, popular culture, and oral traditions. Topics include nuclear technology, virtual reality, chaos theory, and attitudes toward Earth. {Alternate Springs}

520. Topics in Environment, Science and Technology. (3)

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. {Alternate Springs}

522. Technology and Myth. (3)

Compares and contrasts European scientific tradition with traditional mythic worldviews and examines the links between myth and technological beliefs and practices in contemporary manifestations such as nuclear myth and ritual, virtual reality, chaos theory, and environmental devastations. {Alternate Springs}

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.

{Alternate Falls}

Gender Studies**183. Introduction to Gender Studies. (3)**

This course focuses on the interdisciplinary study of the con-

struction 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. Topics in Gender Studies. (3)

Subjects, varying from semester to semester, in political and cultural issues, such as Lesbian and Gay culture, Women, Myth, and Power, Sex and Gender in American Film, Women, Patriarchy and Popular Culture, Women of Color in the United States. {Alternate Springs}

331. Gender and Science. (3)

A study of the feminist critiques of science along with related critiques based on gender, race, class, nationality, and sexuality. Topics include the historical construction of science, reproductive technologies, ecology and environmentalism, and genetic projects. {Alternate Falls}

332. Sex and Gender. (3)

The course emphasizes historical and contemporary discourses about sex and gender from the early twentieth century sexologists to contemporary researchers working on sexuality and gender identity. {Alternate Springs}

333. Gender and Tradition. (3)

A study of the connections between gender, the traditions associated with women and men, and the intricate linkages of gender and tradition with systems of power and oppression in various cultures and time periods. {Alternate Falls}

530. Topics in Gender Studies. (3)

Varying subjects, based in sexological, feminist, postmodern, and lesbian and gay theory. Topics include: Feminist Theory, Contemporary Masculinities, Women, Myth, and Power. {Alternate Springs}

531. Gender and Science. (3)

A graduate study of the feminist critiques of science along with related critiques based on gender, race, class, nationality, and sexuality. Topics include the historical construction of science, ecology and environmentalism, and genetic projects.

Prerequisite: graduate standing. {Alternate Falls}

532. Sex and Gender. (3)

The course emphasizes historical and contemporary discourses about sex and gender from the early twentieth century sexologists to contemporary researchers working on sexuality and gender identity. {Alternate Springs}

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. {Alternate Falls}

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. {Alternate Springs}

Popular Culture**184. Introduction to American Popular Culture. (3)**

Survey of basic concepts of popular culture and methods for its study. Includes examination of popular myths and beliefs, heroes, rituals, icons, and formulas. Source materials are drawn from diverse areas—television, film, fashion, comics, music, and games. May be repeated for credit with permission of Am St undergraduate advisor.

340. Topics in Popular Culture. (1-3) Δ
 Varying subjects relating to the beliefs and practices widely shared among American populations, both mainstream and alternative, and the objects and media through which they are transmitted. Topics include: Popular Music; Television and Literature; Women, Patriarchy, and Popular Culture. {Alternate Springs}

341. Topics in Film. (3)
 Subjects varying from semester to semester, ranging over Hollywood, independent, and documentary productions. Topics include: Popular Film in America; Films of the Nuclear Age; Women and Cinema; Chicano Cinema; Ethnicity and American Cinema; Horror Film. {Fall, Spring}

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. {Alternate Falls}

540. Topics in Popular Culture. (3)
 Varying subjects relating to the beliefs and practices widely shared among American populations, both mainstream and alternative, and the objects and media through which they are transmitted. Topics include: Popular Music; Television and Literature; Women, Patriarchy, and Popular Culture. {Alternate Springs}

541. Topics in Film. (3)
 Varying subjects on sociocultural theory and criticism and history of American cinema, both mainstream and independent, narrative and documentary, including Hollywood Cinema, Films of the Nuclear Age, Chicano Cinema, Horror Film, Women and American Cinema. {Fall, Spring}

542. 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. {Alternate Falls}

545. Theories & Methods of Popular Culture. (3)
 Survey of approaches to the study of popular culture including cultural theory, formula and genre theory, film and television studies, feminist criticism, postcolonial criticism, reception studies, and media literacy. {Alternate Springs}

Race, Class and Ethnicity

185. Introduction to Race, Class & Ethnicity. (3)
 An interdisciplinary introduction to the issues of race, class and ethnicity in American life and society. {Fall, Spring}

250. [211] The Black Experience in the United States. (3)
 (Also offered as Afro A 280.) An analysis of the political, economic, religious, and familial organization of Black communities in the United States.

251. [241] 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)
 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. {Fall}

350. Topics in Race, Class, Ethnicity. (3)
 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. {Alternate Falls}

351. [307] Blacks in the US West. (3)
 (Also offered as Afro A 307.) A survey of the lives of Blacks in the American West (1528-1918).

550. Topics In Race, Class, Ethnicity. (3)
 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. {Alternate Falls}

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. Topics in SW Studies. (3)
 Offers topics dealing with social, cultural and technological developments among the peoples of the Southwest. Topics include: Folk Art and Material Culture, Albuquerque in Cultural Context, Traditional Healing in the Southwest, Travel and Tourism. {Alternate Springs}

361. Native American Folklore of the Southwest. (3)
 An in-depth study of the expressive behavior of Native American peoples of the Southwest with special emphasis on the traditional material culture, music, dance, oral tradition, and festivals of Puebloans, Navajos, and Apaches. {Alternate Springs}

362. Hispano/Chicano Culture After 1848. (3)
 An interdisciplinary investigation of the social conditions affecting Hispano/Chicanos after 1848 illustrating Hispano/Chicano response to the impact of political, economic and technological change in the Southwest. {Alternate Falls}

363. Chicano/Latino Film. (3)
 Covers the Chicano/Latino experience through its depiction on film and from the perspective of Latino filmmaking. The course analyzes film as communication, film narration, symbolism and subjectivity. {Alternate Springs}

560. Topics In SW Studies. (3)
 Offers topics dealing with social, cultural and technological developments among the peoples of the Southwest. Topics include: Folk Art and Material Culture, Albuquerque in Cultural Context, Traditional Healing in the Southwest, Travel and Tourism. {Alternate Springs}

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 Puebloans, Navajos, and Apaches. {Alternate Springs}

562. Hispano/Chicano Culture After 1848. (3)
 An interdisciplinary investigation of the social conditions affecting Hispano/Chicanos after 1848 illustrating Hispano/Chicano response to the impact of political, economic and technological change in the Southwest. {Alternate Falls}

ARTS & SCIENCES

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. (Alternate Springs)

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. (Alternate Falls)

ANTHROPOLOGY

Marta Weigle, Chair

The University of New Mexico

Department of Anthropology, Rm. 240

Albuquerque, NM 87131-1086

(505) 277-4524

Professors

Keith H. Basso, Ph.D., Stanford University

Garth L. Bawden, Ph.D., Harvard University

Jane E. Bulksra, Ph.D., University of Chicago

Jeffery W. Froehlich, Ph.D., Harvard University

Louise A. Lamphere, Ph.D., Harvard University

Jane B. Lancaster, Ph.D., University of California (Berkeley)

Robert S. Santley, Ph.D., Pennsylvania State University

Karl H. Schwerin, Ph.D., University of California (Los Angeles)

Lawrence G. Straus, Ph.D., University of Chicago

Marta Weigle, Ph.D., University of Pennsylvania

Joseph C. Winter, Ph.D., University of Utah (Part-time)

Associate Professors

James L. Boone, Ph.D., State University of New York (Binghamton)

Patricia L. Crown, Ph.D., University of Arizona

Larry P. Gorbet, Ph.D., University of California (San Diego)

Kim Hill, Ph.D., University of Utah

Bruce B. Huckell, Ph.D., University of Arizona, Research

Hillard S. Kaplan, Ph.D., University of Utah

Robert D. Leonard, Ph.D., University of Washington

Carole Nagengast, Ph.D., University of California (Irvine)

Ann F. Ramenofsky, Ph.D., University of Washington

Sylvia Rodriguez, Ph.D., Stanford University

Mari Lyn C. Salvador, Ph.D., University of California (Berkeley)

David E. Stuart, Ph.D., University of New Mexico (Part-time)

Wirt H. Willis, Ph.D., University of Michigan

Assistant Professors

David W. Dinwoodie, Ph.D., University of Chicago

Les W. Field, Ph.D., Duke University

Ana Magdalena Hurtado, Ph.D., University of Utah

Joseph F. Powell, Ph.D., Texas A&M University

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

Frank C. Hibben, Ph.D., Harvard University

J. Stanely Rhine, Ph.D., University of Colorado

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, lin-

guistic, and biological diversity of the present. Each of the five subfields 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 subfields. This curriculum includes Anth 101, two of the following subfield core curriculum sequences, and one additional 200-400 level elective course in a third subfield.

Courses in the anthropology core curriculum include:

Archeology:

Anth 120 Digging Up Our Past

Anth 121L Archeological Method and Theory

Anth 320 Strategy of Archeology

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 and Life Histories

Anth 161L Comp Lab Human Evolutionary Ecology

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 16 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 subfields so long as appropriate prerequisites have been completed. In either case, 12 of the additional 16-18 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 archeology, 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 this science emphasis, they 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.

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

Archeology (36 Credits)

For a concentration in archeology take:

Anth 101 (3 credits)

Anth 120 (3 credits)

Anth 121L (4 credits)

Anth 320 (3 credits)

Students must also take 1 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 subfield, 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 461, 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 subfield, 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, 385, 389)

Anth 340 or 430 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 subfield, 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 subfield, 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 subfields (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.

Minor Study Requirements (21 credits)

A total of 21 credits, including 101 and at least one of the following core curriculum sequences: 110 (or Ling 292L) and 310; 120 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 with an emphasis in 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 archeologists, 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 with an emphasis on anthropology. These are similar in intent and format to the other distributed minor, but they require 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 either Anth 498 or 499; after which, they should enroll in an appropriate graduate seminar or a 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: 3 letters of recommendation, a letter of

intent, official transcripts, GRE scores, UNM graduate school application, Registration Information Form and application fee. Please consult the department for further information.

Degrees Offered

M.A. or M.S. in Anthropology

Concentrations: archeology, biological anthropology, ethnology/linguistic anthropology, human evolutionary ecology.

Ph.D. in Anthropology

Concentrations: archeology, biological anthropology, ethnology/linguistic anthropology, human evolutionary ecology.

Applicants to the graduate program in anthropology must identify their particular area of interest and their academic and professional goals in a letter of intent directed to the department's Graduate Studies Committee. GRE scores (verbal/analytical/quantitative) and three letters of recommendation are also 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 subfield faculty for acceptance into another subfield. Continuation in the program will require progress at a rate deemed satisfactory by the appropriate subfield 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 subfield. The student must consult with the appropriate graduate advisor for information on subfield requirements before registering. General departmental requirements are described below.

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 subfield, 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 subfield.

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 subfield (archeology, 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.

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 in a written prospectus presented for approval by the Committee on Studies.

Anthropology (Anth)

General and Survey Courses

- 101. Introduction to Anthropology. (3)**
Surveys the breadth of anthropology, introducing students to archeology, biological anthropology, ethnology, human evolutionary ecology, and linguistics. {Fall, Spring}
- 108. Human Ancestry. (3)** Froehlich, Straus
History of and basis for the scientific study of evolution; application of evolutionary theory to our species; evidence for our physical and cultural evolution from ape-like ancestors to the end of the Stone Age. This course satisfies a biological/behavioral science group requirement. {Spring}
- 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. {Fall, Spring}
- 120. Digging Up Our Past. (3)**
Introduces archeological theory, method, and technique by presenting the developmental history of human cultures. {Fall, Spring}
- 121L. Archeological Method and Theory. (4)**
Introduction to archeological method and theory. Lectures cover basic concepts and strategy. Labs provide hands-on experience with methods of analyzing archeological remains. {Fall, Spring}
- 130. Cultures of the World. (3)**
Basic concepts and methods of cultural anthropology. Selected cultures, ranging from preliterate societies to aspects of urban civilization. {Fall, Spring}
- 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 man. Biological anthropology

concentrators are required and others are encouraged to enroll concurrently in 151L. {Fall, Spring}

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. 2 hrs. lab. {Fall, Spring}

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. {Fall, Spring}

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. 160 recommended.

202. Tribal Art. (3)

(Also offered as Art Hi 252.) Traditional arts of non-urban, non-industrial, small societies from Africa, Europe, Asia, Oceania, and the Americas.

230. Topics in Current Anthropology. (3) Δ

Experimental courses on topics of current interest.

237. Indians of New Mexico. (3)

Survey of the Indian cultures of New Mexico including anthropological perspectives on their history, language, social organization, economy, health, and education. {Offered at branch campuses only}

238. Cultures of the Southwest. (3) Crown, Lamphere

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}

250. Human Development. (3)

An evolutionary and cross-cultural study of developing physiological systems and cognitive, social and emotional behavior in human fetuses, infants, children and adolescents. {Fall 1998 and alternate years}

251. Forensics and Crime. (3) Powell

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}

252. Behavior of Apes and Monkeys. (3) Froehlich

Survey of primate biogeography and taxonomy; emphasis on behavioral features of life history and social structure as they inform us about human origins. Films and discussions focus on the ecological context of primate "specialized plasticity." {Fall 1997 and alternate years}

261. Humans in Nature. (3)

Human roles in nature with respect to principles of biological ecology. Anthropological emphasis is on preindustrial human societies; lectures and reading will also treat critical changes which have occurred recently in human-environmental relationships. {Offered periodically}

393. Ancient New Mexico I. (3) Stuart

Ancient New Mexico, is Part I of a two semester general series on the archeology of New Mexico. The period of New Mexico's earliest settlement at 10,000 B.C. to the advent of early pitthouse villages at about A.D. 500 is covered each fall semester. {Fall 1997 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 archeology of New Mexico. The period from the advent of early pitthouse villages (A.D. 500) through the rise and fall of Chacoan Society, to the arrival of Spanish settlers in 1595. {Spring 1998 evenings, and alternate years}

406. American Indian 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. {Fall}

407. American Indian Art II. (3) Szabo

(Also offered as Art Hi 403.) Prehistoric and historic art forms of the Plains, Southwest, and western regions of North America. {Spring}

SPECIAL TOPIC COURSES BY SUBFIELD

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.

Archeology

(Anthropology 120 is suggested as background for the following courses.)

***320. Strategy of Archeology. (3)** Leonard, Ramenofsky

The purpose and theory of the study of archeology; relates archeology to anthropological principles and the practice of science.

Prerequisites: 101, and either 120 or 121L. {Yearly}

***321. Southwest Archeology. (3)** Leonard, 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. {Fall}

***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. {Spring}

***323. Archeology of Eastern North America.** Ramenofsky

A survey of the Archeology of Eastern North America that begins with human entry into the East and terminates with European discovery and settlement. {Alternate years}

***324. American Archeology: South America. (3)** Bawden

Archeology of South America from the Paleo-Indian to the European period. Emphasizes the origins and evolution of Andean civilization and associated interpretive problems. {Alternate years}

***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, 120 or consent of instructor. {Fall 1987 and alternate years}

***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. {Fall 1997 and alternate years}

***327. African Prehistory. (3)** Straus

The prehistory of Africa from the appearance of the first hominids to the development of complex societies. Prerequisites: 101, 120, or consent of instructor. {Fall 1997 and alternate years}

***328. Near Eastern Archeology. (3)** Bawden, Boone

A survey of the Near Eastern culture area from the origins of agriculture to the development of Bronze Age civilization. {Offered periodically}

***329. Archeology of Complex Societies. (3)** Boone, Santley

Comparative approach to origin and development of stratified societies and pristine states as known from the archeological record. {Fall}

***371. Research Methods in Archeology. (3)** Boone

Survey of scientific techniques used in archeological research, including methods of absolute and relative dating, climate and subsistence reconstruction, settlement size and distribution analysis, sampling techniques, etc.

Prerequisite: 120. {Spring 1999 and alternate years}

***372. Analytic Methods in Anthropology. (4)** Leonard
Introduction to basic qualitative and quantitative analytic methods in anthropology. {Alternate years}

***373. Technical Studies in Archeology. (3)** Δ

Technical course with variable content dealing with such issues as dating, paleoenvironmental and subsistence studies in archeology. {Offered periodically}

***375. [*375.F.] Summer Archeology Field Session. (2-6)**

Δ Wills, Leonard, Ramenofsky, Santley
Intensive instruction in archeological field and laboratory techniques and the opportunity for independent student research.

Prerequisite: permission of instructor. {Summer only}

***420. Topics in Archeology. (3)** Δ

Topics of archeological interest including gender in archeology, European contact and post-processualism.

***473L. Laboratory Methods in Archeology. (4)** Ramenofsky

Emphasizes methods and techniques for analyzing archeological materials. Course work including readings and exercises that require construction, analysis, and interpretation of data.

Prerequisites: 101, 120, 121L, 320, or permission of instructor. {Spring}

521. Seminar: Southwestern Archeology. (3) Leonard, Wills, Crown**525. Seminar: European Prehistory. (3)**†† Straus

Explores critical issues and debates in different periods of European prehistory, based on primary sources.

528. Archeology of Death. (3)

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.

570. Advanced Topics in Archeology. (3) Δ**571. History and Theory of Archeology. (3)**

Advanced review of development of prehistoric archeology and Old and New Worlds until the 1960s, emphasizing culture history, social evolution, diffusion, culture areas, etc.

572. Current Debates in Archeology. (3)

Advanced discussion of current theoretical debates in archeology, 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.

575. Archeological Research Proposals. (3)

Exploration and evaluation of practical archeological 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.

Biological Anthropology***350. Human Biology. (3)**

Human heredity, variation, and adaptation within and between different ecological and cultural settings; medical genetics; quantitative variation; elements of human population biology and human ecology.

Prerequisites: 150 and/or introductory biology. {Fall}

***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. 3 lectures, 2hrs. lab. {Fall}

***352L. 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. 1 lecture, 5 weekend field trips, 6 hrs. lab.

Prerequisites: 150 or equivalent. {Fall 1998 and alternate years}

***353L. Evolutionary Biology of Tertiary Primates. (4)**

Froehlich
Evolutionary history of the non-human primates from the Eocene to the Pliocene and the comparative biology of living lemurs, monkeys, and apes. 3 lectures, 2 hrs. lab.

Prerequisites: 150 or equivalent. {Spring 1999 and alternate years}

***355. Human Genetics. (3)**

Fundamentals of human transmission, cellular, molecular, developmental and population genetics.

Prerequisite: 150 or introductory biology. {Offered periodically}

357. Human Origins. (3)

The events and processes involved in the emergence and evolution of the human lineage, from the origins of *Australopithecus*, through the emergence of the genus *Homo*, to the evolution of early modern humans, based on the human fossil record.

Prerequisite: 120 or 150. {Alternate years}

450. Topics in Biological Anthropology. (3)** Δ451. Human Paleobiology. (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. {Spring 1999 and alternate years}

***452. Human Functional Morphology. (3)**

Functional morphology of the human body, with emphasis on the structure and development of the musculo-skeletal and neurological systems and the associated human kinesiology.

Prerequisite: 351L or permission of instructor. {Spring 1998 and alternate years}

***453. 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. {Spring 1998 and alternate years}

***457. Paleoanthropology. (3)** Trinkaus

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. {Alternate years}

550. Topics in Biological Anthropology. (3) Δ

551. Research Design in Biological Anthropology. (3)
Seminar in research design, grant proposal and research article writing, and methods for the documentation of patterns of human variation and evolution.
Prerequisite: enrollment in the Biological Anthropology graduate program. (Fall)

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: Math 347, or 348, or permission of instructor. (Spring 1999 and alternate years)

553. Forensic Anthropology. (3) Buikstra
Medicolegal applications of biological anthropology. Students will become familiar with operations of the New Mexico Medical Investigators Office, participating in ongoing casework and review and reanalysis of past cases.
Prerequisite: 351L or familiarity with skeletal biology.

554. Seminar: Morphology and Evolution. (3) Δ
Froehlich

Ethnology

***312. Oral Narrative Traditions. (3)**
Western and non-Western myths, epics, folktales, life-stories, and personal experience narratives as cultural and aesthetic expressions. (Offered periodically)

***330. Principles of Cultural Anthropology. (3)**
Development of ideas and theories in socio-cultural anthropology; focus on topics such as integration of human societies, sources of change in economic and cultural systems. (Fall, Spring)

***331. North American Indians. (3)**
Major culture types and selected ethnographic examples of North American Indian cultures. (Offered annually)

***332. South American Indians. (3)**
Approaches to explaining differential adaptations to the diversity of South American environments. Focus on aboriginal societies with selected examples from lowland and highland regions. (Offered periodically)

***333. 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. (Offered annually)

***337. Anthropology of New Mexico. (3)**
Social, cultural, political, economic, ecological features of New Mexico's Rio Grande Valley from pre-contact to late twentieth century. Emphasis on contemporary issues in historic perspective and in terms of future ramifications. (Offered periodically)

***340. Topics in Cultural Anthropology. (3)** Δ
Current topics in socio-cultural anthropology to be explored in experimental courses.

***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. (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. (Alternate years)

***345. Spanish-Speaking Peoples of the Southwest. (3)**
Analysis of the ethnohistory and modern culture patterns of Spanish-speaking peoples of the Southwest. (Alternate years)

***346. Expressive Cultures. (3)**
The comparative study of selected verbal, visual, musical, dramatic, and culinary arts as cultural and aesthetic expressions. (Alternate years)

***383. History of Anthropology. (3)**
Developments of anthropological theory and growth of the discipline from the nineteenth century to the contemporary period. (Offered periodically)

***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. (Alternate years)

***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.
Prerequisite: 331 or permission of instructor. (Offered periodically)

387. Peoples and Cultures of the Circum-Caribbean. (3)
(Also offered as Afro A 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.

***389. Cultural Ecology. (3)**
The ecological orientation in explaining human behavior. Focus is upon the systemic relationships among ecological, demographic, social, and cultural variables.
Prerequisites: 120 or 130. (Offered periodically)

***430. Topics in Ethnology. (3)** Δ
Comparative study of social, economic, and political systems, their evolution and interrelations.

530. Topics in Ethnology. (3) Δ
(Fall, Spring)

535. Qualitative Methods and Logistics. (3)
Survey of current formal and informal Anthropological field methods. Societies ranging from forager to industrial. Logistics of entry and self-maintenance in the field. Anthropological ethics.

536. Seminar: Theories of Symbolic Action. (3)
(Also offered as Relig 536.) 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.

541. Seminar: Problems and Practice in Ethnology. (3)

542. Seminar: Urban Anthropology. (3)

545. Seminar: Anthropological Problems in Latin America. (3)

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. (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. (Spring)

549. Seminar: Economic Anthropology. (3)**580. Seminar: Economic Development and Social Change. (3)**

587. Peoples and Cultures of the Circum-Caribbean. (3) (Also offered as Afro A 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.

Human Evolutionary Ecology***360. 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.

Prerequisites: 150, or 160; Biol 122L, 123L, or 190. (Fall)

***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.

Prerequisites: upper division standing or consent of instructor. (Fall 1997 and alternate years)

***362. Biocultural Bases of Women's Health. (3)** Lancaster

Evolutionary, biological, ecological, and cross-cultural orientations in the medical anthropology of women. Emphasis on life cycle perspectives and critical health issues for modern women. (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.

***365. Anthropology of Health. (3)**

Analysis of systems of health, curing and disease in aboriginal, western and pluralistic societies. (Alternate years)

***367. Human Origins and Human Nature. [Human Origins.] (3)** Boone

A survey of ideas from evolutionary theory regarding the role of past subsistence patterns, technology and social expertise in shaping modern human social and intellectual capabilities. (Alternate years)

***460. Undergraduate Seminar: Human Evolutionary Ecology. (3) Δ**

Prerequisite: 360 or permission of instructor.

***461. 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 is used to understand individual life histories. Prerequisite: Upper division standing or consent of instructor. 252 highly recommended. (Spring 1998 and alternate years)

***462. Human Evolutionary Ecology. (3)** Hill, Kaplan

This course is designed to develop theoretical tools necessary for behavioral research using evolutionary theory.

Major emphasis will be on mathematical models including optimization and game theory.

Prerequisite: 360 or equivalent biology course and college algebra. (Offered annually)

***464. 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.

Prerequisites: Upper division standing and 360 or 461. Can be taken concurrently with 461. (Alternate years)

***465. 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. (Fall 1998 and alternate years)

***466. Tropical Conservation and South American Indians. (3)**

Examines resource use patterns by Amazonian Indians and recent collaboration or conflict with conservation organizations. (Spring 1999 and alternate years)

***467. Ethnic and Minority Health. (3)** Hurtado

Introduction to disease and mortality differentials across minority and ethnic groups. Discussions will focus on ecological variation to gain insight into biological and/or social etiologies. (Spring 1999 and alternate years)

560. Advanced Topics in Human Evolutionary Ecology. (3) Δ

Topics of interest including Critical reading, Anthropological economics, Life history strategies, Primate reproductive strategies, Game theory, Anthropology of mental health.

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. (Fall 1998 and alternate years.)

562. Advanced Human Evolutionary Ecology. (3) Δ Kaplan, Hill

This course is designed to develop theoretical tools necessary for behavioral research using evolutionary theory. Major emphasis will be placed on methodical models including optimization and game theory.

Prerequisites: 360, or equivalent biology and college algebra. (Alternate years)

563. Human Evolutionary Ecology Research Methods and Design I. (3)

Fundamental principles in research design with emphasis on data collection for the assessment of causal effects. Students will learn to write research proposals to request funding from national and private agencies. (Alternate years)

564. Human Evolutionary Ecology Research Methods & Design II. [Behavior Observation.] (3) Kaplan

Following the completion of a research proposal in the first semester course, students in this course will carry out research project and submit a final report; class time is dedicated to supervision and discussion of methods.

565. Anthropological Epidemiology. (3) Hurtado

Relationships between extrinsic and intrinsic causes of disease and behavior are examined from an evolutionary perspective. Implications for epidemiology and public health are discussed.

(Fall 1997 and alternate years)

Linguistic Anthropology

Courses with similar content to 110, 292L, 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.

292L. Introduction to Linguistic Analysis. (3)
(See *Ling 292L*)

***310. Language and Culture. (3)** Gorbet, Basso
(Also offered as C & J, *Ling 359*.) Examination of the inter-relations of language and speech with other selected aspects of culture and cognition.
Prerequisite: an introductory linguistics course. {Spring}

***317. 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: 292L. {Fall}

***318. Grammatical Analysis. (3)**
(Also offered as *Ling 322*.) Principles of morphological and syntactic analysis and the theory of grammar, descriptive analysis of grammatical structures, problems from selected languages.
Prerequisite: 292L. {Spring}

***410. Topics in Linguistic Anthropology. (3) Δ**

***413. 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. {Offered upon demand}

***415. Native American Languages. (3)** Gorbet

***416. Introduction to Comparative Linguistics. (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. {Alternate years}

***418. Grammatical Theory. (3)** Gorbet
Survey of theoretical grammar including cognitive approaches. Topics range from syntax to pragmatics.
Prerequisite: 318. {Fall}

510. Topics in Linguistic Anthropology. (3) Δ
Topics from various areas of anthropological linguistics including, but not limited to, ethnosemantics, the ethnography of communication, and the biology of language.

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*.

514. Seminar: Linguistic Theory. (3)
(Also offered as *Ling 554*.) Current topics and issues in phonology, syntax, or semantics.

Technical Courses

402. Museum Practices. (3) Δ Salvador
(Also offered as *Art Hi 400*.) History, philosophy, and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation, and public relations. {Spring}

485. Seminar in Museum Methods. (3) Δ Salvador, Szabo
(Also offered as *Art Hi 485*.) Theoretical and practical work in specific museum problems.
Prerequisite: 402, or *Art Hi 400*, or equivalent.

486. Practicum: Museum Methods. (3) Δ Salvador
(Also offered as *Art Hi 486*.) Practicum in museum methods and management.
Prerequisite: 402 or *Art Hi 400*.

509. Seminar in Native American Art. (3) Δ Szabo
(Also offered as *Art Hi 559*.)
Prerequisites: 406, 407. {Offered upon demand}

585. Seminar in Museum Methods. (3) Δ Salvador, Szabo
(Also offered as *Art Hi 585*.) Theoretical and practical work in specific museum problems.
Prerequisite: 402 or *Art Hi 400*, or equivalent. {Spring}

586. Practicum: Museum Methods. (3) Δ Salvador
(Also offered as *Art Hi 586*.) Practicum in museum methods and management.

Individual Studies, Field Programs, and Honors Courses

399. [399F.] Introduction to Field & Laboratory Research (1-6) †
Directed study under the supervision of a faculty member.
Prerequisite: permission of instructor. {Offered upon demand}

497. Individual Study. (1-3 hrs. per semester, to a maximum of 6)
Directed study of topics not covered in regular courses.

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. {Fall}

***499. [*499F.] Field Research. (2-6) †**
Field research for qualified advanced undergraduate or graduate students with previous experience in archeology, 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. {Offered upon demand}

597. Problems. (1-3 hrs. per semester, to a maximum of 6)
Limited to graduate majors in the master's program.

598. Advanced Research. (3) Δ
Limited to graduate majors in the master's program.

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

697. Problems. (1-3 hrs. per semester, to a maximum of 6)
Limited to graduate majors in the doctoral program.

698. Advanced Research. (3) †
Limited to graduate majors in the doctoral program.

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

ARTS & SCIENCES

ASIAN STUDIES

See *International Studies*.

Arts and Sciences Cooperative Education Program (AS COP)

The University of New Mexico
Career Services
Cooperative Education, SSC 262
Albuquerque, NM 87131-1366
(505) 277-2605

To enroll in the following courses, please contact:
UNM Career Services Cooperative Education
Student Services Center, Room 262
(505) 277-2605

Students enrolled in the Cooperative Education Program are required to register in AS COP 105 while on work phase. Students are also 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.

209. Evaluation of Arts and Sciences Co-op Work Phase I. (1-3)

Provides the means for obtaining 1-3 hours of credit for a project related to co-op work experience. Students must consult a departmental advisor about what kind of project would be acceptable. Offered on a CR/NC basis only.

210. Evaluation of Arts and Sciences Co-op Work Phase II. (1-3)

Offered on a CR/NC basis only.

309. Evaluation of Arts and Sciences Co-op Work Phase III. (1-3)

Offered on a CR/NC basis only.

310. Evaluation of Arts and Sciences Co-op Work Phase IV. (1-3)

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.

ASTRONOMY

See *Physics and Astronomy*

BIOCHEMISTRY

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Professors

Robert H. Glew, Ph.D., University of California (Davis)
John L. Omdahl, Ph.D., University of Kentucky

Philip Reyes, Ph.D., University of California (Davis)
David L. Vander Jagt, Ph.D., Purdue University

Associate Professors

William Anderson, University of Minnesota
Jeffrey Griffith, Purdue University
Edward Reyes, University of Colorado
Beulah M. Woodfin, Ph.D., University of Illinois (Urbana)

Research Assistant Professor

Andrzej Pastuszyn, Ph.D., University of Vienna
Dorothy J. Vanderjagt, Ph.D., University of New Mexico

Professor Emeritus

Robert B. Lottfield, Ph.D., Harvard University

Major Study Requirements

The Department of Biochemistry 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 3 semesters (not including summer) completing degree requirements.

Bachelor of Arts

Math Calculus 162L-163L (or 180-181)
Intro Physics 151-152-153L-154L (or 160-161-163L-262-264L)

Intro Biol 121L-122L

Intro & Analys Chem 131L (or 121L); 132 L (or 122L plus 253L); Org Chem 301-302, or 307-308; 303L-304L; Phys Chem 315 (or 307-308-311-312)

Intro Biochem 445L-446L-448L

6 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 Sciences

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 162L-163L-264L 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 GPA of 3.20 for Honors.)

The Dean of the College of Arts and Sciences shall appoint a Biochemistry Advisory Committee consisting of the Chairperson of the Departments of Biochemistry, Biology, and Chemistry (or their delegates). The Advisory Committee will report to the Dean and will be responsible for initiating and facilitating inter-departmental coordination and collaboration in curriculum design, teaching and undergraduate stu-

dent research. The Advisory Committee will review proposed changes in the Biochemistry Major Requirements.

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)

*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. Graduates 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. Prerequisites: concurrent registration in 446L. {Spring}

463. Biochemistry of Disease I. [Topics in Biochemistry.] (3) [1-3]

Five 3-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states. Typical topics include diabetes mellitus, oxygen toxicity, collagen diseases and neurologic diseases. Prerequisite: 423, or 446L. Graduate students see 563. {Fall}

464. Biochemistry of Disease II. [Topics in Biochemistry.] (3) [1-3]

Five 3-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states. Typical topics include cancer, drug toxicity, calcium regulation, and diseases of lipid metabolism. Prerequisites: 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 instructor. {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 instructor. {Spring.}

499. Undergraduate Research. (1-3)

Prerequisite: Permission of instructor. {Summer, Fall, Spring}

521. Neurochemistry. (4)

(Also offered as Biomed 532.) Prerequisite: permission of instructor. {Spring}

533. Neurophysiology. (3)

535. Neuroscience Seminar. (1) Offered on a CR/NC basis only.

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. Biochemistry of Disease I. (3)

(Also offered as Biomed 553.) Five 3-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states. Typical topics include diabetes mellitus, oxygen toxicity, collagen diseases and neurologic diseases. Prerequisite: 423, or 546L. {Fall}

564. Biochemistry of Disease II. (3)

(Also offered as Biomed 554.) Five 3-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states. Typical topics include cancer, drug toxicity, calcium regulation, and diseases of lipid metabolism. Prerequisites: 423, or 546L.

BIOLOGY

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Professors

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Larry L. Barton, Ph.D., University of Nebraska
James H. Brown, Ph.D., University of Michigan
Donald W. Duszynski, Ph.D., Colorado State University
James R. Gosz, Ph.D., University of Idaho
Gordon V. Johnson, Ph.D., University of Arizona
Astrid Kodric-Brown, Ph.D., University of Southern California
Tokio Kogoma, Ph.D., University of Tokyo
J. David Ligon, Ph.D., University of Michigan
Eric S. Loker, Ph.D., Iowa State University
Randy Thornhill, Ph.D., University of Michigan
Eric C. Toolson, Ph.D., Arizona State University
Kathryn G. Vogel, Ph.D., University of California (Los Angeles)
Terry L. Yates, Ph.D., Texas Tech University

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Paul Kerkof, Ph.D., University of California (Berkeley)
Timothy K. Lowrey, Ph.D., University of California (Berkeley)
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
Frederick W. Taylor, Ph.D., University of Chicago
John L. Trujillo, Ph.D., University of Texas Medical Branch (Galveston)
Margaret Werner-Washburne, Ph.D., University of Wisconsin (Madison)

Assistant Professors

Scott P. Carroll, Ph.D., University of Utah
Ann Evans, Ph.D., University of Chicago

Gretchen E. Hofmann, Ph.D., University of Colorado
 Paul Lewis, Ph.D., Ohio State University
 Robert D. Miller, Ph.D., Thomas Jefferson University
 Mary Anne Nelson, Ph.D., University of Colorado

Lecturers

Lyle Berger, M.S., University of New Mexico
 Louise Lewis, Ph.D., Ohio State University
 Sandra H. Ligon, M.S., University of New Mexico
 Janella E. Loye, Ph.D., University of Oklahoma

Professors Emeriti

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
 William W. Johnson, Ph.D., University of Minnesota
 William C. Martin, Ph.D., Indiana University
 Loren D. Potter, Ph.D., University of Minnesota
 Marvin L. Riedesel, Ph.D., State University of Iowa

Ancillary Faculty

Richard Aguilar, Ph.D., Colorado State University
 Sarah Allen, M.D., University of Louisville
 Daniel Beck, Ph.D., University of Arizona
 Carlos Blanco-Montero, Ph.D., University of New Mexico
 David Bleakly, M.S., University of New Mexico
 Mike Bogan, Ph.D., University of New Mexico
 Celestyn Brozek, Ph.D., Agricultural Academy (Kraków, Poland)
 Ralph Bryon, M.D., University of Texas Medical Branch
 Robyn J. Burnham, Ph.D., University of Washington
 Brooks Burr, Ph.D., University of Illinois
 Richard Byles, Ph.D., Virginia Institute of Marine Science, College of William of Mary
 Jean Luc Cartron, Ph.D., University of New Mexico
 Rex Cates, Ph.D., University of Washington
 A. David M. Chapin, Ph.D., University of Washington
 James Cheek, M.D., University of New Mexico
 James Childs, M.D., Johns Hopkins University
 Walt Conley, Ph.D., Texas Tech University
 Joseph Cook, Ph.D., University of New Mexico
 Roger Conant, D. Sc., University of Colorado
 John O. Corliss, Ph.D., New York College
 Lee Couch, M.S., University of New Mexico
 David Cowley, Ph.D., University of Wisconsin-Madison
 Harry A. Crissman, Ph.D., Pennsylvania State University
 Anne C. Cully, M.S., University of New Mexico
 Jack F. Cully, Ph.D., University of New Mexico
 Charles Curtin, Ph.D., University of Wisconsin (Madison)
 Murray Dailey, Ph.D., Colorado State University
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 Robert Dickerman, Ph.D., University of Minnesota
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 Christopher Fields, Ph.D., University of Colorado
 Phillip R. Fresquez, Ph.D., Colorado State University
 Jennifer Frey, Ph.D., University of New Mexico
 Lee Fitzgerald, Ph.D., University of New Mexico
 Michael Folsom, Ph.D., University of Alberta
 Richard Forbes, Ph.D., University of Minnesota

Jacob Frenkel, Ph.D., University of California (Berkeley),
 University of California School of Medicine (San Francisco)

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 Debra Goldberg, Ph.D., University of Arizona
 Herbert D. Grover, Ph.D., University of New Mexico
 Sujata Guha, Ph.D., State University of New York
 David J. Hafner, Ph.D., University of New Mexico
 Robert Harrison, University of New Mexico
 Bill Hevron, M.A., California State University (Fresno)
 Bruce Hofkin, Ph.D., University of New Mexico
 Richard Holloway, Ph.D., Texas A & M University

David C. Hsi, Ph.D., University of Minnesota
 Ronald D. Ley, Ph.D., Oregon State University
 John Hubbard, Ph.D., University of Michigan
 Sorin Istrial, Ph.D., University of Bucharest
 Kathryn Jacobson, Ph.D., Virginia Polytechnic Institute and State University
 Randy Jennings, Ph.D., University of New Mexico
 Nancy Johnson, Ph.D., University of Minnesota
 Mahmood Kassam, Ph.D., University of Miskolc (Hungary)
 Timothy Keitt, Ph.D., University of New Mexico
 Charles Keller, Ph.D., Indiana University
 Rebecca Kimball, Ph.D., University of New Mexico
 Samuel Knukle, Ph.D., Colorado State University
 Steve Kucera, Ph.D., University of New Mexico
 William Kuipers, Ph.D., University of New Mexico
 Juanita Ladyman, Ph.D., Michigan State University
 David Lightfoot, Ph.D., New Mexico State University
 Karen Lightfoot, M.S., New Mexico State University
 John E. Lobdell, Ph.D., University of Tennessee
 Gary Malvin, Ph.D., University of New Mexico
 Mary McNamara, Ph.D., University of North Carolina
 Daniel Mc Shea, Ph.D., University of Chicago
 Patricia Mehilop, Ph.D., University of New Mexico
 Lyndall E. Meuli, Ph.D., University of California-Davis
 Gary D. Miller, Ph.D., University of New Mexico
 James Mills, Ph.D., University of California (Davis)
 Shahraukh Mistry, Ph.D., University of New Mexico
 H. Brad Musick, Ph.D., University of Arizona
 Paul Nicoletto, Ph.D., University of New Mexico
 Diana E. Northup, M.S., University of New Mexico
 Paul Palechla, Ph.D., University of Arkansas
 Robert R. Parmenter, Ph.D., Utah State University
 Vicki Peck, Ph.D., University of Arizona
 Michael J. Richard, D.V.M., Colorado State University
 J. Rowland, Ph.D., Texas Tech University
 Eugene W. Rypka, Ph.D., Stanford University
 Kenneth G. Schoenly, Ph.D., University of New Mexico
 Norman J. Scott, Ph.D., University of Southern California
 Henry Shapiro, Ph.D., University of Illinois
 Ursula Shepherd, Ph.D., University of New Mexico
 Gary Simpson, M.D., Rush Medical College (Chicago)
 Robert Sivinski, M.S., New Mexico State University
 Richard A. Smartt, Ph.D., University of New Mexico
 Felisa Smith, Ph.D., University of California at Irvine
 Mohan Soporri, Ph.D., Institute of Medical Science
 George Stevens, Ph.D., University of Pennsylvania (Philadelphia)
 Anne Storey, Ph.D. Rutgers University
 Eleonora H. Trotter, Ph.D., University of New Mexico
 Sandra J. Turner, Ph.D., Colorado State University
 John Ubelaker, Ph.D., Colorado State University
 Maurice Valet, Ph.D., Arizona State University (Tempe)
 Roby Wallace, M.S., Texas A&M University
 Paul Watson, Ph.D., Cornell University
 Carleton S. White, Ph.D., University of New Mexico
 John A. Wiens, Ph.D., University of Wisconsin
 Stephen C. Wood, Ph.D., University of Oregon
 Janet Yagoda-Shagam, Ph.D., University of New Mexico

Introduction

Students majoring in Biology learn about the basic organization of the living world. That alone is sufficient for many Arts and Sciences students, who simply wish to be well educated citizens. Others, who seek professional careers in the life sciences, use the major as a foundation for further training.

Major Study Requirements

Majors in biology seeking a Bachelor of Science degree must satisfy the requirements given in sections A and B. Majors in biology seeking a Bachelor of Arts degree must satisfy the requirements in sections C, D, and E. (Biol 110, 112L, 123L, 136, 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: 121L-122L, 219, 221; at least one of following: 350L, 360L, 371L, 386L; and at least one of the following 429, 430, 435L, 460, 478L. The remainder hours are to be earned in elective biology courses. (Biochm 423 may be included.)
- B. Required Supportive Courses for the B.S. : Math 180-181 or 162L-163L; 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.)
- C. The B.A. Program requires a minimum of 32 credit-hours earned in biology courses. These courses must include: 121L-122L, 219, and 221. The remainder of the total required credit-hours are to be earned in elective biology courses. (Biochm 423 may be included.) (Biol 110, 112L, 123L, 136, 139L, and 239L are not allowed for biology major credit.)
- D. Required Supportive Courses for the B.A. : Math 145 and C S 150L (or Math 180-181); Physcs 102 and one of the following: Physcs 301, E&PS 101, 209 (or Physcs 151-152); Chem 121L-122L (or 131L-132L) and Chem 301-303L (or 212).
- E. The B.A. Program requires a minimum of 6 credit-hours to be taken from a list (available from the Biology Department) of restricted elective courses.

Grade of C or better required in all of the above courses.

Areas of Emphasis

The courses offered by the biology Department can be used to follow specializes programs in the following areas: Botany, Evolution/Ecology, Microbiology, Molecular/Cellular Biology, Physiology, 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 and E. Majors in biology seeking a Bachelor of Arts degree must satisfy the requirements in sections C, D, and E.

- 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: 121L-122L, 219, 221, 310L, 360L, 379; at least one of following: 350L, 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 one 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. Required Supportive Courses for the B.S. : Math 180-181 or 162L-163L; Physcs 151-152 (or 160-161); Chem 121L-122L (or 131L-132L) and 301-303L (or 212).
- C. 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: 121L-

122L, 219, 221, 310L, 360L, 379; and at least one of the following: 350L, 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 one 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.

- D. Required Supportive Courses for the B.A. : Math 145 and C S 150L (or Math 180-181); Physcs 102 and one of the following: Physcs 301, E&PS 101, 209 (or Physcs 151-152); Chem 121L-122L (or 131L-132L) and Chem 301-303L (or 212).
- E. 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, 209, 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 121L-122L, 219, 221, 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 biology courses used to meet minor requirements.

Minor Study in Quaternary Studies

See page 224 for requirements.

Professional Curricula

Lists of suggested electives for students pursuing careers in specific areas of biology may be obtained in the departmental office. Faculty advisors are available for students wishing to pursue various specialties or professional curricula.

Curricula Preparatory to Health Sciences

See *School of Medicine*.

Graduate Program

Graduate Advisors

Oswald G. Baca
Clifford Dahm
Eric S. Lokér

Application Deadline

February 1

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, conservation biology, ecology, ecosystem ecology, evolutionary genetics, evolutionary biology, microbiology, molecular genetics, parasitology, physiology, physiological ecology, population biology, vertebrate and invertebrate zoology.

Admission

Students considering applying for graduate study are encouraged to write to the Department of Biology 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 and Graduate Record Exam (GRE) scores, both aptitude and advanced test in biology, are 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 selection of a specific faculty member as major professor occurs during the first semester of study.

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 of 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

Ph.D. General requirements for this 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 of dissertation. At least one outside referee (extradepartmental) is mandatory for reviewing the dissertation and participating in the public final defense of dissertation. Formal experience in lecturing and laboratory direction under the supervision of a professor in an appropriate field is required. The candidate for the Ph.D. in certain fields of biology may carry on research for the dissertation at the Los Alamos National Laboratory or Lovelace Medical Center 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 Los Alamos and Lovelace. Each case will be considered on an individual basis. Several researchers at both institutions, as well as the U.S. Fish and Wildlife Service, the New Mexico Game & Fish Department, and the New Mexico Museum of Natural History, have adjunct faculty status in the Biology Department and may co-chair graduate student committees.

M.S. I. General requirements for this degree in biology are presented earlier in this Catalog.

M.S. II. General requirements for this degree are presented earlier in this Catalog. The program of studies will be determined in consultation with the student's major advisor.

Non-Biological Skills. Candidates for both M.S. degrees are required to satisfy one non-biological skill, while Ph.D. candidates must satisfy two skill areas. One of the two skills required for the Ph.D. must be a modern foreign language. Areas of non-biological tool skills include advanced training in mathematics and/or statistics, computer science, chemistry, or biomedical instrumentation. A minimum of six credits

per skill with a GPA 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 (Bio)

110. Biology Non-Majors. (3) Altenbach, S. Ligon
Biological principles important for the non-biologist in today's world. Ecological, evolutionary, and molecular topics. 3 lectures. (Credit not allowed for both 110 and either 121L-122L or 123L.) {Fall or Spring}

112L. Biology Laboratory for Non-Majors. (1) Berger, S. Ligon

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}

121L. Principles of Biology. (4) Altenbach, P. Lewis, Loker, S. Ligon

Impact biology, biological chemistry, molecular genetics, Mendelian inheritance, embryology. Emphasis on development of concepts. 3 lectures, 3 hrs. lab. (Credit not allowed for both 121L and either 110, or 123L.) {Summer, Fall, Spring}

122L. Principles of Biology. (4) Molles, Snell, Toolson
Population genetics, evolution, ecology, behavior, plant and animal physiology, and survey of diversity of organisms. Emphasis on development of concepts.

Prerequisite: 121L or permission of instructor. 3 lectures, 3 hrs. lab. (Credit not allowed for both 122L and either 110, or 123L.) {Summer, Fall, Spring}

123L. Biology for Health Related Sciences and Non-Majors. (4)

Principles of cell biology, genetics, and organismic biology. 3 lectures, 3 hrs. lab. (Credit not allowed for both 123L and either 121L-122L or 110.) {Spring}

136. Human Anatomy & Physiology for Non-Majors. (3)

Fundamental concepts of human physiology stressing the relationship of structure to function at the cellular & gross anatomical levels. Not accepted toward a biology major. {Fall, Spring}

190. Human Nature: The Darwinian Conception. (3) Thornhill

A comprehensive introduction to the Darwinian conception of human nature; basic knowledge of evolution and its value for understanding all categories of human affairs. {Fall}

219. Principles of Cell Biology. (3) L. Lewis, Miller, Natvig, Vogel, Werner-Washburne

Cell structure and cellular processes, including membranes, cytoskeleton, nucleus, DNA replication, gene expression, energy metabolism, receptors, and cancer biology.

Prerequisites: 121L, 122L, 4 hrs of general chemistry. {Fall, Spring}

220. Cell Biology Problems. (1)

Problems, discussion and demonstrations in cell biology. Coverage is correlated with topics in 219.

Corequisite: 219. {Fall, Spring}

221. Introductory Genetics. (3) Evans, Nelson

Structure, function, and transmission of hereditary factors. May be taken with or independently of 223L.

Prerequisites: 121L, 122L, 219. {Fall, Spring}

222. Introductory Genetics Problems. (1)
 Problem solving techniques in genetic analysis. Coverage is correlated with topics in 221.
 Corequisite: 221. {Fall, Spring}

223L. Introductory Genetics Laboratory. (1)
 Genetic principles using the fruit fly and lower organisms.
 Pre- or corequisite: 221. 3 hrs. lab. {Fall, Spring}

237. Human Anatomy and Physiology I. (3)
 An integrated study of human structure and functions of the skeletal, muscular, nervous, and cardiovascular systems.
 Prerequisites: 121L or 123L and 4 hrs. of general chemistry. 3 lectures. {Fall, Spring}

238. Human Anatomy and Physiology II. (3)
 Continuation of 237. Cardiovascular, respiratory, digestive, excretory, reproductive, and endocrine systems. 3 lectures. {Fall, Spring}

239L. Microbiology for Health Sciences. (4) Baca
 Introduction to microbiology with emphasis on principles of infection and immunity.
 Prerequisites: 121L or 123L and 4 hours of chemistry. Not accepted toward a biology major. 3 lectures; 4 hrs. lab required for pharmacy students, 3 hrs. lab required for nursing and dental hygiene students. (Credit not allowed for both 239L and 350L.) {Summer, 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. 3 hrs. lab. {Fall, Spring}

248L. Human Anatomy and Physiology Laboratory II. (1)
 Continuation of Biol 247L. Topics integrated with 238.
 Pre- or corequisite: 238. 3 hrs. lab. {Fall, Spring}

249L. Human Anatomy Laboratory. (1)
 Accelerated human anatomy course using cadavers for students who have completed eight hours of anatomy and physiology with labs but lack cadaver study.
 Prerequisites: 8 hours of anatomy and physiology with labs and permission of instructor. 3 hrs. lab. {Spring}

290L. Biological Lab Techniques. (4) Duszynski
 Preparation of cells and tissues for microscopic examination using paraffin and plastic methods. Other techniques may also include: histochemistry, basic photography, and fermentation studies.
 Prerequisites: 121L, 122L or permission of instructor. 1 lecture, 5 hrs. lab. {Fall}

300. Evolution. (3) Thornhill
 Basic principles, and contemporary issues of evolution.
 Prerequisite: 121L, 122L, 219, 221. 3 lectures. {Spring}

310L. Principles of Ecology. (4) Milne
 A comprehensive survey of the ecology of individuals, populations, communities, and ecosystems.
 Prerequisites: 121L, 122L, 219, 221. 3 lectures, 3 hrs. lab or field exercise. {Fall, alternate Springs}

****350L. General Microbiology. (4)** Barton
 Anatomy, physiology, and ecology of microorganisms. Principles of bacterial techniques, host-parasite relationships, and infection and immunity.
 Prerequisites: 121L, 122L, 219, 221. 3 lectures, 3 hrs. lab. (Credit not allowed for both 350L and 239L.) {Fall}

360L. General Botany. (4) Marshall
 Overview of plant anatomy, physiology, classification, evolution and ecology. Covers both higher and lower plants.
 Prerequisites: 121L, 122L, 219, 221, or permission of instructor. 2 lectures, 4 hrs. lab. {Spring}

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: 121L, 122L, 219, 221, or permission of instructor. {Spring}

371L. Invertebrate Biology. (5) Loker, Stricker
 Survey of the major invertebrate groups with emphasis on evolutionary and ecological relationships, and the correlation of structure with function.
 Prerequisites: 121L, 122L, 219, 221. 3 lectures, 4 hrs. lab. {Fall}

379. Conservation Biology. (3) Ligon, Snell
 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: 121L, 122L, 219, 221, or permission of instructor. {Spring}

382L. Introductory Parasitology. (4) Duszynski, 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: 121L, 122L, 219, 221; recommended 371L. 2 lectures, 4 hrs. lab. {Spring}

386L. General Vertebrate Zoology. (4) Altenbach, Snell
 Ecology, behavior, sociology, adaptations, and evolution of the vertebrates.
 Prerequisites: 1121L, 122L, 219, 221. 3 lectures, 3 hrs. lab. {Fall}

400. Senior Honors Thesis. (1-3)
 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.

***401L. Biometrics. (4)** Milne
 Exploration and analysis of multivariate biological data. Emphasis on ordination and classification.
 Prerequisites: 20 hrs. of Biology and Math 145 or 245 or 321 or 345. 2 lec. 3 hrs. lab. {Alternate Springs}

402. Special Topics in Biology. (1-3)
 Maximum of 4 hours credited towards the biology major and 2 hours towards the biology minor.
 Prerequisites: senior status, high scholastic standing, and permission of instructor. {Summer, Fall, Spring}

***403. Ecosystem Ecology. (3)** Gosz
 Detailed study of the structure and function of diverse ecological systems.
 Prerequisites: 121L, 122L, 219, 221. {Spring}

***404L. Marine Invertebrate Laboratory. (2)** Duszynski
 Major intertidal marine invertebrates of the northern Gulf of California. A one-week field trip to the Gulf and field trip fee is required.
 Pre- or corequisite: 371L. {Fall}

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. 4 hrs. field/lab/discussion weekly.
 Prerequisites: 121L, 122L, 219, 221, or permission of instructor. {Fall}

- *412. Developmental Biology. (3)** Stricker
Molecular biology of animal development emphasizing regulatory mechanisms.
Prerequisites: 121L, 122L, 219, 221, and Chem 212 or 301 or permission of instructor. 3 lectures. {Fall, Spring}
- *416L. Histology. (5)**
Microscopic structure of vertebrate tissues, emphasizing correlation of structure and function.
Prerequisite: 121L, 122L, 219, 221. 3 lectures, 4 hrs. lab. {Spring}
- *418. Ecological Genetics. (3)** Evans
Mechanisms of the maintenance of genetic variation in natural populations: population genetic and polygenic models of inheritance; population structure and size; forces of evolution (selection, drift, migration, mutation); adaptation; evolution of species integrations.
Prerequisites: 121L, 122L, 219, 221, and calculus, or permission of instructor. {Fall}
- *421L. Comparative Vertebrate Anatomy. (4)** Altenbach
Prerequisites: 386L, or permission of instructor. 2 lectures, 6 hrs. lab. {Offered upon demand}
- *425. Molecular Genetics. (3)** Kogoma, Nelson
Molecular biology of the gene. May be taken with or independently of 426L.
Prerequisites: 121L, 122L, 219, 221, or permission of instructor.
- *426L. Molecular Genetics Laboratory. (1)** Kogoma
Experiments with plasmids and bacteriophage including recombinant DNA techniques.
Pre- or corequisite: 425. 3 hrs. lab.
- *428. Human Heredity. (3)**
Genetic principles applied to man.
Prerequisite: 121L, 122L, 219, 221. {Fall}
- *429. Molecular Cell Biology I. (4)** Kerkof
Life processes with emphasis on relationships of structure and function at organelle and molecular level.
Prerequisites: 14 hrs. of Biology and Chem 212 or 301-303L. {Fall}
- *430. Vertebrate Physiology. (4)**
Functions and structures with emphasis on fundamental physiological processes and mechanisms at cell and system levels.
Prerequisite: 356L. {Offered upon demand}
- *431L. Vertebrate Physiology Laboratory. (1)**
Independent research projects in small student groups with demonstration of competence in operation of equipment and data interpretation.
Pre- or corequisite: 430. 3 hrs. lab.
- *435L. Animal Physiology. (4)** Altenbach, Hofmann, Toolson
The function of organ systems in animals, emphasizing neuromuscular, cardiovascular, gastrointestinal, and renal physiology.
Prerequisites: 371L, or 386L, and permission of instructor. 3 lectures, 3 hrs. lab. {Fall, Spring}
- *439L. Molecular Cell Biology Laboratory. (4)** [3] Kerkof
Laboratory experience with various methods and techniques used in cell biology.
Pre- or corequisite: 429 or permission of instructor. 1 lecture, 5 hrs. lab. {Spring}
- *440L. The Soil Ecosystem. (4)** Johnson, G.
Interrelationship between the abiotic and biotic factors in soils; influence of soils on above-ground biota.
Prerequisites: 121L, 122L, 219, 221, Chem 121L-122L or 131L-132L. {Fall}
- *443. Comparative Physiology. (4)**
Comparative treatment of physiological processes in animals, with emphasis on osmoregulation, metabolism, circulation, and thermobiology.
Prerequisite: permission of instructor. 3 lectures, 3 hrs. lab. {Offered upon demand}
- *444. Molecular Biology. (3)** Werner-Washburne
Critical-thinking course covering current topics in macromolecular synthesis, structure, and function. Introduction to recombinant DNA technology and its applications with a focus on prokaryotic and eucaryotic systems.
Prerequisites: 121L, 122L, 219, 221, or permission of instructor. 3 hours lecture. {Fall}
- 446. Laboratory Methods in Molecular Biology. (4)** Natvig
Principles of DNA and RNA purification, enzymatic manipulation of nucleic acids, molecular cloning, gel electrophoresis, hybridization procedures, and nucleotide sequencing.
Prerequisite: Permission of instructor. 2 hrs. lecture, 5 hrs. lab. {Fall}
- *447. Prosection. (3)**
Human gross anatomy, dissection of human cadaver. Anatomy topics integrated with Biology 237 and 238.
Prerequisite: 237, 247L and permission of instructor. {Fall, Spring}
- 449. Molecular Cell Biology II. (3)** Kerkof
Continuation of Cell Biology I (429). Advanced treatment of the cellular and molecular basis of the life process.
Prerequisite: 429. {Spring}
- *450. General Virology. (3)** Baca, Kogoma, Radloff
(Also offered as Biomed 472.) Structure, properties, and chemistry of viruses; virus-host interactions, multiplication, serological properties, uses as probes in molecular biology; effects of physical and chemical agents, classification.
Prerequisite: 350 and either 429, Biochem 423 or Biomed 445. {Spring}
- *451. Microbial Ecology. (3)** Dahm
Role of microorganisms in terrestrial and aquatic ecosystems. Emphasis on biogeochemistry and nutrient cycling.
Prerequisites: 121L, 122L, 219, 221, or permission of instructor. 3 lectures. {Fall}
- *452. Vertebrate Endocrinology. (3)** Trujillo
An advanced course on hormones, their synthesis and mechanisms of action in endocrine physiology and biochemistry.
Prerequisites: 429, Biochem 423 or permission of instructor. 3 lectures. {Fall}
- *454L. Pathogenic Bacteriology. (3-5)** Baca
The properties and characteristics of disease-producing bacteria and their relationship to disease.
Prerequisite: 350L; 456 recommended. 3 lectures, 6 hrs. lab. (Laboratory (2 credit-hours) not required.) {Spring}
- *455. Ethology: Animal Behavior. (3)** Kodric-Brown, Ligon
A survey of behavior patterns in animals, with emphasis on adaptive significance.
Prerequisites: 121L, 122L, 219, 221. {Spring}
- *456. Immunology. (3)** Miller, Vogel
Immunoglobulin structure, antigen-antibody reactions, immunity and hypersensitivity; experimental approach will be emphasized.
Prerequisites: 121L, 122L, 219, 221; recommended: 239L, or 350L, Biochem 423 and Chem 302-304L. 3 lectures. {Fall}
- *457L. Ethology Laboratory: Animal Behavior. (1)** Kodric-Brown, Ligon
Special laboratory and field projects in animal behavior.
Pre- or corequisite: 455. 3 hrs. lab. {Spring}

***460. [460L] Microbial Physiology. (3)** Barton
Physiological and biochemical activities of bacteria and fungi with emphasis on cell energetics.
Prerequisite: 350L. 3 lectures. {Spring}

461L. Introduction to Tropical Biology. (3) Duszynski
Marine and terrestrial tropical environments, primarily in the Caribbean; topics stressed may include organisms, communities, structure, function, distribution, geology, history, politics, ecology and others. 2 lectures, 2 hrs. lab, 1 week field trip to the Caribbean and field trip fee is required. Open to majors and/or non-majors.
Prerequisites: 121L, 122L, 219, 221 (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: 121L, 122L, 219, 221, or permission of instructor.
3 lectures, 3 hrs. lab. {Fall, Spring}

***465. Sociobiology and Evolutionary Ecology. (3)** Thornhill
Evolutionary and social biology; speciation, adaptation, population ecology.
Prerequisites: 121L, 122L, 219, 221. {Fall}

***466L. Sociobiology and Evolutionary Ecology Project. (2)** Thornhill
Special lab, field or literature projects.
Pre- or corequisite: 465. 6 hrs. lab (arranged). {Fall}

***467. 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

***468. Plant Reproductive Ecology. (3)** Marshall
Resource allocation, breeding systems, modes of reproduction and pollination biology. Includes lectures, discussions and laboratory methods.
Prerequisites: 310L, 360L or permission of instructor.
{Alternate years}

***471. Plant Physiological Ecology (3)**
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)** L. Lewis
Structure of vascular plants; cellular, tissue, and organ systems, their function and evolutionary relationships.
Prerequisites: 121L, 122L, 219, 221, or permission of instructor. 360L recommended. 2 lectures, 4 hrs. lab. {Spring alternate years}

***475. Desert Field Biology. (5)** Parmenter, Lightfoot
Natural History and ecological processes of N. American deserts. Field trips to Texas, Arizona and Utah.
Prerequisites: 121L, 122L, 219, 221, and permission of instructor. {Spring}

***478L. Plant Physiology. (4)** Johnson
Nutrition, metabolism, and growth of higher plants.
Prerequisite: 360L or permission of instructor; Chem 301-303L recommended. 3 lectures, 3 hrs. lab. {Spring}

***480. Biology of Disease Vectors. (3)** Loker
The biology of insects, mites, ticks and mollusca that transmit disease agents to humans and domestic animals will be discussed. Ecological and immunological interactions between vectors and disease agents will be emphasized.
Prerequisites: 371L, 382L or permission of instructor.

***486L. Ornithology. (4)** Ligon
Classification phylogeny, natural history, and literature of birds. Field trips required.
Prerequisite: 386L or permission of instructor. 3 lectures, 3 hrs. lab. {Spring, alternate years}

***487L. Ichthyology. (4)** Kodric-Brown, Molles
Classification, phylogeny, natural history, and literature of fishes. All-day field trips and one or more overnight field trips required.
Prerequisites: 121L, 122L, 219, 221. 3 lectures, 3 hrs. lab. {Fall}

***488L. Herpetology. (4)** 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. 2 lectures, 6 hrs. lab. {Spring}

***489L. Mammalogy. (4)** Yates
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. 3 lectures, 3 hrs. lab. {Fall, alternate years}

***491L. Radiobiology. (4)** G. Johnson
Properties of radiation; principles, theory, and use of detection and counting instruments; radioisotopes as tracers in biological experiments.
Prerequisites: 121L, 122L, 219, 221, Physcs 151-153L; one year of organic chemistry recommended. 2 lectures, 6 hrs. lab. {Fall}

***494. Biogeography. (3)** Brown
Geographical distributions of organisms: patterns and their ecological and historical causes.
Prerequisites: 121L, 122L, 219, 221. {Spring, alternate years}

***495. Limnology. (3)** Dahm
Biological, physical, and chemical interactions in fresh water ecosystems.
Prerequisites: 121L, 122L, 219, 221, 1 year of physics or chemistry, or permission of instructor.
3 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. Principles of Gene Manipulation. (3)** Trujillo
A survey of techniques that relate to the study of genes by gene manipulation and the use of either prokaryotic or eukaryotic host cells.
Prerequisites: 121L, 122L, 219, 221.

499. Undergraduate Problems. (1-3)
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.

500. New Graduate Student Seminar. (1)
Offered as a CR/NC basis only.

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502. Special Topics in Biology. (1-3)

Prerequisite: permission of instructor. {Summer, Fall, Spring}

504. Environmental Physiology. (3)

Prerequisites: 430 and permission of instructor. {Fall}

507L. Bosque Biology. (3) Molles

Long-term study of Rio Grande riparian woodland; hands-on field ecology emphasizing different biotic features and interactions each semester. 4 hrs. field/lab/discussion weekly. Prerequisites: 121L-122L, graduate status. {Summer, Fall, Spring}

511. Community Ecology (3) Brown

Structure and dynamics of assemblages of multiple species of organisms. Prerequisite: Graduate status or permission of instructor. {Fall}

512. Population Biology. (4) Taylor

Prerequisites: 121L-122L, graduate status. 3 lectures, 2 hrs. lab/discussion. {Fall}

513. Physiological and Behavioral Ecology. (5) Snell, Toolson

Prerequisites: 121L-122L, graduate status; corequisite: 512. 3 lectures, 4 hrs. lab/discussion. {Fall}

514. Ecosystem Studies. (3) Dahm, Gosz

The study of biological communities emphasizing the interactions between living and non-living parts and the flow of materials and energy between these parts. Prerequisites: 121L-122L, 310L, graduate status. 3 lectures. {Spring}

515F. Research in Field Biology. (3) Brown, Kodric-Brown, Molles

Planning, execution, and write-up of field research conducted during Spring Recess. Twelve-day field trip, and lab fee required. Prerequisites: graduate status or permission of instructor. 3 hrs. lecture/discussion. {Spring}

520. Energy and Metabolism. (3) Trujillo

Prerequisite: 429 or Biochem 423. {Spring}

521. Advanced Behavioral Ecology. (3) Kodric-Brown

Analysis of behavior and social systems in an ecological and evolutionary context. Prerequisite: Graduate standing or permission of instructor. {Fall}

522. Molecular Biology and Evolution. (3) Natvig

Mechanisms and consequences of genetic variation at the level of molecular genetics. Application of molecular-genetic methods to the study of evolution at the organismal level. Prerequisite: permission of instructor. 3 lectures {Spring 1998 and alternate years}

523. Principles of Systematic Biology. (3) Yates

Systematic theory and philosophy applied to kinds, diversity, and relationships among organisms. Organisms, cladistic, and numerical techniques as applied to systematic studies. Levels and methods of biological classification. {Alternate Springs}

546. Laboratory Methods in Molecular Biology. (4) Natvig

Principles of DNA and RNA purification, enzymatic manipulation of nucleic acids, molecular cloning, gel electrophoresis, hybridization procedures, and nucleotide sequencing. Prerequisite: Permission of instructor. 2 hrs. lecture, 5 hrs. lab. {Spring 1999 and alternate years}

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, 1-um sectioning)

Prerequisites: 429 and graduate status or permission of instructor. 1 lecture, 1 lab. {Spring}

548. Electron Microscopy. (5) Stricker

Theory and practice of electron microscopy (scanning and transmission electron microscopy).

Prerequisites: 429, 547 and graduate status; or instructor permission. 1 lecture, 1 lab. {Fall}

549. Molecular Cell Biology II. (3) Kerkof

Prerequisite: 429. {Spring}

551. Problems. (2-3) ††

554L. Mammalian Ecology. (4)

Prerequisite: 489L or permission of instructor. 3 lectures, 3 hrs. lab. {Spring}

561F. Tropical Biology. (3) Duszynski

Marine and terrestrial tropical environments, primarily in the Caribbean; topics stressed may include organisms, communities, structure, function, distribution, geology, history, politics, ecology and others. 2 lectures, 2 hrs. lab, 1 week field trip to the Caribbean and field trip fee is required. Open to majors and/or non-majors. {Alternate years}

563L. Advanced Plant Taxonomy. (4) Lowrey

Prerequisites: graduate status and permission of instructor. 2 lectures, 6 hrs. lab. {Spring alternate years}

567. 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: 121L, 122L and 310L. {Spring}

568. Plant Reproductive Ecology. (3) Marshall

Prerequisites: 310L, 360L or permission of instructor. {Alternate years}

571. Plant Physiological Ecology. (3)

Prerequisites: 310L, 360L or permission of instructor. {Spring, alternate years}

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 spacial complexity.

Prerequisite 310L (Spring, alternate years)

581. Advanced Cell and Molecular Biology. (4)

(Also offered as Biomed 507.) {Fall}

582. Advanced Cell and Molecular Biology. (4)

(Also offered as Biomed 508.) Prerequisite: 581. {Spring}

593. Plant Mineral Metabolism. (2) Johnson

Prerequisite: 478L. 2 lectures. {Fall}

599. Master's Thesis. (1-6 hrs. per semester)

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, and regulation, messenger RNA, and translation.

Prerequisites: 507, 508. {Spring, even years}

651. Advanced Field Biology. (4-8)
Approval of Committee on Studies required.

672. The Cell Nucleus. (3)
(Also offered as Biomed 672.) The relationship between the structure of the cell nucleus and gene expression. Topics include: nuclear membrane and nucleocytoplasmic transport of proteins and RNA, organization of the genome inside the nucleus, the nucleolus.
Prerequisite: 507, and 508. (Spring even years)

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

CHEMISTRY

Fritz S. Allen, Chairperson
The University of New Mexico
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Albuquerque, NM 87131-1096
(505) 277-6655,
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Professors

Fritz S. Allen, Ph.D., University of Illinois
Debra Dunaway-Mariano, Ph.D., Texas A&M University
Christie G. Enke, Ph.D., University of Illinois
Mark J. Hampden-Smith, Ph.D., University of London
Richard W. Holder, Ph.D., Yale University
Patrick S. Mariano, Ph.D., University of Wisconsin
Cary J. Morrow, Ph.D., Tulane University
Thomas M. Niemczyk, Ph.D., Michigan State University
Mark R. Ondrias, Ph.D., Michigan State University
Robert T. Paine, Jr., Ph.D., University of Michigan
E. Paul Papadopoulos, Ph.D., University of Kansas
David L. Vander Jagt, Ph.D., Purdue University
Edward A. Walters, Ph.D., University of Minnesota

Associate Professors

David Keller, Ph.D., University of California (Berkeley)
Donald R. McLaughlin, Ph.D., University of Utah

Assistant Professors

Lorraine M. Deck, Ph.D., University of New Mexico
Deborah G. Evans, Ph.D., University of Pittsburgh
Philip D. Hampton, Ph.D., Stanford University
Martin L. Kirk, Ph.D., University of North Carolina
Gabriel P. Lopez, Ph.D., University of Washington
Ignacio Villegas, Ph.D., University of Georgia

Professors Emeriti

Roy D. Caton, Ph.D., Oregon State University
Ulrich Holstein, Ph.D., University of Amsterdam
Milton Kahn, Ph.D., Washington University
William M. Litchman, Ph.D., University of Utah
Miriam Malm, M.S., University of New Mexico
Riley Schaeffer, Ph.D., University of Chicago

Affiliated Faculty

Robert E. Tapscoff, P/T Professor, Ph.D., University of Illinois,
Thomas W. Whaley, Adjunct Associate Professor, Ph.D.,
University of New Mexico

UNM/Sandia National Laboratory Professors

C. Jeffrey Brinker, Ph.D., Rutgers University
John A. Shelnutt, Ph.D., Georgia Institute of Technology

Also see Faculty Listings in Biochemistry.

Introduction

The program of the Department of Chemistry conforms to the standard prescribed by the American Chemical Society.

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 401L, 415L, 431, 433, 454L, 462, 466, 495-496 (no more than 2 credit-hours in 495-496), Biochem 423, 445L, 446L (students taking 423 cannot take 445L or 446L). The B.A. program must also include Physics 151, 152, 153L, and 154L, or Physics 160, 161, 163L, 262 and 264L and Math 162L and 163L. 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, 181 or 182, 183 may substitute one of those sequences in lieu of Math 162L, 163L 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, (Biochem 423, or 445L, and 446L also allowed; students taking 423 cannot take 445L, or 446L); or Chem 121L, 122L, 253L, 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 (Biochem 423, or 445L, and 446L also allowed; students taking 423 cannot take 445L, or 446L). The program must also include Physics 160, 161, 163L, 262, 264L, mathematics equivalent to Math 264L or 311, and 316 or higher. Up to six credits of Chem 495-498 or four credits of 495-498 and two credits of 325/326 may be counted toward the B.S. degree.

Two years of German is recommended for students who are planning to do advanced studies in chemistry. English 320 is also recommended.

NOTE: Physics and mathematics courses required for the B.S. or B.A. degree may not be taken on the credit grade option.

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, 312, and 3 additional hours selected from courses numbered 325-496 (Biochem 423, or 445L, and 446L also allowed; students taking 423 cannot take 445L, or 446L). Chem 307, 308, may

be substituted for Chem 301, 302. Chem 111L and 212 do not count toward the minor.

In lieu of a specific minor a student in the B.S. program may obtain the following distributed minor:

Physics: 160(3), 161(3), 163L(1), 262(3), 264L(1)
 Mathematics: 162L(4), 163L(4), 264L(4), plus two courses from 311(3), 314(3) and 316(3)
 English: 219(3). Technical Writing

Total Hours

32

No distributed minors are allowed for B.A. majors.

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.

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, 431, 454L and 6 hours of additional courses from 325-498 (Biochem 423, or 445L, and 446L also allowed; students taking 423 cannot take 445L, or 446L) 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 by the Department of Chemistry. Credit-hours must total a minimum of 31 hours (B.A. degree) or 44-47 hours (B.S. degree).

Graduate Program

Graduate Advisor

Professor Thomas M. Niemczyk

Graduate Recruitment

Professor Christie G. Enke

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 generally recommend admission without financial aid. Exceptions to this policy must be negotiated with the Department Chair 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 bio-

chemistry program is conducted in the Biochemistry Department of the Medical School. 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 30 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 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 departments 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 during the week prior to the student's first semester in the program. Each student's performance is compared with national norms 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 including physical chemistry while Ph.D. students are expected to be proficient in four areas including physical chemistry. Proficiency in each area may be demonstrated by passing the applicable placement examinations or receiving a grade of B or better in a course assigned to the student by the Graduate Studies Committee. The remainder of 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: a foreign language, 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 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 Graduate Programs Handbook mentioned above.

Candidates for the graduate degrees in chemistry may conduct research for the M.S. thesis or Ph.D. dissertation at the Los Alamos National Laboratory, under the terms of an agreement for cooperations between the University of New Mexico and the Laboratory. Certain conditions have been specified for the acceptance of students for research at Los Alamos and certain modifications of the department program are allowed. Each case will be considered on an individual basis.

For additional biochemistry courses, see listings under Biochemistry.

Chemistry (Chem)

105. Chemistry and Nontechnical Majors. (3)

An introduction to Chemistry. Its significance for the individual and society, and the activities of the chemical professions. Chemical perspectives and influences on commerce, government, health and culture. {Fall}

107L. Chemistry for Nontechnical Majors Laboratory (1)

A laboratory course to accompany Chemistry 105. {Fall}

111L. Elements of General Chemistry. (4)

One-semester course in general chemistry, especially for non-science majors in the health sciences except premedicine and medical technology. 3 lectures, 3 hrs. lab. (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; or a math placement score which qualifies the student for Math 162L or 180. 3 lectures, 3 hrs. lab. {Summer, Fall, Spring}

122L. General Chemistry. (4)

Continuation of 121L. Prerequisite: 121L or 131L with grade of C or better. 3 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: 1 year of high school chemistry within the last 3 years or permission of instructor. Pre- or corequisite: Math 162L. 3 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 163L or 181. 3 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.

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.

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 volumetric and gravimetric analysis.

Prerequisite: 122L. 2 lectures, 6 hrs. lab. (Students should make every effort to complete 253L within two semesters of completion of 122L.) {Summer, Fall, Spring}

In the following courses numbered 301-308, the laboratory course **must** be taken concurrently with the corresponding lecture course. Students dropping the lecture prior to the eighth week of the semester must drop the corresponding lab; however, students dropping the lecture after that time may be allowed to continue the lab to completion, provided that at the time of dropping the lecture the grade in the lab course was C or better.

**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 301 or 307. 3 hrs. lab. {Summer, Fall, Spring}

304L. Organic Chemistry Laboratory. (1)

To be taken concurrently with 302 or 308.

Prerequisite: 303L, 3 hrs. lecture, 1 hr. lab. {Summer, Fall, Spring}

**307. Organic Chemistry. (3)

Chemical and physical behavior of the compounds of carbon. A quantitative approach to mechanistic principles is emphasized. Strongly recommended for students majoring in chemistry.

Prerequisites: an A or B in Chemistry 121L-122L or 131L-132L. It is mandatory that 303L be taken concurrently. {Fall}

**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 or 253L, Math 162L, 163L, Physcs 151, or 161; corequisite: Physcs 152 or 262 and Math 264L. {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 253L, or 132L, Math 162L 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.

Prerequisite: permission of instructor. {Fall upon demand}

**326. Special Topics for Undergraduates. (1-3) 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-inorganic-physical chemistry laboratory, illustrating the techniques used to quantify the energetics, dynamics, composition, and structure of matter. Pre- or corequisite: 311. 6 hrs. lab. {Fall}

****332L. Chemistry Laboratory III. (1-2)**

2 credits for chemistry majors, 1 credit for chemical engineers. Continuation of 331L. Prerequisite: 331L; corequisite: 312. 6 hrs. lab. {Spring}

****391. Readings in Selected Topics. (1-3) 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. Prerequisites: prior arrangement with instructor and permission of the department chairperson. {Spring upon demand}

***401L. Scientific Glassblowing. (1)**

Scientific glassblowing techniques for the serious science student interested in repairing and maintaining glass apparatus. Topics covered will be the safe cutting of glass, butt seals, side seals, ring seals, the construction of glass equipment for simple distillation and fractionation, and discussion of special sealing glasses and glass to metal seals. Prerequisites: senior/graduate status and permission of instructor. 3 hrs. lab. {Offered upon demand} **Offered on a CR/NC basis only.**

***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. 6 hrs. lab. {Fall}

***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. (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. 2 lectures, 6 hrs. lab. {Spring upon demand}

***455. Modern Aspects of Chemical Analysis. (3)**

Treatment of current areas of chemical analysis such as trace analysis in the environment, clinical analysis, or high pressure liquid chromatography. {Fall 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.

495. Undergraduate Problems. (1-3)

Prerequisite: permission of instructor. {Summer, Fall}

496. Undergraduate Problems. (1-3)

Prerequisite: permission of instructor. {Spring}

497. Senior Honors Research. (1-3)

Senior paper based on independent research. Prerequisite: permission of instructor. {Summer, Fall}

498. Senior Honors Research. (1-3)

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)
{Fall}****504. Chemical Dynamics. (3)
{Spring}****511. Mechanisms in Organic Chemistry. (3)
Prerequisite: permission of instructor. {Fall}****512. Mechanisms in Organic Chemistry. (3)
Prerequisite: 511 or permission of instructor. {Spring}****513. Organic Molecular Structure Determination. (3)
{Fall upon demand}****514. Synthesis in Organic Chemistry. (3)
Prerequisite: 511 or permission of instructor. {Spring}****515. Topics in Organic Chemistry. (1-3) Δ
{Fall upon demand}****516. Topics in Organic Chemistry. (1-3) Δ
{Spring upon demand}****524. X-Ray Crystallography. (3)
Prerequisite: 433 or permission of instructor. {Spring upon demand}****533. Inorganic Bonding Theory. (3)
Prerequisites: 431 and 433 or permission of instructor.
{Fall upon demand}****534. Physical Methods in Inorganic Chemistry. (3)
Prerequisites: 431 and 433 or permission of instructor.
{Spring upon demand}****535. Advanced Coordination Chemistry. (3)
Prerequisites: 431 and 433 or permission of instructor.
{Fall upon demand}****536. Synthesis and Mechanism in Inorganic Chemistry. (3)
Prerequisite: 431 or permission of instructor. {Spring upon demand}****537. Topics in Inorganic Chemistry. (1-3) Δ
Prerequisite: permission of instructor. {Fall upon demand}****538. Topics in Inorganic Chemistry. (1-3) Δ
Prerequisite: permission of instructor. {Spring upon demand}****540. Advanced Analytical Chemistry. (3)
{Spring}****541. Separations. (3)
{Fall upon demand}****542. Chemical Measurements. (3)
{Spring upon demand}****543. Analytical Spectroscopy. (3)
{Fall upon demand}**

544. Electrochemistry. (3)
{Spring upon demand}

545. Topics in Analytical Chemistry. (1-3) Δ
{Fall upon demand}

546. Topics in Analytical Chemistry. (1-3) Δ
{Spring upon demand}

560. Biophysical Chemistry. (3)
Prerequisite: 312 or 315 or permission of instructor.
{Spring upon demand}

561. Quantum Chemistry I. (3)
{Fall upon demand}

562. Quantum Chemistry II. (3)
Prerequisite: 561. {Spring upon demand}

563. Thermodynamics. (3)
Prerequisite: 312 or permission of instructor. {Fall upon demand}

564. Statistical Thermodynamics. (3)
Prerequisite: 312 or permission of instructor. {Spring upon demand}

565. Kinetics. (3)
Prerequisite: 312 or permission of instructor. {Fall upon demand}

566. Spectroscopy. (3)
Prerequisite: 312 or 561 or permission of instructor.
{Spring upon demand}

567. Topics in Physical Chemistry. (1-3 hrs.) 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 hrs. per semester)
Offered on a CR/NC basis only.

625. Chemistry Seminar. (1)
Offered on a CR/NC basis only. {Fall, Spring}

650. Research/Readings. (2-12)
Offered on a CR/NC basis only.
{Summer, Fall, Spring}

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

COMMUNICATION & JOURNALISM

Everett M. Rogers, Chairperson
The University of New Mexico
Department of Communication and Journalism
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Professors

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Everett M. Rogers, Ph.D., Iowa State University
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Associate Professors

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Diane L. Furno-Lamude, Ph.D., University of Utah
Bob M. Gassaway, Ph.D., University of Missouri
Brad 'J' Hall, Ph.D., University of Washington
Henry L. Trewitt, B.A., University of New Mexico
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Assistant Professors

James R. Barker, Ph.D., University of Colorado
Miguel Gandert, M.A., University of New Mexico
Dirk K. Gibson, Ph.D., Indiana University
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Visiting Professors

Nagesh Rao, Ph.D., Michigan State University
Peer Svenkersud, Ph.D., Ohio University

Visiting Research Assistant Professor

Michele Polacek, Ph.D., John Hopkins University

Lecturer III:

Thomas E. Jewell, J.D., Brigham Young University

Professors Emeriti

Charles Coates
Wayne Eubank
Anthony Hillerman
Robert H. Lawrence

Major Study Requirements

The Department offers two undergraduate degrees: Bachelor of Arts in Communication and Bachelor of Arts in Journalism and Mass Communication. A cumulative grade-point average of 2.25 is required for regular admission to either degree program. In addition to completing specified courses in their major program, departmental majors must earn a grade of C or better in all departmental courses completed to fulfill requirements for their major. To earn the degree, majors must complete the courses specified below for their programs, and must earn a 2.50 grade-point average in all courses included in their major program, including transfer credits, with no grade lower than a C, and a 2.25 grade-point average in all course work.

To earn a degree in Communication, students must complete 36 credits in departmental courses, including 101, 232, 358, 480 and 21 credits in 300-400-level departmental courses. Students must complete 101 with a C or better before being admitted as majors. Communication majors are encouraged to concentrate their course work in one of the following specialized areas: intercultural communication, interpersonal communication, organizational communication, or rhetorical communication. Information concerning recommended courses in these specialized sequences is available from the department office.

To earn a degree in Journalism and Mass Communication, students must complete 36 hours of course work, 24 hours in required courses and 12 hours in electives. All Journalism and Mass Communication majors must complete the following core requirements: 151, 251, 259, 468 and 495. Three additional courses are required in one of five specialized sequences as follows: advertising (300, 304, 402); broadcast journalism (340, 341, 485); broadcast/cable management (362, 364, 428); print journalism (312L, 375, 475); public relations (305, 334, 469). Students who major in Journalism and Mass Communication may take more than 36 hours in departmental courses only with permission of the chairperson. Also, Journalism and Mass Communication majors must take 90 or more semester hours in courses outside the department, with no fewer than 65 semester hours in the basic liberal arts and sciences.

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, 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.

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 151, 251, 259 and 495; all with a C or better.

Departmental Honors

Students seeking departmental honors should obtain guidelines from the department office and make application to the Chair or the Director of Undergraduate Studies. Admission requires an overall GPA of 3.5 or better. An honors thesis must be completed during the senior year.

Graduate Program

Review of Applications Begins

Fall semester: February 15 (M.A. and Ph.D.)
Spring semester: October 31 (M.A.)

Fall date (February) is observed for financial aid. Early application is recommended. Written statement of interest and GRE required for admission for both the M.A. and Ph.D. The Ph.D. degree also requires a sample of scholarly writing.

Degrees Offered

M.A. in Communication

Concentrations: interpersonal communication, intercultural communication, organizational communication, rhetorical communication, mass communication. The M.A. degree is offered at UNM North, as well as on the Main Campus.

Ph.D. in Communication

Concentration: intercultural 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; intercultural communication; and instructional 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.

M.A. Communication

The Master of Arts in Communication is offered under both Plan I and Plan II according to regulations set forth in earlier pages of this Catalog.

Graduate students are required to complete 500, 501, 528, 538 and one course from among 521, 523, 531, 544 and 561.

NOTE: 638 may be substituted for 538. Students are required to complete 500 and 501 during the earliest semesters they are available following admission.

Both Plans I and II require a minimum of 36 semester hours of course work, 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 graduate secretary of the department for additional information, or the director of graduate studies.

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 to beginning work on a project (Plan II). Candidates must submit a written thesis or project report to their committee for examination.

All candidates are required to complete a Master's Examination. These examinations are conducted by the candidates' committee following completion of the thesis or the project. This examination emphasizes the thesis or project and assesses the candidates' ability to relate his or her formal course of study to the thesis or project. Candidates must have their application for advancement to candidacy for a master's degree approved prior to completing this examination. Candidates should consult with their thesis or project advisor concerning deadlines and specific procedures.

Ph.D. Communication

Academic requirements for the Ph.D. in Communication will consist of an intensive program of course work, research, and professional development. The doctoral degree requires a minimum of 48 graduate credit hours of course work, with at least 30 of these hours in courses numbered at the 500 level or above. In addition to this course work, for the Ph.D. degree, each candidate will have a minimum of one year of teaching experience (and ideally two), and at least one year of research apprenticeship on a faculty-directed research project.

Course work requirements include the following: one 600-level course in qualitative research methods, one 600-level course in quantitative research methods, 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, and one graduate-level course in statistical methods. In addition to these core courses, Ph.D. candidates will select elective courses from the following 500-level communication courses: 523, 527, 534, 535, 538, 548, 550, 561, 564, and 570.

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 studies.

Communication and Journalism (C & J)

101. Introduction to Communication. (2-3)

Principles and concepts of various types of human communication, including interpersonal, small group, organizational, public and mass communication. A lecture/discussion course.
Lab required.

101L. Introduction to Communication Lab. (1)

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.

125. Communication Across Cultures. (3)
 (Also offered as Afro A 125.) 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. [130L.] Public Speaking. (3) [1] ✓
 Analysis, preparation, and presentation of speeches. A performance course. Not applicable toward Communication major study requirements; majors should enroll in C & J 232.
 1 hr lecture, 2 hrs lab required.

151. 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

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.

232. Business and Professional Speaking. (3)
 Analysis, preparation, and presentation of speeches common in business and professional settings. Enrollment limited to majors only, and required for completion of major study requirements.

251. Writing for the Mass Media II. (3) ✓
 Continuation of C & J 151, with increased emphasis on gathering news from original sources and the introduction of writing for advertising, public relations and television.
 Prerequisite: 151 with C or better.

253. Newspaper Practice. (1) Δ
 Open to staff members of the New Mexico Daily Lobo. May be taken three times.

254. Broadcast Practice. (1) Δ
 Open to staff members of KUNM-FM. May be taken three times.

259L. Introduction to Visual Communication. (3)
 Exploration of visual images in the mass media, with emphasis on deciphering the language of pictures through history, technique and imagery. Includes practical training in still photography and video.

261. News Photography/Lab. (3) ✓
 Camera and darkroom techniques for newspapers and magazines; editing of photos, including preparation of cutlines; production of all varieties of photos for publication, including photo stories.
 Prerequisites: 251 and 259 with C or better.

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.

268. Introduction to Mass Communication Effects. (3)
 Survey of the uses and effects of mass communication in society with emphasis on selected audience groups including women, children, elderly, and minorities.

270. 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.

275. Forensics. (1 per semester, to a maximum of 4)
 Participation in intercollegiate debate or individual speaking events, campus and community activities.
 Prerequisite: permission of instructor.

293. Topics. (1-3)

300. Introduction to Advertising. (3)
 Theory, strategy, and techniques of advertising and advertising campaigns.
 Prerequisite: 251.

301. History of the Media. (3)
 The course will examine the history of mass communication in the United States, with an emphasis on the practical applications of the past to a student's own possible career in the media.

302. Persuasive Writing. (3)
 Writing the editorial essay, the column, and other interpretive matters.
 Prerequisites: 251 and 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.

304. Advertising Copywriting. (3)
 The theory, strategy and practice of developing advertising copy for use in a variety of print and electronic media formats.
 Prerequisite: 300 or permission of instructor.

305. 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: 251.

312L. Copy-Editing and Makeup. (3)
 Practice in editing and presenting news copy by headlines, typography, page makeup and video display terminal.
 Prerequisite: 251 with grade of C or better.

315. Desktop Publishing I. (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.
 Prerequisite: permission of instructor.

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.

322. Magazine Writing. (3) ✓
 How to write and sell nonfiction and fiction to magazines today.
 Prerequisite: permission of instructor.

323. Nonverbal Communication. (3)

Theory, analysis, and practice of a variety of nonverbal messages, including body movement and appearance, vocal cues, and environmental cues.

325. Intercultural Communication. (3)

Examines cultural influences in communication across ethnic and national boundaries.

327. Persuasive Communication. (3)

Analysis, practice and evaluation of principles of attitude change for a variety of interpersonal and public communication situations.

328. 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 or permission of instructor.

330. Mediation. (3)

This course will include an introduction to conflict-management techniques with work-place, classroom, and personal applications. The basic mediation skills presented prepare students to mediate in a variety of situations.

331. Argumentation. (3)

Examines historical and contemporary theories of argumentation. Emphasis placed on development of effective advocacy and criticism of arguments.

334. Political Communication. (3)

This course focuses on the theory and practice of political communication in speaking, campaigns, debates, town meetings, and 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 in Western industrial societies, impact of mass communication on social movements and on sectors of the social structure; 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.

340. 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.

Prerequisite: 251 and 259L with a C or better.

341. Broadcast News II. (3)

Continuation of C & J 340. Students create longer, more elaborate programs with their own documentary segments, essays, in-studio interviews.

Prerequisite: 340 with a C or better.

344. Interviewing. (3)

Theory and practice of interviewing for informational, journalistic, employment and decision-making purposes.

350. Language, the Thought and Behavior. (3)

Examination of the influence of language habits on perception evaluations, creativity, and interpersonal relations.

353. [240.] 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.

358. 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.

Prerequisites: 101, 232 and 9 credits in 300-400 level courses in C & J or permission of instructor.

359. Language and Culture. (3)

(Also offered as Anth 310 and Ling 359.)

361. Photojournalism II. (3-6)

Continues 261 with greater emphasis on camera reporting, color photography, weekly news assignments, scaling photos for reproduction, advanced black and white darkroom techniques. For majors only.

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/Cable Programming and Promotion. (3)

Programming principles, techniques and strategies employed by contemporary television, cable and radio operations; promotion of cable broadcasters, audience research and rating systems. Thorough analysis of program schedules of broadcast/cable operations is included.

365. Broadcast and Cable Production. (3 per semester, to a maximum of 6)

Practical experience in broadcast operations on the campus. Students engage in the production of a half-hour program aired weekly on local television.

368. Broadcast 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.

370. Advanced Forensics. (1 per semester, to a maximum of 4)

Intensified study and participation in intercollegiate debate and individual speaking events.

Prerequisite: permission of instructor.

375L. Intermediate Reporting. (3)

Emphasis on reporting complex affairs, the news feature story, developing and covering beats and specialized interests.

Prerequisite: 251 with a C or better.

402. Advertising Campaigns. (3)

Theory, strategy, and techniques applied to advertising campaigns.

Prerequisite: 300 or permission of instructor.

405. Public Relations Case Studies. (3)

Introduction to techniques in analyzing and judging public relations cases. Public relations objectives, policies and materials will be covered. Students will learn how to review, criticize, and suggest policy alternatives, and develop a substantive specialty.

Prerequisite: 305, or permission of instructor.

406. Special Programming. (3)

Practice in remote, live programming, including surveying of locations, planning, reporting, anchoring, continuity writing, and preparation of prerecorded materials for such programs.

Prerequisite: 341 with a grade of C or better.

415. Desktop Publishing II. (3)

Advanced techniques in desktop publishing with emphasis on design strategies for graphic elements, typography and white space. Emphasis on multi-page publications, and

special consideration given to readability and visual presentation.

Prerequisite: 315. Permission of the instructor required.

***423. Advanced Nonverbal Communication. (3)**

Analysis and evaluation of theories and research on nonverbal communication.

Prerequisite: 323.

***425. Theories of Small Group Communication. (3)**

Major concepts, theories, and research in small group communication. Attention 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.

***428. Mass Communication Research. (3)**

Basic concepts, principles and methods for conducting marketing research and assessing the social effects of mass communication.

***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, various types of communicators, messages, audiences and channels of persuasion.

***431. Rhetorical Theory. (3 per semester, to a maximum of 6)**

Historical survey of major contributors and contributions to the development of contemporary rhetorical theory.

***434. Freedom of Speech. (3)**

A survey of the evolution of freedom of speech in the United States. Emphasis on major interpretations, court decisions, and theories concerning freedom of speech.

***435. Legal Communication. (3)**

The various communicative functions of litigation including media coverage, opening statements, direct and cross-examination, closing arguments, judge's instructions and appellate arguments. Historical trials are used as case studies.

***436. Culture and Discourse. (3 per semester, to a maximum of 6)**

This course studies the ways culture is created, maintained, and changed through discursive practices. Content varies each semester--e.g., gender, ethnicity, age, etc., may be selected as the focus of study. May be repeated.

***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.

***442. Organizational Communication: Diagnosis and Intervention. (3)**

Identification and analysis of communication problems in organizations. Attention to problems and requirements of communication training and development in organizational settings.

Prerequisite: 240.

***453. Current Developments in Organizational Communication. (3 per semester to a maximum of 6)**

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: 353.

***460. Health Communication. (3)**

Concepts and strategies for preventive health communica-

tion, in such contexts as provider-patient interaction, health campaigns, social marketing, health images in the mass media, and communication in health care organizations.

Prerequisites: 221, 321.

***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 nation-states 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. 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: 305 and permission of instructor.

***470. Communication in the Secondary Schools. (3)**

Communication skills pertinent to teaching high school students and development of course content, instructional objectives, and teaching materials for instruction in communication.

***471. 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. Required of instructional interns.

Prerequisite: permission of department chairperson.

***472., Multiculturalism, Gender and Media. (3)**

Students gain interdisciplinary study in culture and communication by reading, discussing and writing about audiences, co-cultures (Chicana/os, Blacks, and others), and feminist popular culture.

***473. Studies in Intercultural Communication. (3 per semester, to a maximum of 6)**

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: 325 or permission of instructor.

475. Advanced Reporting. (3)

Interpretive reporting of public affairs with emphasis on investigation of subject matter, presentation, and publication. Prerequisites: 375L with grade of C or higher and senior standing.

480. Senior Seminar: Perspectives on Communication. (3)

Consideration of historical evolution of study of Communication as humanistic and social science discipline. Integration of theories of Communication and development of scholarly and professional orientation.

Prerequisites: 101, 232, 358 and 15 credits in C & J or permission of instructor.

485. 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: 341 with C or better.

490. Undergraduate Problems. (1-3 per semester, to a maximum of 6)

Prerequisite: permission of departmental chairperson.

491. Internships in Journalism & Mass Communication. (1 to 3 per semester, to a maximum of 6)

Internships for students in the Journalism and Mass Communication degree programs are arranged through the course instructor at newspapers, magazines, news agencies, radio and television stations, advertising and public relations agencies and departments.

Prerequisite: appropriate 300-level course with a C or better, and permission of the instructor. Internship credit under 491 counts as part of the maximum of 6 credit-hours in 492.

492. Internship in Communication. (1-3 per semester, to a maximum of 6)

Internships in the traditional Communication fields are arranged with individual faculty members.

Prerequisites: completion, with a minimum grade-point average of 3.00, of at least 9 hours of relevant course work in the department, and permission of the instructor.

Offered on CR/NC basis only.

493-493L. Research Topics Lab. (1)

(Summer-595L)

494. Senior Thesis. (3)***495. Mass Media Ethics. (3)**

The power and the problems of the communications media and the fields of advertising and public relations, with emphasis on evolving ethical standards.

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 graduate students. (Fall)

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.

521. Seminar: Interpersonal Communication. (3)

Theories and research on the components and dynamics of interpersonal interaction and comparative analysis of approaches to study of interpersonal communication.

523. 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.

527. Seminar: Persuasion. (3)

Theories and research on the processes by which behavioral and attitudinal change are produced primarily by messages.

528. Communication Research Methods. (3)

Designing empirical research in communication, with special reference to applications of experimental design to communication research; methods of data analysis; developing a research report.

531. Contemporary Rhetoric. (3)

Approaches of different rhetorical theorists to the analysis of rhetorical discourse.

535. Seminar: Argumentation. (3)

This course examines contemporary theories of argument and considers the role of argumentation in various contexts including science, dispute settlement, politics, religion, and art.

536. Seminar: Culture & Discourse. (3)

This course studies the ways culture is created, maintained, and changed through discursive practices. Content varies each semester--e.g., gender, ethnicity age, etc., may be selected as the focus of study.

538. Seminar: Rhetorical Criticism. (3)

Analysis of criteria, methods, and procedures by which dependable, trustworthy, and useful evaluations are made of rhetorical discourse.

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.

545. Sociology of Mass Communication. (3)

(Also offered as Soc 545.) The role of mass media in modern society. Review of research on the process and effects of mass communication. Major concepts, theories, findings, and controversies relating to specific media.

548. Seminar: Organizational Communication Analysis. (3)

Analysis of communication variables in formal organizations.

550. Seminar: Language Behavior. (3)

Theories and evidence on relationships between speech, language, and behavior; special focus on the pragmatic dimension of semiotics, including general semantics, socio- and psycholinguistics, and communication systems.

551-552. Graduate Problems. (1-3 hrs. per semester, to a maximum of 6)

Independent study on questions and issues beyond those covered by regularly approved seminars. Plan must be prepared and faculty member agree to direct the study. Approval by department chair required.

555. Seminar: Educational Linguistics. (3)

(Also offered as ETSCS, Ling 555.)

561. Seminar: Mass Communication Processes and Effects. (3)

Mass communication systems, channels, and audiences; mass media and interpersonal communication, information diffusion, and adoption of innovations; experiments on effects of telemediated communication.

570. 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.

573. Teaching the Basic Course. (1)

Current issues associated with teaching introductory courses, focusing on the role of graduate teaching assistants.

595-595L. Special Topics in Communication. (3, 1)

Content varies, may be repeated with different content.

598. Master's Project. (1-6 hrs. per semester)

Plan II students only. Prerequisite: permission of department chair. Having once registered for Project, 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 approved.

Prerequisite: permission of department chairperson. Offered on CR/NC basis only.

599. Master's Thesis. (1-6 hrs. per semester)

Prerequisite: permission of department chairperson.

Having once registered for Thesis, the student must continue

to register for a minimum of 1 hour of 599 during each regular semester (exclusive of summer) until the thesis is approved. **Offered on CR/NC basis only.** (Fall, Spring, Summer)

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. (Fall)

601. Theories of Communication. (3)

Advanced study of concepts, models, and perspectives in the development of theories of communication; with attention to reciprocal relationship between theory building and theory testing in the study of human communication process. (Spring)

625. 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.

628. Communication Research Methods: Quantitative. (3)

Advanced study of methods, techniques, and instruments useful in investigations that employ quantitative analysis of human communication processes. (Fall)

638. Communication Research Methods: Qualitative. (3)

Advanced study of methods, techniques, and procedures useful in investigations that employ qualitative analysis of human communication process. (Spring)

699. Dissertation. (3-12 hrs. per semester)

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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Professors

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Associate Professors

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Laura J. Crossey, Ph.D., University of Wyoming
Maya Elrick, Ph.D., Virginia Polytechnic Institute & State University
David Gutzler, Ph.D., Massachusetts Institute of Technology

Stephen P. Huestis, Ph.D., University of California (San Diego)
Jane Selverstone, Ph.D., Massachusetts Institute of Technology
Gary A. Smith, Ph.D., Oregon State University

Assistant Professors

Yemane Asmerom, Ph.D., University of Arizona
Peter Fawcett, Ph.D., Pennsylvania State University
Frank Pazzaglia, Ph.D., Pennsylvania State University

Senior Research Professors

Roger Y. Anderson, Ph.D., Stanford University
Wolfgang E. Elston, Ph.D., Columbia University

Research Professors

Adrian J. Brearley, Ph.D., University of Manchester (England)
Frans Rietmeijer, Ph.D., Rijksuniversiteit-Utrecht (Netherlands)
Charles K. Shearer, Jr., Ph.D., University of Massachusetts

Senior Research Associates

Stephen Getty, Ph.D., Brown University
Rhian H. Jones, Ph.D., University of Manchester (England)
Mark Miller, Ph.D., University of New Mexico
Roberto Molina-Garza, Ph.D., University of Michigan (Ann Arbor)
Horton Newsom, Ph.D., University of Arizona
Michael Wiedenbeck, Ph.D., The Australian National University

Adjunct Faculty

Gary Acton, Ph.D., Northwestern University
George W. Arnold, Ph.D., University of Maryland
W. Scott Baldrige, Ph.D., California Institute of Technology
M. Susan Barger, Ph.D., Pennsylvania State University
William F. Chambers, Ph.D., Duke University
Alan H. Cheetham, Ph.D., Columbia University
Michael Fehler, Ph.D., Massachusetts Institute of Technology
Raymond Fletcher, Ph.D., Massachusetts Institute of Technology
Ernest S. Gladney, Ph.D., University of Maryland
Robert J. Glass, Ph.D., Cornell University
Fraser E. Goff, Ph.D., University of California (Santa Cruz)
Stephen Harlan, Ph.D., University of New Mexico
Charles D. Harrington, Ph.D., Indiana University
Grant H. Heiken, Ph.D., University of California (Santa Barbara)
A. William Laughlin, Ph.D., University of Arizona
Spencer G. Lucas, Ph.D., Yale University
Sean McKenna, Ph.D., Colorado School of Mines
Matthew Nyman, Ph.D., Virginia Polytechnic Institute
Aurora Pun, Ph.D., University of New Mexico
John W. Shomaker, M.S., University of New Mexico
Daniel B. Stephens, Ph.D., University of Arizona
Gregory Valentine, Ph.D., University of California (Santa Barbara)
Erik K. Webb, Ph.D., University of Wisconsin (Madison)
Thomas Williamson, Ph.D., University of New Mexico
Kenneth H. Wohletz, Ph.D., Arizona State University
Crayton J. Yapp, Ph.D., California Institute of Technology

Professor Emeritus

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, 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. route 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, 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.

Major Study Requirements

For the degree of Bachelor of Science: E&PS required courses: 301, 302L, 303L, 304L, 307L, 319L, 490, and 14 additional hours in Earth and Planetary Sciences above 299 (excluding 401, 491-92, 493, and 495); E&PS 102L may account for 4 of these elective credits. Total credits for this Earth and Planetary Sciences sequence=36.

Non-Earth and Planetary Sciences Required Courses: Chem 121L, and 122L; Math 162L and 163L, and either Math 345 or E&PS 418; Physcs 160 and 161; and 7 additional hours from Chemistry, Math, or Physics above the required levels, or Biology 121L or above, or (with permission from the E&PS Undergraduate Committee) from selected Anthropology, Engineering, or Geography courses. Total Credits of Supporting Science =32.

English 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, 102L, 105L, 255L, (or 319L), 301, 302L, 303L, 304L, 307L, 490, and 6 additional hours in Earth and Planetary Sciences above 299 (excluding 401), with at least 3 hours at the 400 level. Total credits for this Earth and Planetary Sciences =36.

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 162L or above, Biology 121L or above, or (with permission from the E&PS Undergraduate Committee) from selected Anthropology, Engineering, or Geography courses. Total Credits of Supporting Science = 16.

Note that E&PS 255L (*New Mexico Field Geology*) is taught as a Saturday course in the Fall semester only. 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. No

more than 3 credit-hours of problems may be applied to the Earth and Planetary Sciences minor.

Undergraduates with the proper prerequisites may take E&PS 401 for as many as 4 credits, but no more than 2 credits may be applied to the undergraduate requirements for a minor or major in E&PS.

Minor Study in Quaternary Studies

See page 224 for requirements

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 which will be orally defended. Eligibility is not limited to students in the College of Arts and Sciences.

Graduate Program

Graduate Advisor

Karl E. Karlstrom.

Application Deadlines

Fall semester: January 31 (financial aid)
May 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 and 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 and advanced GRE scores for admission consideration.

Qualified students must have a background equivalent to the requirements for the B.S. degree in Earth and Planetary Sciences at the University of New Mexico. Students holding degrees in other science areas may also be admitted with the understanding that they may be required to remove deficiencies in basic Earth and Planetary Sciences courses and the supporting sciences. Earth and 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 (Mathematics 264L or equivalent), 1 semester of statistics and computer science, 1 year of general chemistry, and 1 year of calculus based physics (physics:161 or 262 or equivalent).

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 registration week 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, ordinarily 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. Physical Geology. (3)

Materials composing the earth, work of agencies, both external and internal, modifying its surface, and rock-forming processes. Students are encouraged but not required to enroll concurrently in 105L. (Fall, Spring)

102L. Historical Geology. (4) Erick, Smith

History of the earth and the evolution of continents and ocean basins; evolution of life. Required field trip. Prerequisite: 101; pre- or corequisite: 105L. (Fall, Spring)

103. Earth's Environment and Global Change. (3) Fawcett, Pazzaglia

Critical analysis of the earth's changing global environment and its dynamic interaction with humans. A process-oriented approach to understanding global systems and their dependence of fundamental geologic principles. Students are encouraged, but not required to enroll in 105L.

104. Life on Earth. (3) Kues

Origin and evolution of life and some aspects of paleoecology. Prerequisite: 101.

105L. Physical Geology Laboratory. (1)

Minerals, rocks, and topographic and geologic maps; field trips.

Pre- or corequisites: 101, or 103. (Fall, Spring)

115. Geological Disasters. (3) Huestis

Causes and effects of disastrous geological events, including earthquakes, volcanic eruptions, tsunamis, landslides, and floods.

203. Earth Resources and Man. (3)

Geologic occurrences of fuels and minerals and their influence on domestic and world affairs. Prerequisite: 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.

209. The Earth Environment. (3)

Studies of the atmosphere, the ocean, and the terrestrial environment as a total system, including environments of the past. Interrelationships of physical, biological, and human processes and resources. (Offered upon Demand)

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) Huestis, Kudo

The ocean as a physical and chemical feature and a dynamic process. (Fall, Spring)

250. Geology of New Mexico. (3)

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.

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, Benign and Malign. (3) Elston, Kudo

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 permission of the instructor.

255L. New Mexico Field Geology. (4) Woodward

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, 105L.

263. Geology of National Parks. (3) Kudo

Study of the geologic features and history of our national parks as an introduction to basic geologic principles.

**300. Topics in Geology. (3)

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) Klein

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.

Pre- or corequisite: Chem 121L or permission of instructor. (Fall)

*302L. Mineralogy Laboratory. (2) Klein

Laboratory exercises in crystallography and crystal chemistry. Hand specimen identification of the common rock-forming minerals. E&PS majors and minors are required to enroll concurrently in 301 and 302L. (Fall)

**303L. Igneous and Metamorphic Petrology. (4) Kudo

Silverstone
Introduction to classification, identification, occurrence and origin of igneous and metamorphic rocks.

Prerequisites: 302L, Physcs 151 or 160, or permission of instructor. (Spring)

**304L. [304.] Sedimentology and Stratigraphy. (4) Erick

Introduction to origin, petrology and stratigraphic occurrence of sedimentary rocks.

Prerequisites: 303L, or permission of instructor. (Fall)

**307L. Structural Geology. (4) Geissman, Karlstrom, Woodward

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)

319L. [319.] 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) Asmerom

Earth processes and anthropogenic environmental factors and their cycles. Physical and chemical aspects of environmental change will be considered.

Prerequisite: Introductory Geology and Chemistry.

*351. Climatology. [Systematic Climatology.] (3) Gutzler

(Also offered as Geog 351.) 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.

Pre- or corequisite: Math 162L.

- 365.** [265.] **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.
Prerequisite: 101 or 102L.
- *400. Topics in Earth & Planetary Sciences.** (3 to a maximum of 6)
- *401. Seminar.** (1) †Δ
Current topics in geology.
Prerequisite: junior standing.
- *402.** [402] **Environmental Mineralogy.** (2) Klein
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 and 302L.
- *405L. Thermodynamics and Physical Foundations of Geochemistry.** (4)
Thermodynamics and application to geologic systems, phase equilibria, phase rule, ideal and nonideal solutions.
Prerequisites: 303L, Math 264L..
- *410. Fundamentals of Geochemistry.** (3)
Geochemistry of igneous, metamorphic, and sedimentary rocks. Geochemical methodology.
Prerequisites: 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.
- *412L. Index Fossils.** (3) Kues
Principles of biostratigraphy; characteristics of fossils and assemblages diagnostic of each geologic period; evolution of paleocommunities through time.
Prerequisite: 411L or permission of instructor.
- *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.
Prerequisites: 304L. Non-E&PS Majors: 101, Chem 121L and permission of instructor.
- *417L. Advanced Structural Geology.** (3) Karlstrom
Principles of small-scale deformation, mountain building and structural evolution of the lithosphere.
Prerequisites: 307L, and 427, or permission of instructor. (Spring)
- *418. Statistics and Data Analysis in Earth Science.** (3) Huestis
Selected mathematical methods of geological data analysis, including elementary statistics, matrix algebra, multivariate data analysis, and Fourier analysis.
Prerequisites: Math 163L, knowledge of a computing language.
- *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 3-week course (20 consecutive days). (Summer)
- *427. Geophysics.** [Solid Earth Geophysics.] (3) Geissman, Huestis
(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, Math 264L, Physcs 262.
- *428.** [528.] **Regional Tectonics.** (3)
Principles of regional tectonic synthesis and analysis.
- *431L. Palynology Micropaleontology.** (4)
Studies of the morphology, methods of identification, ecology and applications of pollen, spores, nanofossils, foraminiferal and other microfossils.
Prerequisite: 105L, some biology strongly recommended.
- *439. Paleoclimatology.** (3) Fawcett
History of the Earth's climate. Examination of methods in climatic reconstruction and mechanisms of climactic change. Emphasis on Pleistocene and Holocene climactic records.
Prerequisite: 105L.
- *441L. Advanced Sedimentology.** (4) Smith
Provenance, dispersal, deposition, diagenesis, and classification of sediments; depositional systems and basin analysis.
Prerequisites: 304L.
- *442. Petroleum Geology.** (3)
Inductive approach to the principles of oil origin, migration, and accumulation. Characteristics of oil and gas reservoirs; techniques of petroleum exploration.
Prerequisite: 441L or permission of instructor.
- *443L. Subsurface Geology.** (3) Woodward
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.
- *450L.** [450L.] **Volcanology.** (4) Smith
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.
Prerequisites: 303L.
- *451L. Field Studies in Volcanology.** (4) 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. (3 summer weeks)
- *452. Global Climate Change.** (3) Gutzler
(Also offered as Geog *452.) Comparison of natural and anthropogenic causes of large-scale climate change. Factors influencing development of mitigation of adaptation policies.
Prerequisite: Geog 351 or permission of instructor.
- *455L. Computational and GIS Applications in Geomorphology.** (3) Pazzaglia
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, 418, 481, or permission of instructor.
- *462. Hydrogeology.** (3) Campana
Hydrologic and geologic factors controlling groundwater flow; well hydraulics. Interactions between surface and subsurface hydrologic systems. Regional flow systems; groundwater geochemistry and contamination.
Prerequisites: 105L, Chem 122L, Math 163L, Physcs 160 or permission of instructor.
- *464. 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 163L, Physcs 160; or permission of instructor.

***471L. Mineral Deposits. (4)** Woodward
Origin, classification, occurrence, and exploration of mineral deposits.
Prerequisites: 304L, 307L.

***472. Subsurface Fate and Transport Process.** [Groundwater Analysis.] (3) Campana, Crossey
Physicochemical, hydrogeological, biological, and mathematical aspects of chemical fate/transport in subsurface porous/fractured media. Application of geochemical models to subsurface flow systems; mass transport/geochemical coupling. Introduction to multiphase/nonaqueous phase liquid flow.
Prerequisites: 462 or C E 433 and E&PS 415, or C E 437L, or permission of instructor.

***474L. Hydrogeology Laboratory. (1)** Campana
Laboratory and field exercises in subsurface hydrology: physical properties of porous media, pumping/piezometer tests, flow net analysis, vadose zone properties, groundwater basin storage and recharge, chemical sampling and well design.
Prerequisite: 105L; Pre- or corequisite: 462 or 472 or C E 433 or permission of instructor.

***481L. Geomorphology and Surficial Geology. (4)** Pazzaglia
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 permission of instructor.

***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.
Prerequisites: 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)** Staff
Student review of geologic literature and critique.
Pre- or corequisite: 304L

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. Sedimentary Geochemistry. (3) Crossey
The application of geochemical principles to surface and subsurface processes in sedimentary systems.
Prerequisites: 304L, or permission of instructor.

502L. High-temperature Geochemistry. (3) Kudo
Applications of thermodynamics to the study of metamorphic and igneous processes and of high-temperature gases.
Pre- or corequisites: 304L, 405L.

503. Organic Geochemistry. [Petroleum 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.

504. Geochronology I. (3) Asmerom
Theory and application of the use of long and short-lived isotopic systems for the determination of precise timing of events in the earth and the solar system.
Prerequisites: 303L, 410 recommended.

505L. Stable Isotope Geochemistry. (3)
Examinations of principles governing the distribution of stable isotopes in geological materials and their applications in understanding geochemical processes.
Prerequisite: permission of instructor.

506L. Mathematical Crystallography. (4)
Basic principles of crystallographic calculations including the derivation of point groups and space groups.
Prerequisite: Math 314.

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, 417L, Phys 152.

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.

513. Planetary Materials and the Evolution of the Solar System. (3) Papike
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 3500 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.

516. Selected Topics in Geomorphology. (3) McFadden, Pazzaglia

517L. Instrumental Methods in Geochemistry. (2-4) † Δ Papike
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
Prerequisite: permission of instructor. {Offered upon demand}

520. Selected Topics in Geobiology. (3) † Δ Kues, Lucas
Prerequisite: permission of instructor. {Offered upon demand}

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, 405L, or permission of instructor.

522. Selected Topics in Geophysics. (3) Geissman, Huestis
Prerequisite: permission of instructor.

523. Topics in Tectonics. (3)

Prerequisite: permission of instructor.

525L. Comparative Tectonics. (4)

The tectonic evolution of the western U.S. and principles involved.

Prerequisites: 307L. (Offered upon demand)

529L. X-Ray Diffraction Analysis. (3)

The theory and practice of solid phase characterization and structure determination.

Prerequisites: 506L or permission of instructor.

531L. Igneous Petrology. (4) Kudo

Discussion of the properties, generation, emplacement, and differentiation of magma; applications of physical/chemical principles to the study of igneous rocks.

Prerequisites: 303L.

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.

537L. Basin Analysis. (3) Elrick

Tectonic development of sedimentary basins, controls on basin infilling, and recognition of basin types in the geologic record.

Prerequisites: 307L, 441L.

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: 486, 487 and 518L, or permission of instructor.

539. Advanced Quaternary Geology and Geomorphology. (4) Pazzaglia

(Also offered as Quat 539.) Quantitative analysis of land forms and the processes that shape them. Integration of detailed field studies with the theoretical basis for the relative rates of geology, climate, tectonics, and time on long-term landscape evolution. Prerequisites: 101, 481L or permission of instructor.

540. Carbonate Sedimentology and Stratigraphy. (4) Elrick

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.

Prerequisites: 304L and 441L.

545. Hazardous Waste Disposal. (3)

Prerequisite: permission of instructor.

547-548. Seminar. (2-3, 2-3)

550. 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.

551-552. Problems. (1-3, 1-3 hrs. each semester)

560. Vadose Zone Hydrology. (3) Campana

Physicochemical properties and processes of the region

between the land surface and the water table. Discussion of infiltration, evapotranspiration, moisture redistribution, heat transfer, and contaminant migration. Analytical/numerical solutions to selected flow/mass transport problems. Prerequisites: 462 or 472 or C E 433, Math 264L, 316 or permission of instructor.

562. Groundwater Mechanics. (3) Campana

Advanced treatment of groundwater flow and other transport phenomena through granular and fractured media. Discussion of motion and conservation equations, mass and heat transfer, dispersion, coupled phenomena, porous medium models, and parameter estimation.

Prerequisites: 462 or 472 or C E 433, Math 264L, 316 or permission of instructor.

564. Geological Fluid Mechanics. [Subsurface Fluids in Geologic Processes.] (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 264L and Physcs 161; or permission of instructor. (Spring 1998 and alternate years)

566. Selected Topics in Hydrogeology. (1-3) Δ

Variable course content depending upon student demand and instructor availability.

Prerequisite: 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 264L.

584. [*484.] 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, 481L.

587. [*487.] Advanced Mineralogy. (3) Klein, Papike

Crystallographic principles; structure, chemistry, physical properties of rock forming minerals.

Prerequisites: 301, 302L, 311L, Chem 122L.

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only.

699. Dissertation. (3-12 hrs. per semester)

Offered on a CR/NC basis only.

ECONOMICS

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Professors

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H. Stuart Burness, Ph.D., University of Kansas
Micha Gisser, Ph.D., University of Chicago
Chung Pham, Ph.D., University of Pennsylvania

Associate Professors

Alok Bohara, Ph.D., University of Colorado

Philip Ganderton, Ph.D., University of California (Santa Barbara)

Michael McKee, Ph.D., Carleton University
Richard Santos, Ph.D., Michigan State University
Christine Sauer, Ph.D., Brown University
Lee Zink, Ph.D., Oklahoma State University

Assistant Professors

Robert Berrens, Ph.D., Oregon State University
Melissa Binder, Ph.D., Columbia University
Janie Chermak, Ph.D., Colorado School of Mines
Kishore Gawande, University of California (Los Angeles)
Kate Krause, Ph.D., University of Wisconsin

Affiliated Faculty

Max Bennett, Ph.D., Johns Hopkins University (Professor of Family and Community Medicine, UNM)
Allen V. Kneese, Ph.D., University of Indiana (Senior Fellow, Resources For The Future)
Brian McDonald, Ph.D., University of Pennsylvania (Director, BBER, UNM)
Lawrence Waldman, Ph.D., University of New Mexico (Economist III, BBER, UNM)

Professors Emeriti

Shaul Ben-David, Ph.D., Cornell University
Albert Church, Ph.D., Claremont Graduate School
Sanford Cohen, Ph.D., Ohio State University
Ronald Cummings, Ph.D., University of Kansas
Peter Gregory, Ph.D., Harvard University
David Hamilton, Ph.D., University of Texas
Paul Jonas, Ph.D., Columbia University
Alfred L. Parker, Ph.D., Ohio State University
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 162L 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 upon 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; suggested electives include Econ 315, 320, 332, 333, 335, 341, 342, 350, 408, 409, 415, 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, 415, 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.

Concentrations 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 (Econ 340 and 442), labor and human resources (Econ 320, 335, 410, 427, and 428), 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 Chair 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-MBA or pre-MPA. 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 GPA of 3.20 and at least seven credit-hours in departmental honors courses. Interested students should contact the economics undergraduate advisor for further information.

Graduate Program

Application Deadlines for Admission

Fall Semester 1997: July 18, 1997
 Spring Semester 1998: November 14, 1997
 Summer Semester 1998: May 1, 1998
 Fall Semester 1998: July 17, 1998
 Spring Semester 1999: November 13, 1998
 Summer Semester 1999: April 30, 1999
 Fall Semester 1999: July 16, 1999

Application Deadlines for Financial Aid

Financial aid decisions are made early, 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 and human resources 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, or labor and human resources 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 choice of applied area (environmental/natural resource economics, public finance, or labor and human resources economics).

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 (verbal, quantitative, and analytical) scores; in addition, all foreign students are required to take the Test of English as a Foreign Language (TOEFL).

Economics (Econ)

105. [200.] Introductory Macroeconomics. [Principles of 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. [201.] Introductory Microeconomics. [Principles of 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. [Natural Resources 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.

204. [101.] Origins and Development of Economic Ideas. [Introduction to Economics.] (3)

Introduction to economic ideas, theories and models. Emphasis is on foundations of economic analysis, history of economic ideas, development of economic models and economic behavior of individuals, groups, businesses and organizations.

212. Personal Investing. [Capital Markets and Personal Investment.] (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. [Economic Status of Women and Minorities.] (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.

289. An Introduction to Probability and Statistics. (3)

(See *Math 145.*)

****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 and 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.

Prerequisite: 105 and 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 and Math 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 and 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 and 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 and 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 and 106 or permission of instructor.

***331. Economics of Poverty and Discrimination.** [Economics of Poverty.] (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 and 106 or permission of instructor.

***332. Economics of Regulation.** [Government Regulation of Business.] (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 and 106 or permission of instructor.

***333. Industrial Organization.** [Industrial Organization and Antitrust Regulation.] (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 and 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 and 106 or permission of instructor.

***341. Urban and Regional Economics.** [Urban Economics.] (3)

Spatial nature of economics: housing markets, natural hazard and technological risks, local and regional public finances, transportation issues, environmental problems, and the relationship of regional and urban economies to national and international economies.

Prerequisites: 105 and 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 and 106 or permission of instructor.

***343. Natural Resource Economics.** [Seminar: Energy Policy and Administration.] (3)

(Also offered as Pub Ad, 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: 105 and 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 and 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 and 106, or permission of instructor.

395. [*495-496.] Seminar in Current Economic Issues. [Senior Seminar on Current Economic Issues.] (1-3)

Topics will vary. Offered on an occasional basis.

Prerequisites: 300 and 303, permission of instructor.

****400. Intermediate Microeconomics II** (3)

Continues intermediate microeconomic theory and concepts: imperfectly competitive markets, monopolistic and oligopolistic behavior, and game theory. Additional topics include pricing, employment of inputs, general equilibrium, welfare, public goods, externalities, and financial microeconomics.

Prerequisite: 300.

***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 and 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)

Specialized topics in health 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.

Prerequisites: 300 and 335.

***415. Central Banking.** (3)

Major developments in central banking theory and practice and comparative analysis of central banking in developed and underdeveloped money markets.

Prerequisites: 300, 303 and 315.

***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 and 303 or permission of instructor.

***423. Topics in Latin American Development.** [Topics in Latin American Economics.] (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 and 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. [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 and 350.

***450. Emerging Economies. (3)**

Economics of reforming socialist countries in their transition to capitalism. Economics of rapidly developing countries in their transition to developed countries.
Prerequisites: 300 and 303 or permission of instructor.

451-452. 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 and 350.

***478. Seminar in International Studies. (3)**

(Also offered as M Lang, Pol Sc, Soc 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.

***485. Philosophical Foundations of Economic Theory. (3)**

(See *Ec-Ph 485*.)

***496. [*495-496.] Senior Seminar on Current Economic Issues. (1-3)**

Seminars centered around various current economic topics from any field in economics. Students write term papers and present their findings.
Prerequisites: 300 and 303 or permission of instructor.

497-498. Reading for Honors. (3, 3)

Open to juniors or seniors with an overall GPA 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.
Prerequisite: 503 and 504 or permission of instructor.

502. Analytical Methods for Planning. (3)

(Also offered as Pol Sc 502.) Student should have taken a basic statistics course prior to enrollment. (Fall)

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 and 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 and 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.

511. History of Economic Thought. (3)

Economic doctrines of major individuals and schools from the ancient Greeks to recent times with emphasis on classical and neoclassical writers.
Prerequisite: graduate status in economics or permission of instructor.

512. Economic History. (3)

Evolution of European and U.S. economies from circa 1000 AD to the present with some attention to methodology in economic history.
Prerequisite: graduate status in economics or permission of instructor.

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 and 506 or permission of instructor.

515. Monetary Theory and Policy. (3)

Money, monetary institutions, policy actions; effects on economic activity. Inflationary dynamics, steady state inflation and welfare cost of inflation. Unsettled issues in monetary policy; analysis of alternative monetary regimes.
Prerequisites: 503 and 504.

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.

519. Seminar in Applied Econometrics. (3)

Advanced econometric methods applied to economic fields. Focus on research projects and journal articles.

Prerequisite: 510.

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.

Prerequisites: 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 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 proper-

ty, 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 and 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 and 542 or permission of instructor.

545. Interdisciplinary Water Resources II. Modeling and Communications Lab. (4)

(Also offered as Pub Ad 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)

551-552. 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)

Examines the American contribution to economic thought deriving from work of John R. Commons, Thorstein Veblen, Walton Hamilton and other institutional economists in the first half of the twentieth century.

Prerequisite: permission of instructor.

580. International Trade/Finance. (3)

International trade, trade policy, and new trade theory; empirical applications. Exchange rate determination, balance of payments, international monetary system; real world applications.

Prerequisites: 503, 504, and some econometrics or permission of instructor.

582. Economic Development: Theory. (3)

Examines theories of development in less developed countries and other regions. Explore growth, trade policies, price stability, technology transfer, income distribution and other issues related to development.

Prerequisite: 503 or permission of instructor.

583. Economic Development: Applications. (3)

Applies economic development theories to country-wide studies including Latin America and other developing countries.

Prerequisite: 582 or permission of instructor.

584. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3)
(Also offered as Hist, Pol Sc, Soc 584.) {Spring}

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.

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

ECONOMICS-PHILOSOPHY

Introduction

The combined major in economics and philosophy is an inter-departmental major administered jointly by the two departments. Students interested in this program should consult the Department of Economics or the Department of Philosophy.

This major is directed toward a deeper and fuller understanding of the theoretical phases of economics and toward the extension of philosophy into one of its traditional areas of interest, namely that of value theory and its application.

Major Study Requirements

Students completing an economics-philosophy major are not required to have a minor. The minimum requirement is 45 hours, including Econ 105, 106, 300, 303, 315, and 360 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. {Spring 1999 and alternate years. }

ENGLISH

Robert E. Fleming, Chairperson
The University of New Mexico
Department of English, Humanities Bldg 217
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Professors

Lee A. Bartlett, Ph.D., University of California (Davis)
LynnDianne Beene, Ph.D., University of Kansas
Helen Damico, Ph.D., New York University

Michael R. Fischer, Ph.D., Northwestern University
Robert E. Fleming, Ph.D., University of Illinois
Barry J. Gaines, Ph.D., University of Wisconsin
Patrick J. Gallacher, Ph.D., University of Illinois
Minrose C. Gwin, Ph.D., University of Tennessee
David M. Johnson, Ph.D., University of Connecticut
David R. Jones, Ph.D., Princeton University
David C. McPherson, Ph.D., University of Texas
Ivan Melada, Ph.D., University of California (Berkeley)
Louis D. Owens, Ph.D., University of California (Davis)
Richard E. Peck, Ph.D., University of Wisconsin
Gary Scharnhorst, Ph.D., Purdue University
Patricia C. Smith, Ph.D., Yale University
James Thorson, Ph.D., Cornell University
Mary Bess Whidden, Ph.D., University of Texas
Peter L. White, Ph.D., Pennsylvania State University
Hugh Witemeyer, Ph.D., Princeton University

Associate Professors

David K. Dunaway, Ph.D., University of California (Berkeley)
Cheryl Fresch, Ph.D., Cornell University
Gary Harrison, Ph.D., Stanford University
Michael J. Hogan, Ph.D., University of Kansas
Antonio Marquez, Ph.D., University of New Mexico
Wanda Martin, Ph.D., University of Louisville
Mary J. Power, Ph.D., University of Wisconsin
Scott P. Sanders, Ph.D., University of Colorado
Jerome P. Shea, Ph.D., University of New Mexico
Hector A. Torres, Ph.D., University of Texas
Carolyn Woodward, Ph.D., University of Washington

Assistant Professors

Monica Espinosa, Ph.D., University of California (San Diego)
Gail T. Houston, Ph.D., University of California, (Los Angeles)
Richard D. Johnson-Sheehan, Ph.D., Iowa State University
E. A. Mares, Ph.D., University of New Mexico
Charles Paine, Ph.D., Duke University
Sharon O. Warner, M.A., University of Kansas

Professors Emeriti

Rudolfo A. Anaya, M.A., University of New Mexico
James F. Barbour, Ph.D., University of California (Los Angeles)
Edith Buchanan, Ph.D., Duke University
Paul B. Davis, Ph.D., University of Wisconsin
Gene Frumkin, B.A., University of California (Los Angeles)
Dorothy M. Logan, M.A., University of New Mexico
Thomas W. Mayer, Professional Writer
Katherine G. Simons, M.A., Columbia University
Frederick B. Warner, Ph.D., University of Illinois

Introduction

Besides teaching and literary research, a major in English can lead to professional careers in publishing, journalism, advertising, and the arts; as well as personnel, 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.

Prerequisites

A student must have credit for Engl 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. There are no prerequisites for Engl 150, 292, 293, or for literature courses numbered under 250. 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 preprofessional preparation.

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 292, 293, 294, 295, 296; 352 or 353; 351 or 354; nine hours at the 400 level and nine 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 292, 293, 296; 351; 352 or 353; 354; one of the following: 460, 461, 462, 463; two of the following: 410, 445, 449, 450, 451, 453, 454, 455, 456, 457, 458, 459, 485, 486; six additional hours at the 300 or 400 level; recommended electives: 304, 305, 306, 470.

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 senior project; and complementary course work in scientific, technical, or professional disciplines.

Professional Writing Sequence. 219, 220 ✓ 290; 240; thirteen hours from Engl 320, 420, 498; 499 (*Internship*, one hour).

Language, Rhetoric, and Literature Sequence. Engl 250; one survey from 292, 293, 294, 295, 296, nine hours of upper-division course work in language, rhetoric, or literature.

Pre-Law Concentration (33 hours)

A program for students planning to go on to law school. Engl 250; 220 or 240; nine hours from the following: 292, 293, 294, 295, 296; 352 or 353; three hours from 460, 461, 462, 463; 410 or 442 or 443; 320 or 420 or 441; six 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 232, Phil 156 (*Logic and Critical Thinking*) and Pol Sc 315 or 316 (*Constitutional Law-Powers/Rights*).

Creative Writing Concentration (33 hours)

27 hours in English and six hours in other creative areas such as film, music, painting, dance, or journalism. Engl 250; three hours from 294, 295, or 296; twelve hours from 221, 222, 321, 322, 421, 422 (students must take one course at each level); six hours in literature courses numbered 300 or above; Engl 423 (*Creative Writing Thesis*).

English-Philosophy Major

(See page 162 in this catalog.)

Minor Study Requirements

The English minor requires 18 hours of English courses numbered above 102. The minor program includes one survey course (294, 295, 296), one course in Shakespeare (352, 353), and at least one 400-level course from the following list: 449, 450, 451, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 470, 485, 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 or 420; Elective courses: 9 hours chosen from Engl 219, 220, 240, 320, 420, 441, 442, 443, or approved courses offered in other departments. Engl 499 (*Internship*, one 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 at the Department of English.

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, 387, 411, 449, 450, 451); 9 hours from courses in Medieval Art (Art Hi 262, 320, 331, 404), Medieval History (History 305, 315, 317, 321, 322, 323, 341, 343, 347, 356), Latin (101, 102, 201, 202, 351, 352), Greek (101, 102, 301, 302), Italian (475), Music (281), Philosophy (304), Religious Studies (360). Interested students should contact the Director of Undergraduate Studies of the Department of English.

English as a Second Language

Sections of English 100, 101, and 102 for English as a Second Language students are offered in the ESL Writing Program, Mesa Vista 2043; 277-5426. To clarify class level placement and time scheduling, students should apply in person. Classes serve international students, recent immigrants who have attended American high schools, Native American students, Hispanic students, African American students, and any others whose spoken and written English differs substantially from standard college English. These English classes are offered for college credit as noted below. Non-credit, full-time English classes are offered in the Center for English Language and Culture (Mesa Vista Hall).

Departmental Honors

Students who seek honors in English should apply to the Director of Undergraduate Studies. Admission to honors requires a minimum grade-point average of 3.50 in English courses and an overall 3.20. Honors candidates must enroll in at least one honors seminar (Engl 411) and in their senior year must register for 490 and complete an Honors Thesis.

Graduate Degrees

Graduate Director
Gary Harrison

Application Deadlines

Fall semester: February 1
Spring semester: November 10

NOTE: Early application is recommended (all paperwork must be received on or before the listed deadline). Decisions on graduate applications and financial aid are made about April 15.

All applicants must provide full transcripts, statement of intent, sample of expository writing, Graduate Record Examination scores for both the Aptitude Test and the Advanced Test in English Literature, and three letters of recommendation. M.A. applicants in Writing need not submit scores for the Advanced Test in English Literature, but must submit a writing sample for evaluation by the Writing Program faculty. Decisions on applications received by February 1 are announced about April 15. No teaching assistantships are awarded at mid-year.

Degrees Offered**M.A., Ph.D. in English**

The department offers the master's degree under Plan I or Plan II according to the regulations set forth in earlier pages of this Catalog, with the following stipulations:

1. Students under both plans must demonstrate reading knowledge of one of the following languages other than English: Greek, Latin, Italian, Spanish, French, German, or Russian. Other languages may be approved in certain cases.
2. All candidates must take most of their work in courses numbered 500 or above. Engl 500 is required. One 600-level seminar (4 credit hours) is required of all masters students.
3. First year Teaching Assistants are required to enroll in English 537 (Teaching Composition). English 537, a workshop on teaching in UNM's writing program, is required for all new teaching assistants as a part of the employment contract.

Contact the Departmental Graduate Director for specific descriptions and requirements for the concentration(s) in which you are interested. Candidates for a graduate minor in English should satisfy the requirements for an undergraduate minor in the department.

General requirements for the Ph.D. are set forth in earlier pages of this Catalog. In addition, the department specifies the following requirements:

1. Each student must complete a minimum total of 54 semester hours of course work for the Ph.D., including transfer credit. Normally 30 hours of this total will be taken after the M.A. is finished.
2. Each student must demonstrate a reading knowledge of two of the following languages other than English: Greek, Latin, Italian, Spanish, French, German, or Russian. In place of two languages other than English, a student may present two semesters of course work at the 300-level or above in one language other than English. Other languages may be approved in certain cases.
3. Each student must assemble a committee on studies composed of three faculty before the end of the second semester in the Ph.D. program. This committee will meet regularly with the student to develop a program suited to his or her own needs and interests. Each student's total program should show a reasonable distribution of work in the formal study of literature as a discipline and over the broad range of English and American literature, and each program must include at least 12 hours beyond the M.A. in 600-level seminars. The committee on studies will have final authority over each student's program.

4. All Ph.D. candidates in English are advised to gain some teaching experience before they complete the degree.
5. Students with an M.A. in writing admitted to the Ph.D. program must pass the M.A. comprehensive exam prior to enrolling in the Ph.D. program.

Contact the Departmental Graduate Director for specific descriptions and requirements of Ph.D. areas of concentration.

English (Engl)**I. Expository 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.
- 210. Introduction to Film. (3)**
(See MA 210.)
- ✓ **219. Technical Writing. (3)**
Practice in the writing and editing of technical, engineering, and scientific reports and articles.
Prerequisite: 102.
- ✓ **220. Expository Writing. (3) 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: English 102.
- 298. Workshop in Literature or Writing. (1-3) Δ**
Various topics in literature, language, and writing.
- ✓ **320. Advanced Expository Writing. (3) Δ**
Advanced study of specific academic, technical, and professional genres. Topic varies.
Prerequisite: 219, 220 or 290.
- ✓ **420. Topics in Professional Writing. (3) Δ**
Advanced study of professional writing theory and practice. Recent topics have included biography/autobiography, writing about place, language theory/editing practice, rhetoric of political texts, writing for visual presentation. Prerequisite: 219, 220 or 290.
- *498. Advanced Workshop in Literature or Writing. (1-3 hrs. per semester, to a maximum of 6) Δ**
Intensive study of various topics in literature, language, and writing.

II. Creative Writing

- 221. Creative Writing: Prose Fiction. (3)**
A \$20.00 workshop fee is required.
Prerequisite: 101 or its equivalent.
- 222. Creative Writing: Poetry. (3)**
A \$20.00 workshop fee is required.
Prerequisite: 101 or its equivalent.

321. Creative Writing: Short Fiction, Novel. (3) ¹
Intermediate course with generally equal emphasis on writing and reading. A \$20.00 workshop fee is required.
Prerequisite: 221 or permission of instructor.

322. Creative Writing: Reading and Writing of Poetry. (3) ¹
Intermediate course with generally equal emphasis on writing and reading. A \$20.00 workshop fee is required.
Prerequisite: 222 or permission of instructor.

421. Creative Writing: Workshop in Prose Fiction. (3) ¹
Advanced workshop devoted primarily to student writing. A \$20.00 workshop fee is required.
Prerequisites: 221, 321, or permission of instructor.

422. Creative Writing: Workshop in Poetry. (3) ¹
Advanced workshop devoted primarily to student writing. A \$20.00 workshop fee is required.
Prerequisites: 222, 322, or permission of instructor.

423. Creative Writing Thesis. (3)
Open only to senior majors in creative writing.

424. Creative Writing Workshop Script. (3) Δ
Advanced workshop devoted to student preparation of working scripts for film or television.
Prerequisite: permission of instructor.

¹ May be repeated once for credit.

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) 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) 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.

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.

252. Introduction to Shakespeare. (3)
An introduction to Shakespeare's works, in which one or two

plays of each sort—tragedies, histories, comedies—will be studied.
Prerequisite: 150.

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.

285. American Life and Thought. (3)
(See *Am St 285.*)

287. Introduction to the Short Story. (3)
The development of the modern short story from its beginnings in the nineteenth century to the present. Technique and theme will be studied in representative stories by American and European writers.

292. Western Literature/World Contexts. (3)
Western literature from classical Greece through the Renaissance complemented by texts from other traditions. Classical World, Middle Ages, Renaissance; Homer, Sophocles, Vergil, Dante, Chaucer, Shakespeare, the Bible.

293. Western Literature/World Contexts. (3)
Western literature from the Enlightenment to the present, complemented by texts from other traditions. Enlightenment, Romanticism, Modernism; Swift, Voltaire, Goethe, Thoreau, Freud, Eliot.

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. American Literature. (3)
A general survey to the present. Especially recommended for English majors.

***303. English Phonetics. (3)**
(See *C & J 303.*)

✓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. Oral and Folk Literature. (3)
Historical and comparative study of tales, legends, songs, proverbs, riddles, humor, and popular beliefs in American culture and in other cultures such as those of the North American Indian, the African, and the European peasant.

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) 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.

*334. **Spanish American Literature in Translation.** (3)
(See *Span 334.*)

*335. **French Literature in Translation.** (3 to a maximum of 6) Δ
(Also offered as Comp L, French 335.)

*336. **Special Topics in German Literature in Translation.** (3)
(See *German 336.*)

*337. **Spanish Literature in Translation.** (3)
(See *Span 324.*)

*338. **Great Russian Tales in Translation.** (3 to a maximum of 6) Δ
(Also offered as Comp L, Russ 338.) An introduction to Russian literature and its "accursed" questions in an historical context. Mainly short works with one or two novels from the masterworks of Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov.

339. **Japanese Literature in Translation.** (3)
(Also offered as Engl 339.) Classical and modern works of prose, poetry, and drama in translation. Topics, genres, and periods vary from semester to semester.

344. **Topics in Latin Literature in Translation. (3 to a maximum of 6) Δ
(Also offered as Clscs, Comp L 344.) Topic will deal with individual authors, genres, or periods.

*345. **Topics in Greek Literature in Translation.** (3 to a maximum of 6) Δ
(Also offered as Clscs, Comp L 345.)

351. **Chaucer.** (3)

✓ 352. **Shakespeare: Histories and Comedies.** (3)

✓ 353. **Shakespeare: Tragedies.** (3)

354. **Milton.** (3)

360. **Individual Authors.** (3) Δ
Study of one or more authors. Titles of individual sections vary as content varies.

387. **Studies in Genre: Comedy, Epic, Satire, Tragedy, Theory of Fiction, Poetics, Stylistic Analysis of Nonfiction.** (3) Δ
Study of examples of any one genre.

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. **Literary Criticism.** (3)
Study of the major critical attitudes toward literature or intensive study of selected individual critics or critical approaches. Prerequisite: 6 hours in literature.

✓ 411. **Special Topics.** (3) Δ
Advanced study of various topics in literature, language, and writing. Recent topics have included The Sixties, The Literature of War, Feminist Theory, Chicano Literature, African-American Literature, Vikings, and Viking Women.

441. **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. **Major Rhetorical Texts.** (3)
Survey of the western tradition of rhetoric and dialectic from its classical origins through the elocutionary movement. Prerequisite: 240 or 250 or permission of the instructor.

443. **Studies in 19th Century and Contemporary Rhetoric.** (3)
Survey of rhetorical and language theories from the mid-nineteenth century to contemporary discussions of discourse analysis. Prerequisite: 240 or 250 or permission of the instructor.

*445. **History of the English Language.** (3)
Etymology, morphology, phonetics, and semantics of English; relation between linguistics and cultural change.

*449. **Old English.** (3)
Elementary grammar, translations of prose and poetry.

*450. **Old English Literature: Beowulf and Other Topics.** (3)
Prerequisite: 449 or permission of instructor.

451. **The Middle Ages.** (3) 1
Titles of individual sections will vary as content varies.

453. **The English Renaissance.** (3) 1
Titles of individual sections will vary as content varies.

454. **Seventeenth-Century English Literature.** (3) 1
Titles of individual sections will vary as content varies.

455. **Restoration and Eighteenth-Century Literature.** (3) 1
Titles of individual sections will vary as content varies.

456. **English Romanticism.** (3)
Titles of individual sections will vary as content varies.

457. **Victorian Literature.** (3)
Titles of individual sections will vary as content varies.

458. **Modern British Literature.** (3)
Titles of individual sections will vary as content varies.

459. **Irish Literature.** (3)
Titles of individual sections will vary as content varies.

*460. **Colonial and Revolutionary American Literature.** (3)
Titles of individual sections will vary as content varies.

461. **American Romanticism.** (3)
Titles of individual sections will vary as content varies.

462. **American Realism.** (3)
Titles of individual sections will vary as content varies.

463. **Modern American Literature.** (3)
Titles of individual sections will vary as content varies.

464. **American Humor.** (3)
American humorists from 1830 to present.

470. **Contemporary Literature.** (3) 1
Contemporary literature not confined to any one country or language, the study to be organized by genre, theme, or idea, or any other principle that affords special insights. Titles of individual sections will vary as content varies.

*475. **Dante in Translation.** (3)
(See *Ital 475.*)

***480. Philosophy and Literature. (3)**
(See *Eng-Ph 480*.)

485. Fiction before 1800. (3)
Readings of major works of British fiction written before 1800. Investigation of ways in which the novel achieved generic form and the development of certain techniques.

486. Fiction of the Nineteenth Century. (3)
Reading of major works of British fiction written since 1800. Emphasis will be upon the emergence of the modern novel, refinement of techniques, central ideas.

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 hrs. per semester, to a maximum of 6)
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 Undergraduate Director is required before registering.
Offered on a CR/NC basis only.

¹ May be repeated once for credit.

500. Introduction to the Professional Study of English. (3)
Required in first year of all graduate students who do not offer an equivalent.

510. Criticism. (3)
An historical survey of literary criticism and theory; alternates between criticism from the classical period through the early nineteenth century and criticism and theory from the late nineteenth century through the present.

511. Special Topics: History of Ideas, Literary Movements, etc. (3) Δ

520. Topics in Professional Writing. (3)
Advanced study of professional writing theory and practice; offered at least once a year as Publishing, required of all graduate students in writing who have not taken an equivalent.

521. Creative Writing Workshop: Prose Fiction. (3) Δ
Prerequisite: 421 or permission of instructor.
May be repeated for credit as content varies.

522. Creative Writing Workshop: Poetry. (3) Δ
Prerequisite: 422 or permission of instructor.
May be repeated for credit as content varies.

528. Studies in Reading and Literature for Teachers. (3)
(Also offered as CIMTE 528.)

537. Teaching Composition I. (3)
Enrollment restricted to and required of all new teaching assistants in the English Department. Addresses issues related to teaching English 101. **Offered on a CR/NC basis only.**

538. Composition Theory for College Teaching. (3) Δ
Exploration of Composition Theory as it applies to teaching at the college level.

540. Language. (3) Δ
An overview of defined themes or issues in language. Recent topics have included Discourse Analysis/Text Linguistics, Survey of American English, Narrative Theory and Literature, and Chicano Literature and language studies, such as Old Norse.

541. English Grammars. (3)
(Also offered as Ling 541.) A survey of various grammar models and their applications to analysis of the English language.

542. Major Rhetorical Texts. (3)
Survey of the western tradition of rhetoric and dialectic from Plato and Aristotle through the 18th century. Prerequisite: graduate standing or permission of instructor.

543. Studies in 19th Century and Contemporary Rhetoric. (3)
Survey of rhetorical and language theories from the nineteenth and twentieth centuries that shape contemporary approaches to discourse, text, and persuasion.

551. The Middle Ages. (3) ¹
Survey of Middle English Language and Literature; alternates between Middle English Language, Middle English Literature, Chaucer, and special topics in Middle English.

553. The Renaissance. (3) ¹
Survey of the prose, poetry, and drama of sixteenth century Britain; alternates between Survey of Renaissance Literature, Shakespeare, Renaissance Drama, and topics in Renaissance literature.

554. The Seventeenth Century. (3) ¹
Survey of the prose, poetry and drama of the seventeenth century; alternates between Survey of the Seventeenth-Century Literature, Milton, and special topics in Seventeenth-century Literature.

555. The Eighteenth Century. (3) ¹
Survey of the prose, poetry, and drama of the Restoration and Eighteenth Century; alternates between Restoration and Early Eighteenth-century Literature and middle to Late Eighteenth Century Literature.

556. The Nineteenth Century. (3) ¹
Repeatable once but only if the content is Romantic for 3 hrs. of credit and Victorian for the other 3 hrs.

559. Irish Literature. (3)
Survey of the prose, poetry, and drama of Ireland. Alternates between Survey of Modern Irish Literature (Fall semester), and special topics or single author courses, such as Yeats and Joyce.

560. American Literature. (3) ¹
Survey of the prose, poetry, and drama of American from the period of European exploration to the present. Alternates among Early American Literature, Nineteenth Century American Literature, Nineteenth-Century Women Writers, Native American Literature, Chicana/o Literature, African American Literature, and special topics in American Literature.

570. The Twentieth Century. (3) ¹
Survey of the prose, poetry, and drama of modern Britain and America. Includes individual courses in Modern and/or Contemporary Fiction, Drama and Poetry; Postmodernism; and special topics courses.

587. Genre: Comedy, Epic, Satire, Tragedy, Theory of Fiction, Poetics, Stylistic Analysis of Nonfiction. (3) Δ

590. Problems and Methods of Literary Study. (3)

595. Colloquium. (4) Δ
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.

597. Problems for the Master's Degree. (1-3 hrs. per semester)
Permission of the Departmental Graduate Director required prior to registration.

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

610. Studies in Criticism. (4) Δ

640. Studies in Language. (4)

650. Studies in British Literature. (4) Δ

660. Studies in American Literature. (4) Δ

680. Special Studies: Types, Backgrounds, Forces. (4) Δ

697. Problems for the Doctor's Degree. (1-3 hrs. per semester)

698. Independent Study. (1-3 hrs. per semester, for maximum of two consecutive semesters)

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

¹ May be repeated once for credit.

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 preprofessional 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:

- 18 hours in English courses, 12 of which are to be numbered 300 or above. Recommended courses: 250 Analysis of Literature, 410 Literary Criticism.
- 18 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 or 354 or 358.
- 6 hours additional of English or Philosophy numbered 300 or above.
- Eng-Ph 480.

Minor Study Requirements

Not offered.

English-Philosophy (Eng-Ph)

***480. Philosophy and Literature.** (3) 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. May be repeated for credit as subject matter varies, with permission of the instructor.

EUROPEAN STUDIES

See *International Studies*

FOREIGN LANGUAGES AND LITERATURES

Walter Putnam, Chairperson
The University of New Mexico
Ortega Hall 229 B
Albuquerque, NM 87131-1146
(505) 277-4771

Programs: Chinese, Classics (Latin and Ancient Greek), French, German, Italian, Japanese, Russian; Comparative Literature, and Cultural Studies; Modern Languages.

Affiliated Programs: Arabic, Biblical Hebrew, Persian

Professors

Peter K. Pabisch, Ph.D., University of Illinois (Urbana-Champaign)—German
Walter Putnam, Ph.D., University of Paris—French
Diana Robin, Ph.D., University of Iowa—Classics
Warren S. Smith, Ph.D., Yale University—Classics

Associate Professors

Natasha Kolchevska, Ph.D., University of California (Berkeley)—Russian
Byron T. Lindsey, Ph.D., Cornell University—Russian

Assistant 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
Deborah Jensen, Ph.D., Harvard University—French
Lorraine Piroux, Ph.D., Northwestern University—French
Katrin Schroeter, Ph.D., Brown University—German

Visiting Assistant Professor

Lorna Brau, Ph.D., New York University—Japanese

Lecturers

Rachele Duke, Ph.D., University of California (Los Angeles)—Italian
Keiko Schneider, M.A., School for International Training—Japanese
Jian Zhu, M.A., 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
Claude M. Senninger, Ph.D., University of Paris—French
Julian White, Ph.D., University of North Carolina—French

Adjunct Professors:

George F. Peters, Professor, Michigan State University

Undergraduate Advisors

Monica Cyrino, Director of Undergraduate Studies

- Jian Zhu—Chinese
- Monica Cyrino—Classics
- Lorraine Piroux—French
- Katrin Schroeter—German
- Rachele Duke—Italian
- Lorna Brau—Japanese
- Warren Smith—Modern Languages
- Natasha Kolchevska—Russian

Degrees Offered:

- B.A.: French, Classics, Comparative Literature/Cultural Studies, German, Modern Languages, Russian Studies, Russian Language and Literature

Introduction

Group Requirements

Literature courses in translation are not accepted for fulfillment of foreign language degree requirements except as allowed by the undergraduate or graduate advisor.

Language Laboratory

Work in the Language Laboratory is assigned in connection with the lower division language courses and does not carry extra credit.

Advanced Placement

Students who have had previous exposure to a language and plan to continue the study of the same language are encouraged to take a placement examination in that language. Normally, 101 courses are reserved for students who have not previously studied the language in which they plan to enroll. Students who achieve advanced placement 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 obtain credit-hours in language courses (101, 102, 201, 202) without taking an examination by earning a grade of A or B in a course numbered higher than the course(s) challenged. Pass/Fail (CP/NC) is assigned to all challenged courses(s). Students may not challenge 101 and 102 courses in the language they presented for the entrance requirements.

Graduate Programs

General - The Department of Foreign Languages & Literatures offers the following graduate programs and degrees:

- Master of Arts in Comparative Literatures/Cultural Studies
- Master of Arts in French.
- Master of Arts in German Studies.
- Ph.D. in Romance Languages with a concentration in French.

All graduate programs are administered by a Graduate Committee composed of three members of the F.L.L. graduate faculty, the Chair of F.L.L. and one representative of the departmental Graduate Student Association. Except for the internal regulations and requirements outlined below, all

degree programs are subject to the terms of the UNM Catalog in effect at the time a student is admitted into a specific program.

Graduate Advisors

- Susanne Baackmann—German Studies
- Deborah Jenson—French/Romance Languages
- Diana Robin—Comparative Literature & Cultural Studies

Degrees Offered:

- M.A. Comparative Literature/Cultural Studies
- Ph.D. Romance Languages/French Concentration

Application and Admission

Applicants to any graduate program in F.L.L. should contact the department at their earliest convenience for consultation with the appropriate advisor. U.S. citizens should request a Self-Managed Application from the Department of Foreign Languages & Literatures; Ortega Hall Room 229; University of New Mexico; Albuquerque, N.M. 87131-1146. Foreign students should request application materials from the Department of Foreign Admissions; Student Services Center Room 180; U.N.M.; Albuquerque N.M. 87131.

Review of Applications Begins

	(with financial aid)(without financial aid)	
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 G.P.A. of 3.0 or better; applicants not presenting these minimum requirements may apply for acceptance with deficiencies as determined by the graduate unit. The department requires G.R.E. scores. Applicants are also requested to send a copy of a letter of intent directly to the Graduate Advisor of the department in order to provide any information relevant to their background or plans for graduate study.

Assistantships

The Department awards a limited number of assistantships, either as a Teaching Assistant or as a Graduate Assistant.

The Program

The M.A. degrees in Comparative Literature/Cultural Studies, French and German are offered under both Plan I and Plan II; students should contact the appropriate graduate units for any requirements specific to a particular program. Please contact the French program for information about the Ph.D. in Romance Languages.

The required course work must include at least one three-credit-hour course in critical theory and one three-credit-hour course in teaching methods (the latter is required only of Teaching Assistants); students should try to take these two required courses during their first year of graduate study. All other courses will be determined by a student's goals and interests in consultation with their Graduate Advisor. Students in French or German may take up to six hours of course work outside their graduate units without requesting special permission from the Graduate Advisor.

Summer Schools

The Department also sponsors two intensive summer programs, one in French and one in German. Graduate students who attend the Francophone or German Summer Schools will receive appropriate credit for courses taken towards their advanced degrees (N.B.: Attendance at the German Summer School is required of all graduate students in the German program). For current information about these programs, please consult the summer school offices.

Chinese (Chin)

Jian Zhu, Advisor, Ortega Hall 319D

No major or minor study offered.

101. Elementary Chinese. (3) (Fall)

102. Elementary Chinese. (3) (Spring)

201. Intermediate Chinese. (3) (Fall)

202. Intermediate Chinese. (3)

Prerequisite: 201 or equivalent. (Spring)

297. Intermediate Chinese. (1-6, to a maximum of 9)

For 4th semester students of Chinese and more advanced students who want to continue their language skills in Chinese. (Spring)

Classical Studies

Monica Cyrino, Advisor, Ortega Hall 353A

Major Study Requirements

The student majoring in Classical Studies will choose one of two tracks, depending on the wish to concentrate in Greek and Latin (track B) or take a broader spectrum of courses relating to the ancient world (track A). Those students wishing to pursue graduate study in the Classics are advised to choose track B.

Track A: (Civilization track)

Prerequisites: 6 hours Latin 101-102 or Greek 101-102
3 hours Classics 107 (*Greek Mythology*) or History 101 or English 131

Required: 30 hours at 200 level or above, including:

1. 6 hours Latin 201-202 or Greek 301-302
2. 3 hours Classics 204 (*Greek Civilization*)
3. 3 hours Classics 344 (*Roman Literature*)
-or- 345 (*Greek Tragic Literature*)
4. 3 hours Art History above 200 in a course including the ancient world
5. 6 hours History 313 (*Greece*) and 314 (*Rome*)
6. 9 hours (3 courses) from among the following (substitutes must be approved in advance by the director of the program):

Philosophy 201 (*Greek Philosophy*)

Art History 201 (*History of Art I*)

Art History 315 (*Ancient Art*)

(neither of the above two courses may be included which has also been counted under 4 above)

Phil 303 (*Hellenistic*)

Another 300 level Classics course which has not been included already, or another History course e.g.,
Alexander the Great, Ancient Near East.

30

Track B: (Language track)

Prerequisites:

Latin 101-102 (6 hours)

Greek 101-102 (6 hours)

1. (Language courses)

A. 6 hours of Latin courses numbered above 200,
6 additional hours in Latin courses above 300, and
9 hours of Greek courses above 300;

-or-

B. 12 hours of Greek courses numbered above 300,
6 hours of Latin courses above 200, and
3 hours of Latin courses above 300.

2. One course in Greek or Roman History (3 hours)
Classics 204, 344, or 345 (3 hours)
One additional course from among those named
in 6 above (3 hours).

30

Minor Study Requirements

18 hours of courses including Latin 201-202 or Greek 301-302 and 12* hours of Classics courses above 200 selected from: 204, 205, 344, or 345; Hist 313, 314; Phil 201, 303; Art Hi 201, 315.

* It is required that 6 of the 12 hours be above 300.

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 the ancient world as the foundation of modern civilization. Lectures on classical art, history, literature and philosophy. (Spring)

205. Roman Civilization. (3)

(Also offered as Phil, Hist, Art Hi 205.) An interdisciplinary introduction to ancient Rome. Lectures on Roman literature, history, art, and philosophy.

***344. Topics in Latin Literature in Translation. (3 to a maximum of 6) Δ**

(Also offered as Comp L, Engl 344.) Topic will deal with individual authors, genres, or periods.

***345. Topics in Greek Literature in Translation. (3 to a maximum of 6) Δ**

(Also offered as Comp L, Engl 345.)

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

Diana Robin, Chairperson

The University of New Mexico

Albuquerque, New Mexico 87131

Ortega Hall 353C, 277-3683, 277-4771

Advisory Committee

Susanne Baackmann, Foreign Languages and Literatures

Gus Blaisdell, Media Arts

Scott Bukatman, Media Arts

Beverly Burris, Sociology

Pamela Cheek, Foreign Languages and Literatures

Monica S. Cyrino, Foreign Languages and Literatures

Susan Dever, Media Arts

Michael Fisher, English

Erlinda Gonzalez-Berry, Spanish and Portuguese

Minrose Gwin, English

Gary Harrison, English

Anthony Higgins, Spanish and Portuguese

Ira Jaffe, Media Arts

Deborah Jenson, Foreign Languages and Literatures

Natasha Kolchevska, Foreign Languages and Literatures

Louise Lamphere, Anthropology

Byron T. Lindsey, Foreign Languages and Literatures

Peter Pabisch, Foreign Languages and Literatures

Lorraine Piroux, Foreign Languages and Literatures

Shane Phelan, Political Science

Walter Putnam, Foreign Languages and Literatures

Ruth Salvaggio, American Studies
 Katrin Schroeter, Foreign Languages and Literatures
 Warren Smith, Foreign Languages and Literatures
 Carolyn Woodward, English

Introduction

The encounter with another culture provides all students with a vantage point from which to become better informed critics of their own society. For other students, however, who intend to pursue graduate education in diverse fields, or whose career paths will lead them abroad as participants in a global economy, the comparative study of literatures and cultures—the study, that is, of cultural difference—will be an indispensable component of their education.

The major in Comparative Literature and Cultural Studies is administered by an interdisciplinary advisory committee (listed above) under the auspices of the Department of Foreign Languages and Literatures. The program offers an individualized program of studies for majors and minors with concentrations in cultural theory and criticism, film studies, and national literatures. Students planning to major or minor in Comparative Literature and Cultural Studies should consult with the chairperson of the program and members of the CLCS advisory committee in designing their program of studies.

Major Study Requirements

The core—33 semester hours

1. Introduction to World Literatures—9 hours:

English 315 Interdisciplinary Approaches to Literature

(or an equivalent course in another department)—3 hours

English 293 Western Literature/World Contexts
 (or an equivalent course in another department)—3 hours

English 294 Survey of Earlier English Literature
 (or an equivalent course in another department)—3 hours

2. The concentration—18 hours:

The Cultural and Critical Theory Concentration: 18 hours may be selected from upper-division courses in film studies, art history, anthropology, political theory, critical theory, cultural studies, gender studies, history, or philosophy; 3 of these hours must be in Cultural Theory and Criticism (Engl 411 or 511), Political Thought (Pol Sc 463), or an equivalent course in contemporary social, political, or philosophical thought, as determined by the chairperson and advisory committee for Comparative Literature and Cultural Studies as listed above.

The Film Studies Concentration: requirements are the same as listed above for the Cultural and Critical Theory concentration, with the addition of an individualized program of courses in film studies as deemed appropriate by the student in consultation with the chairperson and advisory committee for CLCS (as listed above).

The National Literatures Concentration: 9 hours of upper-division course work should be taken in each of two language areas, one of which may be English. The courses required for the National Literatures

Concentration may include studies in theory, history, film, and the arts as well as in literary texts.

Courses may be selected from the Foreign Languages and Literatures category as listed below to apply toward the 18 hours of course work required in the concentrations category; 3 hours from the courses taken toward the fulfillment of the Foreign Languages and Literatures requirement may also be applied toward the fulfillment of the Concentrations category requirement, as deemed appropriate by the student in consultation with the chairperson and advisory committee for CLCS (as listed above).

3. Foreign Languages and Literatures—9 hours

Literature, culture, and theory courses taught in a foreign language numbered 300 or above. These include but are not limited to: French 345, 346, 351, 352, 411, 422, 423, 431, 432, 441, 442, 443, 450, 451, 452, 453, 460, 461, 462, 490, 541, 551, 520, 610; Classical Greek 301, 302; German 301, 302, 304, 305, 307, 308, 401, 446, 450, 451, 452, 453, 480; Italian 308, 475; Latin 303, 304, 352; Portuguese 457, 458, 461; Russian 301, 302, 353, 401, 402, 407; Spanish 307, 370, 375, 411, 423, 429, 431, 432, 435, 514, 517, 520, 525, 526, 530, 531, 536, 601.

Topics courses may be repeated for credit as the topic changes.

Minor Study Requirements

The minor in Comparative Literature and Cultural Studies requires English 315, 293, 294 and 15 additional hours of courses in national literatures, cultural studies and theory, or film studies. A student majoring in national literatures, film studies, or theory may not satisfy this requirement with courses in the same area as his/her major.

Graduate Program

Graduate Advisor: Diana Robin
 Ortega Hall 353C
 (505) 277-3683; (505) 277-4771

Comparative Literature and Cultural Studies is an interdisciplinary major administered by the chairperson and affiliated faculty.

The Master of Arts in Comparative Literature and Cultural Studies is offered as an interdepartmental major under Plan I or Plan II according to the regulations set forth in the UNM Catalog. Students may concentrate in either National Literatures or Cultural Studies. Applicants under both plans must demonstrate proficiency in two foreign languages including English. Students who do not meet the language proficiency requirement can satisfy it after being admitted to the program.

The minimum degree requirements are as follows: Comp Lit 500, or with the approval of the chairperson of the program, an equivalent course, preferably taken during the first semester of study; Nine hours in contemporary cultural theory, literary theory, or social and political theory drawn from the following: American Studies 515, Cultural Studies; English 510, Criticism; English 511, Cultural Theory and Criticism; Political Science 463, Contemporary Political Theory; Spanish 601, Literary Theory; Media Arts, Film Theory 428, French 610, or the equivalent.

Each student's program must be approved by his or her faculty advisors and the chair of the program. Normally, during the second semester of study, candidates for the M.A. select

their advisor and committee members, of whom at least two are expected to be faculty affiliated with the program in Comparative Literature and Cultural Studies. Whether the candidate chooses the Cultural Studies or National Literatures concentration, it is expected that, in consultation with her advisor and committee she will organize her course work around a theme, a place, a historical problem, or period.

The Cultural Studies Concentration: In addition to the 12-hour core as described above, 9 further hours in cultural studies, criticism and theory or their equivalents above the 500-level are required. Courses at the 300 or 400-level may be used to satisfy this requirement with the approval of the chairperson of the program. The remaining 12 hours required for this concentration under Plan II will include related courses in literature, film/media studies, history, anthropology, the social sciences, women studies, art history, philosophy, and literature as deemed appropriate by the student in consultation with his/her advisor and committee.

The National Literatures Concentration: In addition to the 12-hour core as described above, 9 further hours above the 500-level in each of two national literatures (one of which may be English or American literature) are required. Courses at the 300 or 400-level may be used to satisfy this requirement with the approval of the chairperson of the program. The remaining 12 hours required for this concentration under Plan II will include related courses in literature, film/media studies, history, philosophy, and art history, as deemed appropriate by the student in consultation with his/her advisor and committee.

The Minor: The program offers graduate minors in cultural studies, national literatures, or in a historical period. Proficiency in one language must be demonstrated.

The minor in cultural literatures may be composed of Comp Lit 500 (or its equivalent) and 15 hours of theory and criticism courses, 9 of which must be chosen from the core courses for the program as described above.

The minor in national literatures may be composed of Comp Lit 500 (or equivalent) and 15 hours of literature, 9 of which must be in a national literature at the 500-level, or at a lower level as described above. No more than 3 hours of the national literatures courses presented to satisfy this requirement may be taught in translation. A student majoring in national literature may not satisfy the requirements for the minor with courses in the language or literature of his or her major.

An interdisciplinary minor in a historical period, may consist of Comp Lit 500 (or equivalent course with approval of the chair) and 15 additional hours of appropriate courses drawn from the national literatures (including English and American), film/media studies, women studies, art history, philosophy, history, the social sciences and other related fields, with the approval of the chairperson.

Requirements for the minor in Cultural Studies are three of the five core courses listed for the major, and 15 additional hours in cultural studies and theory at the 500-600 level, or at a lower level with the qualifications listed above. Proficiency in a foreign language must be demonstrated. A student majoring in comparative literature and cultural studies may not satisfy the above requirements with courses in his or her major.

The following courses offer theoretical background and context for courses on national literatures and cultures. Generally, courses within English, Foreign Languages and Literatures, Spanish and Portuguese, Art History, Media Arts, Music, and Theatre can be applied toward the degree in Comparative Literature and Cultural Studies.

Comparative Literature (Comp L)

(Comparative Literature and Cultural Studies (CLCS) effective Spring 1998.)

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.

260. Introduction to the Methodology of Comparative Literature. (3)

General introduction to the theory and practice of studies in comparative literature. The study of how to study influences, movements, reception, genres, and the interaction of literature with other subjects. Required for undergraduate major and minor.

304. The Bible as Literature. (3)

(See *Engl 304*.)

306. Oral and Folk Literature. (3)

(See *Engl 306*.)

315. Interdisciplinary Approaches to Literature. (3) Δ

(See *Engl 315*.)

*335. French Literature in Translation. (3 to a maximum of 6) Δ

(Also offered as Engl, French 335.)

*336. Special Topics in German Studies in Translation.

(3 to a maximum of 6) Δ

(See *German 336*.)

*337. Spanish Literature in Translation. (3)

(See *Span 324*.)

*338. Great Russian Tales in Translation. (3 to a maximum of 6) Δ

(Also offered as Engl, Russ 338.) An introduction to Russian literature and its "accursed" questions in an historical context. Mainly short works with one or two novels from the masterworks of Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov. May be repeated for up to 6 hours.

*340. Topics in Russian Literature in Translation. (3) Δ

(Also offered as Russ 340.) Topics will deal with individual authors, genres, periods, or themes.

*341. Greek Mythology. (3)

(See *Greek 107*.)

*343. Modern Russian Literature in Translation. (3)

(Also offered as Russ 339.) An introduction to the variety of 20th century Russian literature. Selected texts are analyzed in the context of often conflicting aesthetic, sociopolitical, and historical imperatives.

*344. Topics in Latin Literature in Translation. (3 to a maximum of 6) Δ

(Also offered as Clscs, Engl 344.) Topic will deal with individual authors, genres, or periods.

*345. Topics in Greek Literature in Translation. (3 to a maximum of 6) Δ

(Also offered as Clscs, Engl 345.)

*380. Seminar in Comparative Literature. (1-3)

May be repeated for credit up to 6 hrs. Seminar will deal with individual authors, genres, or periods in two or more literatures. Reference to other subjects. (Spring)

387. **Studies in Genre: Comedy, Epic, Satire, Tragedy, etc. (3) Δ**
(See *Engl* 387.)

406. **The Folktale in English. (3)**
(See *Engl* 406.)

410. **Literary Criticism. (3)**
(See *Engl* 410.)

411. **Special Topics. (3) †**
(See *Engl* 411.) Comparative literature credit available for some sections with the permission of the comparative literature advisor.

*423. **Continental Women Theological Writers. (3)**
(Also offered as *Relig* 423.) A study of the contributions made to Twentieth Century religious thought by four major women writers—Simone Weil, Gertrude Von Le Fort, Raissa Martain, and Edith Stein.

450. **Special Topics in German Studies. (3) Δ**
(See *German* 450.)

451. **The Middle Ages. (3) Δ**
(See *Engl* 451.) Comparative literature credit available for some sections with the permission of the comparative literature advisor.

*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.

459. **Irish Literature. (3)**
(See *Engl* 459.) Comparative literature credit available for some sections with the permission of the comparative literature advisor.

470. **Contemporary Literature. (3)**
(See *Engl* 470.) Comparative literature credit available for some sections with the permission of the comparative literature advisor.

*475. **Dante in Translation. (3)**
(See *Ital* 475.)

*490. **Seminar in Russian Literature. (3) Δ**
(See *Russ* 490.)

500. **Introduction to Graduate Study in Comparative Literature. (3)**

510. **Criticism. (3)**
(See *Engl* 510.)

511. **Special Topics: History of Ideas, Literary Movements, etc. (3) †**
(See *Engl* 511.)

513. **The Middle Ages. (3) Δ**
(See *Engl* 551.)

551. **Problems. (1-6 hrs. per semester) †**
For M.A. candidates.

580. **Seminar in Modern Languages and Literatures. (1-6) †**
(Also offered as M Lang 580.)

587. **Genre: Comedy, Epic, Satire, Tragedy, etc. (3) Δ**
(See *Engl* 587.)

599. **Master's Thesis. (1-6 hrs. per semester)**
Offered on a CR/NC basis only.

Major Study Requirements

Major in Languages

Warren Smith, Advisor, Ortega Hall 353B

An interdisciplinary major offered through the Department of Foreign Languages and Literatures in conjunction with the Department of Spanish and Portuguese and the Department of Linguistics. Student electing this major do not need a minor.

Requirements: 54 hours of course work, to be distributed as follows:

1. Latin or Greek 101 and 102 (6 hours)
2. Ling 101 or 292L or Latin 351 (3 hours)
3. 12 hours of course work above 300 in each of two of the following languages: (24 hours)
 - French (301, 302, 305 407)
 - German (301, 302, 405, 446)
 - Italian (307/308, 475)
 - Portuguese (276, 457, 458, 451)
 - Russian (301, 302, 401, 402, or 407)
 - Spanish (301, 302, 352, 350, or any other upper division course in linguistics or literature)
4. 6 hours of course work in another language, either an additional language under 3 above, Latin or Greek, or Navajo, Chinese, Japanese, Signed Language or Swahili. These hours may be at the lower division level. (6 hours)
5. 15 additional hours of course work to be taken in Linguistics and/or the languages chosen under points 1, 3 (upper-division only) and 4 above or *Engl* 449 or 450. (15 hours)

Minor Study Requirements

Period Minor

Students majoring in any foreign language may take the period minor described under Comparative Literature and Cultural Studies offerings on page 165.

Foreign Languages (M Lang)

No major or minor study offered.

101. **Elementary Topics in Foreign Languages. (1-4) Δ**

102. **Elementary Topics in Foreign Languages. (3) Δ**

105. **Reading and Writing Keresan. (3)**

For native speakers of the particular language only. (Note: Normally offered through Continuing Education only.)

106. **Elementary Arabic I. (3)**

(Also offered as *Afro* A 105.) A course in elementary modern standard Arabic.

109. **Biblical Hebrew I. (4)**

(Also offered as *Relig* 109.) Introduction to the language of the Hebrew Bible.

110. **Biblical Hebrew II. (3)**

(Also offered as *Relig* 110.) Introduction to the language of the Hebrew Bible.

201. **Intermediate Topics in Foreign Languages. (3) Δ**

202. **Intermediate Topics in Foreign Languages. (3) Δ**

205. **Elementary Arabic II. (3)**

(Also offered as *Afro* A 205.) A course for those with very minimum exposure to modern Arabic language.

223. Literary Questions. (3)

(See *Comp L 223-224*.)

224. Literary Questions. (3)

(See *Comp L 223-224*.)

292L. Introduction to Linguistic Analysis. (3)

(See *Ling 292L*.)

457. Special Topics in Languages Studies. (3) Δ**478. Seminar in International Studies. (3) Slavin**

(Also offered as Econ, Pol Sc, Soc 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.

***480. Second Language Pedagogy. (3)**

(Also offered as Bil Ed 480.)

497. Undergraduate Problems. (1-6, to a maximum of 6)

Permission of instructor required.

498. Reading and Research Honors. (3)

Open to juniors and seniors approved by the Honors Committee.

499. Honors Essay. (3)

Open only to seniors enrolled for departmental honors.

551. Graduate Problems. (1-6 hrs. per semester)

Permission of instructor.

580. Seminar in Modern Languages and Literatures. (1-6) Δ

(Also offered as *Comp L 580*.)

601. Literary Theory. (3)

(Also offered as Port, Span 601.) Theoretical schools and their 20th-century proponents, from Propp to Chomsky.

631. Latin American Vanguard Poetry. (3, 3)

(Also offered as Port, Span 631.) Latin American (Brazilian and Spanish American) vanguard poetry, from experimental period of the 1920s to the 1950s. (Fall, Spring)

American Indian Languages

(Offered through Linguistics.)

Apache (Apache)

No major or minor study offered.

Navajo

See *Linguistics*.

Quechua (Quechu)

No major or minor study offered.

Zuni (Zuni)

No major or minor study offered.

French

Lorraine Piroux, Advisor, Ortega Hall 319C

As this catalog goes to press, the French faculty is considering changes in the current major program. For current requirements, please contact the department office: Ortega Hall 229, 277-4771.

Major Study Requirements

30 hours in French courses numbered above 290, including 301, 302, 305, 345, 346, 351, 352 and one 400 level literature course, and 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, 305, and either 345-346 or 351-352.

Minor Study Requirements

15 hours in French courses numbered above 290, including 301 or 302 and 345 or 346.

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 take the placement test offered at the beginning of each semester and consult with the undergraduate advisor for accurate placement. The department offers an intensive language sequence (French 275-276) for 6 credit hours per semester, at the end of 2 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

Deborah Jensen, Ortega Hall 323C

The French M.A. is offered under Plan I and Plan II as described above in the general information. The graduate faculty in French is currently considering changes in the Ph.D. in Romance Languages with a specialization in French. Please contact the graduate advisor or the department for specific information about either of these degree programs.

French (French)

101-102. Elementary French. (3, 3)

(Fall, Spring)

103-104. Elementary French Conversation. (1, 1)

Supplementary course to French 101-102 for students interested in additional practice in phonetics (103) and communication skills (104).

108. Elementary French Reading. (1, 1)

Supplementary course to French 101-102 for students interested in additional practice in reading.

201. Intermediate French I. (3)
Review of grammar and development of communication skills, conducted mostly in French.

202. Intermediate French II. (3)
Conclusion to the presentation of grammar, development of communication skills, introduction to reading of French literature. By the end of the course, classes will be 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 15 students.

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 Composition and Conversation. (3)**
Contextual grammar review. Weekly composition to improve skill and accuracy. Advanced conversation on various topics covering contemporary France. Study of short novel and movie. Taught entirely in French.
Prerequisite: 202 or the equivalent.

****302. Beginning Stylistics and Translation. (3)**
Stylistic study of selected pieces of prose and poetry. Study of versification. Introduction to translation. A stepping stone to the literature courses. Taught entirely in French.
Prerequisite: 301.

****305. French Phonology. (3)**
Phonetic and phonemic system of French. Required for the undergraduate major. (Offered only once a year.)

****335. French Literature in Translation. (3 to a maximum of 6) Δ**
(Also offered as Comp L, Engl 335.)

****345. French Civilization. (3)**
Origins to French Revolution. In French.
Prerequisite: 202 or the equivalent.

****346. French Civilization. (3)**
French Revolution to the present. In French.
Prerequisite: 202 or the equivalent.

****351. Survey of French Literature. (3)**
Origins to 1800. Conducted in French.

****352. Survey of French Literature. (3)**
1800 to present. Conducted in French.

***365. French Reading for Graduate Students. (3)**
Accelerated course for graduate reading requirements. 365 emphasizes fundamentals of grammar. Will not satisfy A&S language requirement. Undergraduates may not enroll without permission of instructor. (Does not carry graduate credit for French language students.)

***366. French 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 may not enroll without permission of instructor. (Does not carry graduate credit for French language students.)

***407. Translation. (3)**
Study of principles and techniques of translating through comparative stylistics.
Prerequisites: 301, 302.

French 351 or 352 prerequisite for all courses below.

411. The Early Renaissance. (3)
The early Renaissance: Villon and Rabelais.

412. The Late Renaissance. (3)
The late Renaissance: Montaigne and the Pleiade.

422. French Dramatic Literature of the Seventeenth Century. (3)
Prerequisite: 351, 352.

423. French Non-Dramatic Literature of the Seventeenth Century. (3)
Prerequisite: 351, 352.

431. French Literature of the Eighteenth Century. (3)
Through 1750, emphasis on Montesquieu and Voltaire.

432. French Literature of the Eighteenth Century. (3)
Since 1750, emphasis on Diderot and Rousseau.

***440. Teaching of French. (3)**
(Also offered as CIMTE 440.) Practicum; observation and criticism of classroom methods in use. **Offered on a CR/NC basis only.** [Fall]

441. French Prose Fiction of the Nineteenth Century. (3)
The most representative novels of the Romantics, Realists, and Naturalists.

442. French Dramatic Literature of the Nineteenth Century. (3)
Survey of the theatre from the melodrama and neoclassicism through the *theatre d'art* of Paul Fort.

***443. Practicum in Nineteenth-Century French Theatre. (1-3)**
May be taken together with 442. Study through a live experience that reconstructs the theater as part of the political, sociological, and artistic context of the time. 443 and 453 may not both be counted toward the French major.

450. Contemporary France. (3)
Study of the social, political, economic, intellectual, literary, and artistic environment in France today.

451. French Prose of the Twentieth-Century. (3)
Selected novels from Gide and Proust through the *nouveau roman*.

452. Twentieth-Century Theater. (3)
Study of the major plays written in French which have shaped the modern theater throughout the world. The plays are read and discussed in French.

***453. Practicum in Twentieth-Century French Theatre. (1-3)**
May be taken together with 452. Study through a live experience that reconstructs the theatre as part of the political, sociological, and artistic context in which it developed. 443 and 453 may not both be counted toward the French major.

460. Survey of French Poetry. (3)
To 1800.

461. Survey of French Poetry. (3)
19th Century.

462. Survey of French Poetry. (3)
20th Century.

***490. Seminar in French Literature. (3) Δ**
 Combination undergraduate-graduate seminar. Topics include French or Francophone literature, especially that of Quebec.
 Prerequisites: 351-352.

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)
 Required of all new teaching assistants in French; others by permission of instructor. {Fall}

501. History of the French Language. (3)
 Required for the M.A. degree.

502. Readings in Mediaeval French Literature. (3)

503. Proseminar in Mediaeval French Genres. (3)

504. French Stylistics and "Explication de Textes." (3)
 Exceptional undergraduates may enroll with permission of instructor and Graduate Dean. Required for the M.A. Degree.

511. The Early Renaissance. (3)

512. The Late Renaissance. (3)

515. Mediaeval Palaeography. (3)
 (See *M Lang 515*.)

516. Old Provençal-Old Catalan. (3)
 (See *M Lang 516*.)

520. French Thought. (3)

522. French Dramatic Literature of the Classical Period. (3)

523. French Non-Dramatic Literature of the 17th Century. (3)

524. Seminar in Nineteenth-Century French Literature. (3)

531. French Literature of the Eighteenth-Century. (3)
 Through 1750, emphasis on Montesquieu and Voltaire.

532. French Literature of the Eighteenth-Century. (3)
 Since 1750, emphasis on Diderot and Rousseau.

541. French Prose Fiction of the Nineteenth-Century. (3)
 The most representative novels of the Romantics, Realists, and Naturalists.

542. French Dramatic Literature of the Nineteenth-Century. (3)
 Survey of the theatre from the melodrama and neoclassicism through the theatre d'art of Paul Fort.

551. French Prose of the Twentieth-Century. (3)
 Selected novels from Gide and Proust through the nouveau roman.

552. Twentieth-Century Theater. (3)
 Study of the major plays written in French which have shaped the modern theater throughout the world. The plays are read and discussed in French.

560. Survey of French Poetry to 1800. (3)
 To 1800.

561. French Poetry Nineteenth-Century. (3)
 19th Century.

562. French Poetry Twentieth-Century. (3)
 20th Century.
 Prerequisites: 351, 352.

570. Seminar in French Literature. (3) Δ
 Prerequisites: 351, 352.

575. Graduate Problems. (1-6 hrs. per semester)
 Prerequisite: permission of instructor.

599. Master's Thesis. (1-6 hrs. per semester)
 Offered on a CR/NC basis only.

610. History of French Literary Criticism. (3)
 Required for the Ph.D. degree.

699. Dissertation. (3-12 hrs. per semester)
 Offered on a CR/NC basis only.

Courses Offered at the Francophone Summer School of New Mexico

The courses listed below are offered only through the Francophone Summer School. Credits earned for these courses may be counted toward the French major. For information about the Summer School contact the department office, 277-4772.

370. Advanced Language Instruction and Conversation. (2-4)

Intensive language work at an advanced level, stressing controlled conversation. May replace French 301 or 302 for French major or minor.

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.

385. Seminars in French Studies. (1-4)
 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.

390. Workshop in French Studies. (1-2)
 Each section in this course will focus on a different topic. Titles of individual sections will vary as content varies. Informal discussions on topics relating to French culture; practical language work.

***470. French Stylistics. (1-4)**
 Intensive study of French prose styles. Extensive writing practice.

***485. Advanced Seminars in French Studies. (1-4)**
 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.

520. French Thought. (3)
 Prerequisites: 351, 352.

523. French Non-Dramatic Literature of the 17th Century. (3)
 Prerequisites: 351, 352.

524. Seminar in Nineteenth-Century French Literature. (3)
 Prerequisites: 351, 352.

552. Twentieth-Century Theater. (3)
Prerequisites: 351, 352.

585. Graduate Seminars in French Studies. (1-4)
Each section in this course will focus on a different topic. Titles of individual sections will vary as content varies.
Prerequisites: 351, 352.

German

Katrin Schroeter, Advisor, Ortega Hall 347C

Major Study Requirements

A student may select one of the following three options:

1. **Regular Option.** 30 hours of course work which must include the following: German 301, 302, 307, 308, and 405. The remaining hours may be selected from German courses above 300; 6 of these hours may consist of approved German Studies courses in other departments.
2. **Second Language Option.** Two years, or the equivalent, of college level work in another foreign language. 27 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; 3 of these hours may consist of approved German Studies work in another department.
3. **Second Major Option.** Completion of a second major program at UNM. 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.

NOTES.

1. 370, 410, or 470 taken at the German Summer School may substitute for either 301 or 302, but not both.
2. Under all three options at least 12 hours must be earned in courses offered on the UNM campus.

Minor Study Requirements

15 hours in German courses numbered above 300.

Advisements and Placement

Students who have had previous exposure to German in high school or elsewhere are required to take the departmental placement exam in German and then consult with a member of the German faculty for placement advisement. Normally German 101 is reserved for students who have not studied German.

Graduate Program

Graduate Advisor
Susanne Baackmann

The German M.A. is offered under Plan I and Plan II as described above in the general information. Attendance at the German summer School in Taos is required as part of the degree. Please contact the graduate advisor or the department for specific information about the German graduate program.

German (German)

First-Year Program

All beginning students should enroll in Basic German which provides a foundation in reading, writing, listening, and speaking for all subsequent courses.

101 and 102 may each be supplemented by a two-hour conversation course (103-104) and/or a one-hour reading course (107-108). The supplemental courses are intended for those students who wish to develop a specific language skill more rapidly than the basic course permits. They are taught as parallel courses to 101-102, and students must either be concurrently enrolled in the basic course or demonstrate equivalent preparation.

101-102. Basic German. (3, 3)

Foundation course for all beginning students, whether they are primarily interested in reading or speaking. 101 may be supplemented by 103 and/or 107; 102 may be supplemented by 104 and/or 108. (Fall, Spring)

275-276. Accelerated Beginning German. (6, 6)

Intensive course for language majors and language enthusiasts. 101-102 and 275-276 may not both be counted for credit.

Second-Year Program

All second-year German students should enroll in Intermediate German which continues the development of reading, writing, speaking, and listening. 201 and 202 may each be supplemented by a 2-hour conversation course (203-204) and/or a reading course (207-208) for either 1 or 2 hours credit. The supplemental courses are intended for students who wish more intensive practice in a specific language skill than the intermediate course alone permits. They are taught as parallel courses to 201-202 but are open in special cases to any student with a first-year foundation or equivalent preparation. Those intending to go beyond the second year are encouraged to take the conversation course (203-204) in addition to 201-202. Transfer students and those who have studied German in high school must take the placement test and seek advice from a member of the German staff.

201-202. Intermediate German. (3, 3)

Continues development of reading, writing, speaking, and listening at the second-year level.

203-204. Intermediate German Conversation. (2, 2)

Supplemental course to 201-202 for students desiring additional practice in speaking and listening. Intensive use of German in the classroom. May be taken by students not concurrently enrolled in 201-202 only with the permission of the instructor. **Offered on CR/NC basis only.**

207-208. Intermediate German Reading. (1-2, 1-2)

Supplemental course to 201-202 for students desiring additional practice in reading. Stresses individual study, using a variety of advanced reading texts. Open to all students with a first-year foundation or equivalent preparation.

Accelerated, Upper-Division and Graduate Language Courses

German 202(276) or equivalent is prerequisite for all courses below except 275-276 and 365-366.

301-302. Advanced German. (3, 3)

Written and oral work for the third-year student, using a variety of literary and cultural material.

303. Advanced German Conversation. (1) Δ

Conversation groups for advanced students. It is recommended that this course be taken concurrently with 301-302. May be repeated to a maximum of three hours credit. **Offered on CR/NC basis only.**

304. Theater Workshop. (2)

Production of a play in German.

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.

365-366. German Reading for Graduate Students. (3, 3)
Accelerated course for graduate reading requirements. 365 emphasizes fundamentals of grammar; 366 emphasizes readings in sciences and humanities. Will not satisfy A&S language requirement. Undergraduates must have permission of instructor.

***405. Advanced Grammar, Phonology, and History of the German Language. (3)**

***445. Teaching of German. (3)**
(Also offered as CIMTE 445.) Includes practice teaching in UNM elementary German courses. Intended for prospective German teachers but may also be taken by others who are interested in a teaching experience. Students are advised to take required workshop in methodology during the week before the beginning of each fall semester or the equivalent. Prerequisite: permission of instructor.

***446. The Art of Translating. (3)**
Study of methods of translating from German into English. Practical work in translation.

Literature Courses

307. Introduction to German Literature. (3)
It is recommended that 307 be taken before the other literature courses listed below.

***336. Special Topics In German Studies in Translation. [Special Topics in German Literature in Translation.] (3) Δ**
Topics will deal with German literature and/or culture. May be counted twice toward the major and once toward the minor.

***451. The Age of Goethe. (3)**

***452. Nineteenth-Century German Literature. (3)**

***453. Twentieth-Century German Literature. (3)**

Culture Courses

308. Introduction to German Culture. (3)
Introduction to life and culture in the German speaking areas of Europe.

***401. Contemporary German Cultures. (3)**
Study of present-day society and culture in the German-speaking countries using current materials.

General Courses

450. Special Topics In German Studies. (3) Δ
Topics will deal with specific problems in German language, literature, or culture.

480. Senior Colloquium in German. (1-3) Δ
One to three courses for advanced students, dealing with special topics relating to language, literature, or culture.

497. Undergraduate Problems. (1-6, to a maximum of 6)
Prerequisite: permission of instructor.

498. Reading and Research for Honors. (1, to a maximum of 6)
Open to juniors and seniors approved by the department honors committee.

550. Special Topics in German Studies. (3)
Topics will deal with specific problems in German language, literature, or culture.

551. Problems. (1-6 hrs. per semester)
Prerequisite: permission of instructor.

580. Senior Colloquium in German. (1-3) Δ

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

Courses Offered at the Deutsche Sommerschule von New Mexico

The courses listed below are offered only through the Taos German Summer School. Credits earned for these courses may be counted toward the German major, with the restriction that at least 12 hours of the German major must be earned on the UNM main campus. For information on the Summer School contact the German Section office.

370. Advanced Language Instruction and Conversation. (2-4)
Intensive language work at an advanced level, stressing controlled conversation.

***380. Lectures and Discussions on German Studies. (2-4)**
Topic will vary. Team-taught course presenting a multidisciplinary approach to problems relating to German literature and culture.

385. Seminars in German Studies. (2-4)
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 problems of German literature, culture, and language.

390. Workshops in German Studies. (1)
Each section in this course will focus on a different topic. Titles of individual sections will vary as content varies. Informal discussions on topics relating to German culture; practical language work.

***410. German Stylistics. (2-4)**
Intensive language work designed to introduce students to the complexities of oral and written style.

***470. Advanced German Stylistics. (2-4)**
Intensive study of German prose styles. Extensive writing practice.

***485. Advanced Seminars in German Studies. (1-4)**
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 problems of German literature, culture, and language on an advanced level.

585. Graduate Seminars in German Studies. (1-4)

Greek (Greek)

Monica Cyrino, Advisor, Ortega Hall 353A

Major Study Requirements

See *Classical Studies*.

Minor Study Requirements

12 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)

103. Greek Lab Session. (1)

To be offered every term concurrently with Greek 101 as a lab or practice session for the beginning student; only for those wishing an extra hour credit. **Offered on a CR/NC basis only.**

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, and Ovid. All texts will be in English.

***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 and 102 or their equivalents.

497. Undergraduate Problems. (1-6, to a maximum of 6)
Prerequisite: permission of instructor.

551. Graduate Problems. (1-6 hrs. per semester) Δ
Prerequisite: permission of instructor.

Italian (Ita)

Rachele Duke, Advisor, Ortega Hall 327C

Minor Study Requirements

24 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: 308, 314, 321, 322, 323, 428, 429 (readings courses or seminars subject to approval); no fewer than 9 hours in the following Art History courses: 261, 262, 330, 331, 332, 340, 428, 429, (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) [3, 3]
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.

***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 only to Seniors enrolled for departmental honors
Prerequisite: permission of supervising instructor.

551. Graduate Problems. (1-6 hrs. per semester)
Prerequisite: permission of instructor.

Japanese (Japan)

Lorna Brau, Advisor, Ortega Hall 351A

No major or minor offered.

First-Year Program

All beginning students should enroll in Basic Japanese (101-102), which provides a foundation in language skills for all subsequent courses.

Second-Year Program

All second-year Japanese students should enroll in Intermediate Japanese (201-297), which continues the development of all language skills. Students intending to go beyond the second year should sign up for 297. 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)

103. Elementary Japanese Conversation. (1)
Supplementary course to Japanese 101-102 for students interested in additional practice in speaking. Students not currently taking 101-102 must obtain permission of instructor to enroll.

104. Elementary Japanese Conversation. (1)
For students interested in additional practice in speaking. Permission of instructor required.

201. Intermediate Japanese. (3)
Continues development of four language skills (speaking, listening, reading, and writing) at the third semester level.
Prerequisites: 102 or equivalent. (Fall)

202. Intermediate Japanese. (3)
Continuation of 201.
Prerequisite: 201 or equivalent. (Spring)

297. Language & Culture. (3)
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.
Prerequisites: 101, 102, 201 and 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)
This course provides a multi-disciplinary introduction to Japanese culture, with an emphasis on the anthropology and sociology of contemporary Japan.

339. Japanese Literature in Translation. (3)
(Also offered as Engl 339.) Classical and modern works of prose, poetry, and drama in translation. Topics, genres, and periods vary from semester to semester.

***411. Topics in Japanese Culture. (3) Δ**
Explorations of a variety of topics in Japanese language, literature, arts and social sciences.

Latin (Latin)

Monica Cyrino, Advisor, Ortega Hall 353A

Major Study Requirements

See *Classical Studies*.

Minor Study Requirements

12 hours in courses numbered above 200.

Placement—Elementary and Intermediate Courses

Students who have previously studied Latin should determine their entry level at UNM by arranging with the secretary, Foreign Languages and Literatures, to take a placement exam.

101. Elementary Latin. (3)

Introduction to the Latin language; grammar, syntax, and readings in Roman authors. {Fall, Spring}

102. Elementary Latin. (3)

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 one hour credit. **Offered on a CR/NC basis only.**

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)

Prerequisite: permission of instructor.

551. Graduate Problems. (1-6 hrs. per semester)

Prerequisite: permission of instructor.

Russian

Natasha Kolchevska, Advisor, Ortega Hall 349B

Major Study Requirements

See also *Russian Studies*

Option A: Regular Option

30 hours of courses in Russian language and literature including the following:

	Hours
Russ 201-202	6
Russ 301-302	6
Russ 401-402	6
2nd or 3rd year conversation	3
Russian 407	
-or- Literature/Civilization courses in translation	9
	30

Option B: Second Major Option

24 hours of courses in Russian language and literature including the following:

	Hours
Russ 201-202	6
Russ 301-302	6
Russ 401-402	6
2nd and 3rd year conversation chosen from 203-204, 303-304	3
Russ 407	
-or- Other upper division literature course	3
	24

Minor Study Requirements

Eighteen hours in Russian courses beyond the 200-level. One course in Russian literature in translation may be counted toward the minor.

Advisement and Placement

Students who have studied Russian previously should take the Placement Exam and 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 of 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. {Spring}

103-104. Beginnings: Speaking Russian. (1, 1)

Practice in basic conversation and training in acquiring a good accent. The courses are supplements to 101-102 and stress the patterns and forms introduced in the main courses.

201-202. Intermediate Russian. (3, 3)

Prerequisites: 101-102 or the equivalent.

203. Communicating in Russian I. [Communicating in Plain Russian.] (1)

Prerequisites: 102 or equivalent. Corequisite: 201 or higher.

204. Communicating in Russian II. [Communicating in Plain Russian.] (1)

Developing survival skills in using Russian on a practical level. Eliciting and providing primary information and simple conversation. Essential for all minors and majors.
Prerequisites: 201 or equivalent. Corequisite: 202 or higher.

230. Introduction to Russian Studies (3)
 (Also offered as Hist, Pol Sc 230.) A team-taught course designed to introduce the student to the broad outlines of Russian history, culture, and current events.

275-276. Accelerated Beginning Russian. (3, 3)
 Primarily designed for students with previous exposure to either Russian or another language. Emphasis on acquiring a reading knowledge of Russian. 101-102 and 275-276 may not both be counted for credit.

290. Workshop on Russian Language and Culture. (1-6)
 Intensive practical training in Russian language and culture. Cannot be substituted for core courses in Russian Studies or Russian language.
 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.

***303-304. Advanced Practical Conversation.(1-2) Δ**
 Further conversational practice with emphasis on colloquial forms, use of expressive patterns, and situational protocol. May be repeated for up to 2 hours for each course.
 Prerequisite: 202 or the equivalent. It is recommended that the course be taken concurrently with 301-302. May be repeated for a maximum of three hours credit.

***338. Great Russian Tales in Translation. (3 to a maximum of 6) Δ**
 (Also offered as Comp L, Engl 338.) An introduction to Russian literature and its "accursed" questions in an historical context. Mainly short works with one or two novels from the masterworks of Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov.

***339. Modern Russian Literature in Translation. (3)**
 (Also offered as Comp L 343.) An introduction to the variety of 20th century Russian literature. Selected texts are analyzed in the context of often conflicting aesthetic, sociopolitical, and historical imperatives.

***340. Topics in Russian Literature in Translation. (3) Δ**
 (Also offered as Comp L 340.) Topics will deal with individual authors, genres, periods, or themes.

***345. Russian Civilization: Visions/Traditions. (3)**
 A study of critical periods and waves of creative works in literatures, art, architecture, music and film, with comparison of native origins and European connections.

353. Practicum in Russian Theater. (3) Δ
 For advanced and intermediate students. Intensive practice in contemporary spoken Russian through reading, writing and improvised short plays.
 Pre- or corequisite: Russian 202.

365-366. Russian Reading for Graduate Students. (3, 3)
 Accelerated course for graduate reading requirements. 365 emphasizes fundamentals of grammar; 366 emphasizes readings in sciences and humanities. Will not satisfy A&S language requirement. Undergraduates must have permission of instructor.

***401-402. Russia Today. (3, 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. in Russian.

***490. Seminar in Russian Literature. (3) Δ**
 Topic will deal with individual authors, genres, or periods. Taught in English and/or Russian.

497. Undergraduate Problems. (1-6, to a maximum of 6)
 Prerequisite: permission of instructor.

498. Reading and Research for Honors. (1, to a maximum of 6)
 Open to juniors and seniors as approved by Russian Studies honors committee. Students will study one aspect of the field with a member of the Faculty Committee.

GEOGRAPHY

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 The University of New Mexico
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 Albuquerque, NM 87131-1111
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Professors
 Bradly 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
 Louis A. Scuderl, University of California (Los Angeles)
 Jerry L. Williams, Ph.D., University of Oregon

Professors Emeriti
 Elinore M. Barrett, Ph.D., University of California (Berkeley)
 Rodman E. Snead, Ph.D., Louisiana State University

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 environmental analysis (physical geography and human environment interaction) and geographic information technologies (geographic information systems, remote sensing, and global positioning systems).

Major Study Requirements

The major in geography requires 38-40 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
1 Course	Physical Geography Group	3
2 Courses	Resource Use and Management Group	6
Geog 381L	Intro GIS	4
1 Course	Geographic Data Analysis Group	3-4
1 Course	Regional Group	3
Geog 470	Intro to Applied Geography	1

ARTS & SCIENCES

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 251, 351, 356, 359, 452, 453, 455.
- Resource Use and Management: 365, 367, 495, 496, 497.
- Geographic Data Analysis Group: 382L, 383, 481L, 482, 483L, 484.
- Regional Group: 201, 301, 302, 336, 337, 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 381L Intro GIS	4
Geog 470 Intro to Applied Geography	1
Geog 471 Applied Geography Seminar 3	
1 Course Resource Use and Management Group 3	
2 Courses Geographic Data Analysis Group	6-7
3 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: 351, 353, 356, 359, 452, 453, 455.
 Resource Use and Management Group: 365, 495, 496, 497.
 Geographic Data Analysis Group: 382L, 383, 481L, 482, 483L, 484, 488.

In addition for the B.S. degree, 9 credits of 300 level or above coursework must be taken in Biology or Earth and Planetary Science. Math 162L is required.

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 science (Group IV) requirement of the College of Arts and Sciences. The following are accepted in fulfillment of the Physical Science (Group IV) requirement of the College of Arts and Sciences: 251, 351, 353, 359, 452, 453. Geog 356 and 455 are accepted in fulfillment of the biological science (Group III) requirement of the College of Arts and Sciences. Other geography courses are accepted toward fulfillment of the social science (Group VI) requirements in that College.

Graduate Program

Graduate Advisor
 Louis Scuderi

Application Deadlines
 Fall semester: March 1 (with financial aid)
 June 30 (without financial aid)
 Spring semester: November 15
 Summer session: April 15

Applicants please direct correspondence to Graduate Advisor.

Degree Offered

M.A. in Geography

Concentrations: a) environmental analysis (physical geography and human/environment interaction) b) geographic information technologies (GIS, GPS, and remote sensing)

M.A. Geography

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 the Ph.D. is strongly urged to take Plan I and write a thesis. A minor may be taken under, either plan with the approval of the Geography Departments Graduate Advisory Committee. In place of a minor, approved courses in related fields may be substituted:

Minimum requirements for the Geography M.A. degree are as follows:

Plan I	Cr. Hrs.
Core Seminars	
Geog 501	3
two other: 502, 503, or 504	6
Five graduate-credit or 500-level courses	15
Thesis	6
Total	30

Plan II	Cr. Hrs.
Core Seminars	
Geog 501	3
two other: 502, 503, or 504	6
Eight graduate-credit or 500-level courses (one of which must be 500-level)	24
Total	33

Candidates under Plan I will be examined orally on their theses. Candidates under Plan II will be tested with both oral and written examinations on a topic from each of the three areas listed below. A regional emphasis in any of the three topics is acceptable.

1. Physical Geography.
2. Human/Environment 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 Departments 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 (GPA 3.0) or better in all courses, including those at the undergraduate level. GRE scores are required for application to the M.A. 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, their distribution, interrelation, and significance to man.

102. Human Geography. (3)
 World geography; human elements. A systematic analysis of world population, demographic factors, ethnic groups, predominant economies, and political units, 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. 2 hrs. lab.

106L. Human Geography Laboratory. (1)

Exercises in applied projects concerned with mapping and interpreting human patterns and processes. Topics will complement lectures in 102 and include population, agriculture, settlement, political and economic distributions.

195. [295.] 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.

263. Economic Geography. (3) Cullen

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.

285L. Cartography. (4) Scuderi

The graphical basis of cartography: an introduction to map design and construction. Exercises in basic drafting and lettering techniques, map projections, and in the problems of map design, data collection, data preparation, and graphic representation. Fees required.

Pre- or corequisite: 101.

***301. South America. (3)**

The physical and cultural landscapes of South America, including patterns of settlement and resource use by aboriginal, colonial, and modern peoples.

***302. Mexico and the Caribbean. (3)**

The physical and cultural landscapes of Mexico, Central America, and the islands of the Caribbean, including patterns of settlement and resource use by aboriginal, colonial, and modern peoples.

***336. The Middle East. (3) Snead**

Regional geography of southwestern Asia from Turkey through Afghanistan and southward to the tip of the Arabian Peninsula. Physical and cultural aspects are studied along with current economic and political problems. Numerous maps and slides.

***337. The Indian Subcontinent. (3) Snead**

Regional geography of south central Asia including India, Pakistan, Bangladesh, Nepal, Bhutan, and Sri Lanka. Physical and cultural aspects of this diverse region are studied along with current economic and human problems. Numerous maps and slides.

***344. [*374.] Geography of New Mexico. (3) Williams**

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 prehistoric periods to the urban Rio Grande corridor.

***345. Geography of the Southwest. (3) Williams**

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. [Systematic Climatology.] (3)**

(Also offered as E&PS 351.) 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. Pre- or corequisite: Math 162L.

***353. Microclimatology. (3)**

The study of heat exchange, temperature, moisture, and wind in air close to the ground in local areas. Analysis of the roles of vegetation, landforms, soils, water bodies, and urban structures in producing small-scale variations in limited locales.

***356. Biogeography. (3) Morain**

Explores concepts and theories of historical and evolutionary biogeography focusing especially on flowering plants and mammals from the Cretaceous to Present. Special attention is given to human evolution and ecology in context of human impacts on environment (extinction, fire, etc.). Approximately half the semester is devoted to regional issues.

***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.

***365. Urban Environment. (3) Williams**

Urbanization as a spatial process. Perception of the modern city. Ecological and environmental constraints to urbanization. Selected field projects applied to the local environment.

***367. Urban Spatial Patterns. (3) Williams**

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. 3 hrs lecture, 2 hrs. lab.

***382L. [*373.] Air Photo Interpretation & Remote Sensing. [Air Photo Interpretation.] (4) [3] Morain, Snead**

Techniques of analysis of aerial photographs for geographic study and research. Course also introduces remote sensing. Prerequisite: 101. 2 hrs. lab. Fee required.

***383. [*363.] Spatial Organization. (3) Cullen**

Examination of time-space frameworks for looking at the world; strategies used to solve problems which distributions of people and their activities create within ecosystems; causal relationships between spatial structure and spatial process.

***395. [*381.] Political Geography. (3)**

The spatial organization of political processes; political institutions as systems and hierarchies of systems; the political ecology of representative national and sub-national systems.

***399. Topics in Geography. (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.

***402. Geographic Education. (3) Williams**

Methods of presenting geographic techniques and materials in the classroom. Development of mapping exercises and

field projects for students in New Mexico. Geographic methods as a tool for enhancing social studies teaching.

***452. Global Climate Change. (3)**

(Also offered as E&PS *452.) 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.

***453. Energy Balance Climatology. (3)**

Explores the factors which control the flux of energy, mass and momentum in the atmosphere and at the planets surface. Analysis of the roles of these fluxes in determining climate/microclimate regimes.

Prerequisite: 351, or permission of instructor.

***455. Bioclimatology. (3)**

Through study of the measurement and modeling of fluxes of gases, moisture and energy between vegetation in global climate processes and environmental change assessments will be understood.

Prerequisite: 351 and 356 or permission of instructor.

470. Introduction to Applied Geography. (1)

Background readings and discussions centered on a specific geographic problem. This course is required before taking 471, *Applied Geography Seminar*. Recommended for last year of major.

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.

***481L. [*385L.] Computer Cartography. (3) [4]** Scuderi

Digital mapping fundamentals including: hardware and software considerations, vector versus raster data, digital terrain models, digital remote sensing and cartography. Fee required.

Prerequisite: 381L.

***482. Remote Sensing Systems. (3) Morain**

Platforms and sensor systems used to acquire non-photographic data about earth's natural and cultural resources. Reviews principles of the electromagnetic spectrum and the strategies and techniques for data handling and image processing.

Prerequisite: 373 or permission of instructor.

***483L. Image Processing. (3)**

Instruction will be provided in the various steps of image processing, from rectification and enhancement of digital satellite data to cover type determination through classification approaches and merging of satellite data with other map products.

Prerequisite: 382L. 2 hrs lab.

***484. Applied Remote Sensing. (3) Morain**

Reviews state-of-the-art applications of aerial and satellite sensors for natural and cultural resources. Emphasis is placed on processing and interpreting multispectral scanner data, microwave and thermal scanner data as well as on development of Geographic Information Systems.

Prerequisite: 482 or permission of instructor.

488L. Advanced Geographic Information Systems. (3)

Explores the use of advanced spatial analytic tools and focuses on the development of specialized GIS applications. Analysis of spatial characteristics of databases, use of higher-level programming languages, and development of advanced presentation tools. Fees required. Prerequisite: 381L. 2 hrs. lab.

491-492. Problems. (1-3, 1-3 hrs. per semester)

Supervised individual study and field work.

***493-494. Internship in Applied Geography. (1-6, 1-6)**

Written field analysis of a project coordinated between the student, faculty, and private or public manager. Credits to be determined by supervising faculty.

***495. 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: Geog 102 or permission of instructor.

***496. [*459.] Water Resources Management. (3)**

Matthews

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.

***497. 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.

501. Research Methods Core Seminar. (3)

(Fall)

502. Topics Nat Res-Core Seminar. (3)

(Spring)

503. Geographic Information Techniques-Core Seminar. (3) Morain

Prerequisite: 482, 484, or equivalent or permission of instructor.

504. Environmental Issues-Core Seminar. (3)

511. Seminar in Physical Geography. (3)

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 264L.

551-552. Problems. (1-3, 1-3 hrs. per semester)

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only.

GERMAN

See *Foreign Languages and Literatures*.

GREEK

See *Foreign Languages and Literatures*.

HISTORY

Richard Robbins, Chairperson
 M. Jane Slaughter, Assistant Chair
 The University of New Mexico
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 Albuquerque, New Mexico 87131-1181
 (505) 277-2451

Professors

Margaret Connell-Szasz, Ph.D., University of New Mexico
 Richard W. Etulain, Ph.D., University of Oregon
 David Farber, Ph.D., University of Chicago
 Linda Hall, Ph.D., Columbia University
 Robert W. Kern, Ph.D., University of Chicago
 Charles McClelland, Ph.D., Yale University
 Jonathan Porter, Ph.D., University of California (Berkeley)
 Howard N. Rabinowitz, Ph.D., University of Chicago
 Richard G. Robbins, Ph.D., Columbia University
 Janet Roebuck, Ph.D., University of London
 Ferenc M. Szasz, Ph.D., University of Rochester

Associate Professors

Richard M. Berthold, Ph.D., Cornell University
 Daniel M. Feller, Ph.D., University of Wisconsin (Madison)
 Robert Himmerich y Valencia, Ph.D., University of California
 (Los Angeles)
 Paul A. Hutton, Ph.D., Indiana University
 Elizabeth Jameson, Ph.D., University of Michigan
 Noel H. Pugach, Ph.D., University of Wisconsin
 Patricia Ann Risso, Ph.D., McGill University
 Virginia Scharff, Ph.D., University of Arizona
 M. Jane Slaughter, Ph.D., University of New Mexico
 Jake W. Spidle, Ph.D., Stanford University
 Charlie R. Steen, Ph.D., University of California (Los Angeles)
 Donald D. Sullivan, Ph.D., University of Colorado
 Melvin Yazawa, Ph.D., Johns Hopkins University

Assistant Professors

Judy Bieber, Ph.D., Johns Hopkins University
 Melissa Bokovoy, Ph.D., Indiana University
 Timothy Moy, Ph.D., University of California (Berkeley)

Professors Emeriti

Donald C. Cutter, Ph.D., University of California (Berkeley)
 William Dabney, Ph.D., University of Virginia
 Frank W. Ikle, Ph.D., University of California (Berkeley)
 John Kessell Ph.D., University of New Mexico
 Gerald Nash, Ph.D., University of California (Berkeley)
 Enrique Semo; Humbolt University
 Donald Skabelund, Ph.D., University of Utah

Introduction

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.

Major Study 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 intel-

lectual growth. It also helps to prepare students for a variety of professions and careers. The lower-division requirement includes Hist 101 and 102, and one of the following pairs: 161-162, 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*) and 492 (*Senior Seminar*). A minimum of two courses in each of three fields is necessary, i.e., 2 in U.S., 2 in Latin America, 2 in Europe, 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 GPA of 2.25 in major or minor studies.

Minor Study 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 7 semester courses (21 hours). The lower-division requirement includes a minimum of two semester courses (6 hours) from the following: Hist 101, 102, 161, 162, 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 GPA of 2.25 in major or minor studies.

Period Minor Requirements

For requirements, see *Comparative Literature*.

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

Daniel M. Feller.

Application Deadlines

Fall, Summer, and Spring semesters: January 15
 Financial Aid: January 15

Degrees Offered

M.A. In History

Fields of concentration: 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

Fields of concentration: Ancient, Medieval Europe, modern Europe to 1815, Europe since 1815 (or a regional or topical subspecialty 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 & 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 additional requirements apply to the History program.

Course work: all students must take History 500, 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" (551-552) 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 during the first year of graduate study.

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.

Major and minor fields: each student must select a major field from the M.A. concentrations listed above. Plan II students will also select a minor field from History or another discipline. Students must take at least one graduate seminar in each of their fields. Each student must pass a general written examination in the major and (for Plan II students only) minor field.

Ph.D.

Major and minor fields: students select three fields of study, two majors and one minor, from the Ph.D., concentrations listed above. Students must take at least two seminars in each of their major and minor fields 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 majors and by written examination in the minor.

Second foreign language: in addition to the departmental language requirement (see above), students with a major or minor field 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 UNM History course.

Dissertation: History dissertations must be written in English.

History (Hist)**I. Survey Courses**

101. Western Civilization. (3) Berthold, Bokovoy, Kern, McClelland, Robbins, Slaughter, Steen, Spidle, Sullivan
Ancient times to 1648. {Summer, Fall, Spring}

102. Western Civilization. (3) Berthold, Bokovoy, Kern, McClelland, Moy, Robbins, Slaughter, Steen, Spidle, Sullivan
1648 to present. {Summer, Fall, Spring}

161. History of the United States. (3) Connell-Szasz, Etulain, Feller, Hutton, Pugach, Rabinowitz, 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}

162. History of the United States. (3) Connell-Szasz, Etulain, Feller, Hutton, Moy, Pugach, Rabinowitz, 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 Phil, Clscs, 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. {Fall, Spring}

230. Introduction to Russian Studies (3)
(Also offered as Russ, Pol Sc 230.) A team-taught course designed to introduce the student to the broad outlines of Russian history, culture, and current events.

251. Traditional Eastern Civilizations. (3) Porter, Risso
The origin and development of the traditional societies and cultures of India, Southeast Asia, China, Japan and the Middle East.

252. Modern Eastern Civilizations. (3) Porter, Risso
The emergence of modern Asia from the impact of western colonialism and imperialism to nationalism, modernization and revolution.

260. History of New Mexico. (3)
Survey from Cabeza de Vaca to 1912.

270. The American West: A Survey. (3) Connell-Szasz
An introduction to the major periods and themes of frontier and western history. From Indian and Spanish experiences through the frontier era and on to the contemporary West. The emphasis will be on a broad sweep of the subject.

281. History of Colonial Latin America. (3)
From 1492-1821. Outlines the high culture of pre-Conquest Middle and South America—Maya, Aztec, Inca—and the history of Spain and Portugal to 1500; features of Latin American history from the rediscovery of America by Columbus in 1492 to the final achievement of independence in 1824. {Fall}

282. Modern Latin American History. (3) Hall
Surveys the nations of Latin America from their independence until the present. Emphasizes the process of nation-building, governance, socio-economic integration, and coping with modernization. Special attention given to great leaders of Latin America. (Spring)

283. La Raza: A History of Mexican Americans. (3)
An understanding of the Chicano in our society; the course is an examination of history and culture.

284. African American History. (3)
(Also offered as Afro A 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 Afro A 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.

II. Foundations of European Civilization

312. Philip and Alexander. (3) Berthold
Everything you could possibly want to know about Philip the Great and his fair-haired boy.

***313. Greece. (3)** Berthold
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.

***314. Rome. (3)** Berthold
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 sixth century.

***320. 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.

***321. Early Middle Ages, 300 to 1050. (3)** Sullivan
The emergence of medieval European civilization from the reign of Constantine to the beginnings of the papal monarchy.
Prerequisite: 101.

***322. The High Middle Ages. (3)** Sullivan
The maturing of medieval civilization: Gregorian reform, the Crusades, the rise of the university, and the Gothic cathedral.

***323. Renaissance Era, 1300 to 1520. (3)** Sullivan
The decline of medieval civilization and the transition to a new phase of European history.

***341. Medieval France to 1559. (3)** Steen
Study of the evolution of French social, political, and religious institutions from Roman times to outbreak of the Wars of Religion.

***346. [*347.] 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.

III. Early Modern Europe

***320. 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.

***325. Reformation Era, 1500-1600. (3)** Sullivan
(Also offered as Relig 325.) Religious revolution and concurrent developments in European politics, society, and culture.

***331. 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.

***332. Europe in the Eighteenth Century, 1700-1788. (3)** Steen
Survey of the political, cultural, social, and economic situation in Europe at height of Old Regime. Emphasis will be on intellectual and social developments that culminated in French Revolution.

***333. The French Revolution and Napoleon, 1789-1815. (3)** Steen
Survey of the course of the revolution and its impact on France and on European social, political, economic, and military life.

***342. Baroque France, 1560-1815. (3)** Steen
Study of creation of France as modern state with emphasis on social and political developments that led to French Revolution.

***343. History of England to 1688. (3)**
Survey of medieval foundations, Tudor era, and seventeenth-century social and political revolutions.

***347. [*348.] 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.

***395. Spain and Portugal to 1700. (3)** Kern
Spanish and Portuguese history to 1700.

IV. Modern Europe

***328. Modern France since 1815. (3)**
The development of French society and culture since the French Revolution.

***334. Modern Europe, 1815-1890. (3)** Kern, McClelland
Restorations and revolutions, nationalism, unification and industrialism; the "generation of materialism."

***335. Modern Europe, 1890-1939. (3)** Kern, McClelland
The origins of World War I, World War II and the search for peace.

***336. Europe since 1939. (3)** Bokovoy
Study of the transformation of Europe after World War II as experienced on the political, economic, social and cultural level.

***345. The British Empire and Commonwealth. (3)**
Survey of British colonial policy and nation-building since 1815. Emphasis on Ireland, Canada, Australia, India, and South Africa.

***348. [*349.] Russia in the Era of Reform and Revolution, 1855-1924. [Russia in the Era of Reform and Revolution: 1855 to Present.] (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.

***349. Stalinist and Post Stalinist Russia, 1924 to Present. (3)**
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.

*396. **Spain and Portugal since 1700.** (3) Kern
Spanish and Portuguese history since 1700.

*437. **History of the Holocaust.** (3) Pugach
(Also offered as Relig 437.) 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.

*438. **European Diplomatic History.** (3) Spidle
Since 1815.

*442. **Germany, 1871 to 1971.** (3) McClelland
Bismarck to Brandt, a survey of German history from unification to contemporary times, with special emphasis on Weimar and Hitlerian Germany.

*443. **Modern Eastern Europe.** (3) Bokovoy, McClelland

V. United States History

*320. **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.

*361. **American Urban History to 1870.** (3) Rabinowitz
Study of urban America from colonial times to 1870, emphasizing the growth of pre-industrial and early industrial cities and their impact upon the development of the United States.

*362. **American Urban History since 1870.** (3) Rabinowitz
Continuation of 361, emphasizing the emergence, development, and role of the modern city.

*363. **The Old South.** (3) Feller
The South from the beginning of colonization to the outbreak of the Civil War. Emphasis on slavery and its impact on southern society.

*364. **Political History of the United States.** (3) Feller
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.

*367. **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.

*368. **New South Since 1865.** (3) Rabinowitz
Emphasis on the social, political and economic aspects of Reconstruction and the first New South, progressivism, race relations, the New Deal, civil rights movement, Southern culture and contemporary politics as they affect the region and the nation.

*370. **American Diplomacy.** (3) Pugach
Diplomatic history of the United States from independence to 1898; from the Spanish-American War to the present.

*371. **American Diplomacy.** (3) Pugach
Diplomatic history of the United States from independence to 1898; from the Spanish-American War to the present.

*375. **Military History of the United States.** (3) Hutton
Survey of U.S. military and naval history from colonial times to present, with emphasis upon technological, managerial, and political developments that have affected the armed services.

*378. **Constitutional History of the United States.** (3)
The American Constitution from English origins through the Civil War and Reconstruction. The continuing effort to fash-

ion a frame of government broad enough to embrace diverse peoples of different races, religious, national origins and value systems.

*379. **Constitutional History of the United States.** (3)
Sequel to Hist 378. 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.

*403. **The United States in the World War II Era.** (3) Szasz
The Era of World War II from the mid 1930's to the mid 1950's, with a focus on the social, political, economic, cultural, military and diplomatic aspects of the conflict.

*460. **Vietnam War Era.** (3)
This history of the Vietnam War era covers the origins of the conflict, the nature of the war, the homefront reaction, and the political, military and social consequences.

*461. **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.

*462. **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.

*465. **The Age of Jackson.** (3) Feller
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.

*466. **The Civil War Era.** (3) Feller
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.

*467. **United States in the Gilded Age, 1865-1900.** (3) Rabinowitz
Emphasizes changes in society in terms of impact on Americans at the time and legacy to the 20th century, includes Reconstruction, immigration, industrialization, urbanization, and America's rise to the world power.

*468. **Twentieth Century America, 1898-1932.** (3)
From 1898 to the time of the Great Depression.

*469. **Twentieth Century America, 1932-Present.** (3)
From the time of the Great Depression to the present.

*471. **U.S. Social History.** (3) Scharff
A survey of U.S. social history from 1607 to the present, with special emphasis on the changing nature of the concept of community.

*474. **U.S. Naval History.** (3)
This course is a study of U.S. Naval History from the American Revolution to the present. Attention will also be given to the role of the U.S. Marine Corps, and to present naval strategy and readiness.

*475. **American Culture and Society, 1607-1860.** (3) Szasz

*476. **American Culture and Society since 1860.** (3) Szasz

477. **U.S. Environmental History** (3)
Studies in relations between human communities and their

environs in what became the United States. Topics include Indian and EuroAmerican interactions with 'nature', market economies and ecological transformation, ecological consequences of the industrial and transportation revolutions, and urban ecologies.

VI. The American West

*320. 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.

*360. History of New Mexico. (3) I

Survey from Cabeza de Vaca to the present.

*373. History of the American Frontier. (3) Connell-Szasz, Hutton

Anglo-American expansion from the seventeenth century to the 1890s.

*374. The Trans-Mississippi West. (3) Connell-Szasz, Hutton

*380. History of the Southwest, Spanish Period. (3)

Spanish exploration and occupation of the Southwest; colonial government and missions.

*385. The American West in the Twentieth Century. (3)

Surveys the growth of the trans-Mississippi West in the twentieth century, giving attention to social development, economic growth, cultural development, the role of minority groups, and the impact of science and technology.

*386. Western Films. (3) Etulain

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}

*479. Women in the U.S. West. (3) Jameson

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 suffrage was first achieved in the West.

VII. Latin American History

*320. 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.

*383. 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.

*384. Inter-American Relations. (3)

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.

389. [*389.] Latin American Philosophy. (3)

(Also offered as Soc, Phil 389.) Pre-Columbian thought through independence ideologies.

390. [*390.] Latin American Philosophy. (3)

(Also offered as Soc, Phil 390.) Positivism through contemporary thought.

*393. Spanish South America to 1824. (3)

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.

*397. Mexico to 1821. (3)

Origins of native Mexican civilization; high cultures-Maya, Toltec, Aztec; Spain and the Spanish conquest of Mexico; colonial life, government, achievements; Independence of Mexico.

*398. Mexico since 1821. (3) Hall

The major political, social and economic trends and events in Mexico from the independence movement to 1940.

*418. Women in Colonial Latin America. [Women in Latin America] (3) Hall

A historical exploration of the place of women within the social systems of Latin America in the pre-columbian and colonial eras.

*419. Women in Modern Latin America. (3)

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.

*480. Indigenous Peoples of Latin America. (3)

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.

*482. 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.

*484. The Cuban Revolution, 1959 to Present. (3)

(Also offered as Soc 484.) Background to revolution since 1898; emphasis on period since 1959.

*486. Southern South America. (3)

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.

*487. Atlantic Slavery in Comparative Perspective. (3)

Overview of slavery and the slave trade and its impact on American, Caribbean, African, and Latin American societies. Emphasis on social questions of race, gender, and resistance.

*489. Brazil in the Colonial Period, 1500-1822. [Brazil, 1500 to the Present.] (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.

*490. Modern Brazil, 1822 - Present (3)

History of Brazil since independence. Topics include oligarchical, politics, the end of slavery, race relations, urbanization, industrialization, authoritarian regimes, labor, and peasant movements.

VII. Asian History

*311. The Ancient Near East. (3) Berthold

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.

***320. 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.

***350. Traditional China. (3) Porter**

Emergence and development of Chinese civilization to its height in the thirteenth century, including cultural, political, social, and economic themes.

***351. Early Modern China. (3) Porter**

The development of early modern society and the impact of the West from the thirteenth to the twentieth century.

***352. History of Japan. (3)**

Social, political, and economic institutions from historical beginnings to modern times.

***355. Revolutionary China. (3) Porter**

Political, social, economic and cultural history of China in the revolutionary period from 1911 to the present.

***356. 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.

***358. The Modern Middle East from 1800. (3) Risso**

Topics include nineteenth century reform attempts, the transition from empire to nation-states, the gap between ideology and practice, the Arab-Israeli conflict, and revolutionary Iran.

***359. 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.

***450. 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.

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.

IX. Gender and Ethnic Studies***315. History of Women from Ancient Times to the Enlightenment. (3) Slaughter**

Study of sex roles in primitive societies, classic 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.

***316. Women in the Modern World. (3) 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.

***320. 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.

***330. History of the Women's Rights Movement. (3)**

Slaughter

A detailed study of the movements for women's rights in the

U.S. and in Europe in the nineteenth and twentieth centuries. The topics approach will emphasize the movement's relation to and impact on broader historical questions, e.g., feminism and socialism, feminism and World War I. Student involvement in discussion and project presentations is required.

***366. Blacks in Urban America. (3) Rabinowitz**

Interdisciplinary examination of the transformation of America's blacks from a rural to a predominantly urban people. Special emphasis given to the post-Civil War period.

***369. American Indian History. (3) Connell-Szasz**

Survey of American Indian history from white contact to the present.

***415. 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.

***416. 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 example and case studies.

***463. American Indians Pre-1860. (3) Connell-Szasz**

This course will cover American Indian/Alaska Native history to 1860.

***464. American Indians Post-1860. (3) Connell-Szasz**

The course will cover American Indian/Alaska Native history from 1860 to the present.

X. Religion, Science and Ideas***301. History of the Jewish People to 1492. (3) Pugh**

(Also offered as Relig 301.) 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)

***302. Modern History of the Jewish People. (3) Pugh**

(Also offered as Relig 302.) 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 1996 and alternate years)

***303. History of World Communism. (3) Kern**

From Marx to the present.

***305. History of Christianity to 1517. (3)**

(Also offered as Relig 305.) 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)

***306. History of Christianity, 1517 to Present. (3)**

Sullivan

(Also offered as Relig 306.) 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)

***317. History of Science From Antiquity to the Scientific Revolution. [History of Science From Antiquity to Newton.] (3) Moy**

A history of western science from ancient Mesopotamia through the "Scientific Revolution".

***318. History of Science Since the Enlightenment. (3) Moy**

A history of western science from the Enlightenment to the 20th century.

***319. 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.

***320. 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.

***327. History of Technology. (3) Moy**

Picks up topics commonly omitted from other courses: the environmental, technological, and scientific factors in history, mostly Western, from antiquity to the present.

***425. 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.

***426. 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.

***456. Islam. (3) Rizzo**

(Also offered as Relig 456.) 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.

***470. Philosophy of History. (3)**

(Also offered as Phil 470.) Nature, structure, and presuppositions of history and historical methods.

***478. History of Religion in America. (3) Szasz**

(Also offered as Relig 478.) 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.

XI. Undergraduate Colloquia, Seminars and Special Courses

300. 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. [309.] Historiography. (3) Etulain, Feller, Jameson, Kern, McClelland, Slaughter, Spidle

Development of historical thought and writing. Prerequisites: Hist. 101-102 and a minimum of two upper-division courses in history. (Summer, Fall)

493. Reading and Research in Honors. (3)

Prerequisite: permission of major advisor.

494. Senior Thesis. (3)

Prerequisite: 493.

496. Undergraduate Readings in History. (1-3) Δ

Permission of instructor required before registering.

***499. [*491.] Internship. (3-9)**

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.

XII. Graduate Seminars

492. [495.] Senior Seminar. [Undergraduate Honors Colloquium.] (3)

Prerequisite: permission of instructor.

Department requirements provide that the following seminars be repeated only once.

500. Seminar in Historical Research Methods. (3)

504. Seminar in Latin-American Studies. (3) †
(Also offered as Lt-Am, Hist, Span 504, Hist 589.)

510. Seminar and Studies in History. (3) Δ

520. Seminar and Studies in Ancient History. (3) Δ
Berthold

521. Seminar and Studies in Medieval History. (3)
Sullivan

532. Seminar and Studies in Early Modern European History. (3) Steen

540. Seminar and Studies in European Intellectual History. (3) McClelland

542. Seminar and Studies in Modern European History. (3) Bokovoy, McClelland

544. Seminar in the History of Women. (3) Slaughter

545. Seminar and Studies in British History. (3)

547. Seminar and Studies in Modern Russian History. (3) Robbins

548. Seminar and Studies in Iberian History. (3) Kern

551-552. Problems. (1-3, hrs. per semester) Δ

554. Seminar and Studies in Far Eastern History. (3)
Porter, Rizzo

562. Seminar and Studies in Early American History. (3)
Yazawa
Pre- or corequisite: 462.

563. Seminar and Studies in U.S. Urban History. (3)
Rabinowitz

564. Seminar and Studies in American Intellectual and Social History. (3) Szasz

565. Seminar and Studies in Southern History. (3) Δ

566. Seminar and Studies in Civil War Period. (3) Feller

568. Seminar and Studies in Recent American History. (3)

569. Seminar and Studies in U.S. Social History and Theory. (3) Scharff

570. Seminar and Studies in United States Diplomatic History. (3) Pugach

573. Seminar in American Western History. (3) Etulain, Hutton, Jameson

574. Seminar in American Indian History. (3) Connell-Szasz

579. Seminar in Southwest History. (3)
581. Seminar in Colonial Latin American History. (3)
582. Seminar in Recent Latin American History. (3) Hall
584. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3) Merkx, Needler, Schwerin
(Also offered as Econ, Pol Sc, Soc 584.)
589. Seminar and Studies in Brazilian History. (3) Bieber
(Also offered as Hist, Span, Lt-Am 504.) Format varies from research seminar to reading colloquium and covers the whole history of Brazil. Reading knowledge of Portuguese recommended.
599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.
699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

ITALIAN

See *Foreign Languages and Literatures*.

INTERNATIONAL STUDIES

Asian Studies

Jonathan Porter, Chairperson
The University of New Mexico
Mesa Vista 1077
Albuquerque, NM 87131-
(505) 277-5214, 277-2451

Advisory Committee

Lorie Brau—Foreign Languages and Literatures
Pat Risso—History
Rodman Snead—Geography
Fred Gillette Sturm—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. 36 credit-hours total: 3 hrs Senior Thesis (Hist, Geog, Phil, Pol Sc 453); 6 hrs History; 6 hrs Philosophy or Religious Studies; 3 hrs Geography, Anthropology, Economics, Political Science or Sociology; 12 hrs in an Asian language; 6 hrs 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 Committee member from an appropriate field. Two 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 Chair.

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, 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. The following courses have been approved (see appropriate departmental listings for course descriptions and prerequisites):

Anth 328; Art Hi 303, 429 when the topic is appropriate; C & J 325, 473 when the topic is appropriate; Econ 450, 478; Gn Hon 302; Geog 336, 337; Hist 251, 252, 301, 302, 311, 350, 351, 352, 355, 356, 358, 359, 370, 371, 450, 456, plus 492 and 496 when topic is appropriate; Chin 101, 102, 201, 202, 297; Japan 101, 102, 104, 201, 297, 497; Phil 107, 263, 334, 335, 336, 337, 348, 438, 439, 440, 449; Pol Sc 478; Relig 107, 109/110, 230, 231, 263, 301, 302, 438, 439, 440, 441, 447/547 when topic is appropriate, 448, 449, 456; Soc 221, 478; Wm St 331 when topic is appropriate; Asian Studies Senior Thesis given as Geog, Hist, Phil, or Pol Sc 453. For information about Arabic and Persian, see the Asian Studies Committee Chair.

European Studies

Charles McClelland, Chairperson
The University of New Mexico
European Studies
Mesa Vista Hall 2082
Albuquerque, NM 87131-1181
(505) 277-2267, 277-2451

Advisory Committee

Judith Bennahum, Fine Arts
Richard Berthold, History
Melissa Bokovoy, History
James L. Boone, Anthropology
Fritz Cocron, History/Political Science
Richard Coughlin, Sociology
Douglas George, Art and Art History
Gary Harrison, English
Ira Jaffe, Fine Arts
Paul Jonas, Economics (Emeritus)
Christiane Joost-Gaugier, Art and Art History
Robert Kern, History
Charles McClelland, History
Neil Mitchell, Political Science
Stanley Morain, Geography
Carol Nagengast, Anthropology
Peter Pabisch, Foreign Languages and Literatures
Walter Putnam, Foreign Languages and Literatures
Diana Robin, Foreign Languages and Literatures
Alfred Rodriguez, Spanish and Portuguese
Joe Rothrock, Art and Art History
Mari Lyn Salvador, Anthropology
Christine Sauer, Economics
Jane Slaughter, History
Gerald Slavin, International Programs and Services
Charlie Steen, History
Lawrence Straus, Anthropology
James Thorson, English

Major Study Requirements

The interdisciplinary European Studies Major requires 36 hours of work in approved courses from a broad range of departmental offerings (listed in a separate catalog). All students must take 12 hours of courses in a European language other than English. Students are further required to take a minimum of three hours in courses with predominantly European content and focus from each of the following general areas:

- Fine Arts (Art/Art History, Dance, Media Arts, Music and Theatre)
- History
- Literature and Philosophy (English, Comparative Literature, Foreign Languages and Literatures, Philosophy)
- Social Science (Anthropology, Economics, Geography, Political Science, and 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. Selected courses must meet the following guidelines:

No more than 6 hours below the 300 level (except for language courses);

No more than 12 hours in any one department;

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 chairperson a "disciplinary focus" tied to the departmental discipline in which they take the majority of their courses.

Minor Study Requirements

Eighteen hours of work in approved courses will be required for the interdisciplinary European Studies minor. Approved courses are listed in a separate European Studies course catalog. These 18 hours should be distributed as follows:

3 hours in history and fine arts; 3 hours in philosophy and literature (english, comparative literature, and foreign languages and literatures, philosophy); and 3 hours in social sciences (anthropology, geography, political science, and sociology);

9 hours of electives from the approved list of courses; no more than 6 of the 18 hours may be below the 300 level; no more than 9 of the 18 hours may be in any one department; no more than 3 hours may be in approved undergraduate readings or individual studies courses.

In addition, students must take two years of a major European language other than English or have a certifiable reading knowledge of such a language.

NOTE: The list of approved courses, or European Studies catalog, is a compilation of all undergraduate courses offered by UNM 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.)

Russian Studies

Byron Lindsey, Chairperson (1996-97)
The University of New Mexico
Ortega Hall 229
Albuquerque, NM 87131-
(505) 277-9122, 277-4771

For general current information about the program contact the department of Foreign Languages and Literatures; for advisement and pertinent information about the individual fields of specialization, contact individual faculty members of the committee.

Committee in Charge

- Melissa Bokovoy, History
- Bruce Boling, Library
- Fritz Cocron, History
- Gregory Gleason, Political Science
- Paul Jonas, Economics
- Robert Kern, History
- Natasha Kolchevska, Foreign Languages and Literatures
- Byron Lindsey, Foreign Languages and Literatures
- Charles McClelland, History
- Carole Nagengast, Anthropology
- Richard Robbins, History
- Gerald Slavin, Advisement
- Avi Shama, Management

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

The major in Russian Studies requires 53 hours, consisting of two components: 32 hours in the core courses and 21 hours selected from one or more disciplines upon consultation with the Russian Studies Core Faculty.

Students planning to major in Russian Studies will need to select a faculty mentor for guidance on a specific course of studies beyond the core program.

- I. The Core—(32 semester hours)
 - Russian Language and Civilization—(20 semester hours)
 - Russ 201-202 Intermediate Russian 3-3
 - Russ 301-302 Advanced Russian 3-3
 - Russ 230 Introduction to Russian Studies 3

2 hours from the following:

Russian 203/204, 303/304—Intermediate/Advanced Conversation

3 hours from the following:

- Russ 338 Great Russian Tales in Translation
- Russ 339 20th Century Russian Literature in Translation
- Russ 345 Russian Civilization

Russian History—(6 semester hours)

- Hist 348 Romanov Russia to 1855 3
- Hist 349 Russia in the Era of Reform and Revolution, 1855 to present 3

Contemporary Affairs and Methods—(6 semester hours)

- 6 hours in upper division courses that address relevant social science methodology or management practices. These include, but are not limited to:
- Pol Sc 357 *Russian and Eurasian Politics* (3)
- Econ 450 *Emerging Economies* (3)

II. Additional Courses (21 hours) to be selected from the following:

- Russian Conversation (103-104, 203-204, 303-304).
- Russ 401-402; 407, or any Russian Literature in Translation course not taken to fulfill the Core requirement.

ARTS & SCIENCES

History 303, 320 (when offered with Russian content), 336, 347, 440, 443, 547.

Political Science 220, 240, (when offered with Russian content), 440.

Students may substitute other courses for those in Section II upon consultation with their faculty mentor.

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, Civilization, and/or Economics.

LATIN

see *Foreign Languages and Literatures*.

LATIN AMERICAN STUDIES

Linda Hall, Director
The University of New Mexico
Latin American Institute
801 Yale N. E.
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(505) 277-2961, FAX (505) 277-5989

Professors

Garth Bawden—Anthropology
John Bergen—Spanish and Portuguese
Garland Bills—Linguistics
Flora Clancy—Art History
Donald Coes—Management
Dick Gerdes—Spanish and Portuguese
Erlinda Gonzales-Berry—Spanish and Portuguese
Linda Hall—History
Fred Harris—Political Science
Robert Kern—History
John Lipski—Spanish and Portuguese
Gilbert Merckx—Sociology
Tey Diana Rebolledo—Spanish and Portuguese
Karen Remmer—Political Science
Robert Santley—Anthropology
Karl Schwerin—Anthropology
William Siembieda—Community and Regional Planning
Frederick Sturm—Philosophy
Susan Tiano—Sociology
Nelson P. Valdes—Sociology
Joanne Weiss—Nursing

Associate Professors

Teresa Cordova—Community and Regional Planning
David Craven—Art History
Raul de Gouvea—International Management
Kim Hill—Anthropology
Robert Himmerich y Valencia—History
Claudia Isaac—Community and Regional Planning
Enrique Lamadrid—Spanish and Portuguese
Carole Nagengast—Anthropology
Sylvia Rodriguez—Anthropology
Mari Lyn Salvador—Anthropology
Richard Santos—Economics

Assistant Professors

Geoffrey Banister—International Management
Holly Barnett-Sanchez—Art History
Judy Bieber—History
Melissa Binder—Economics
Susan Dever—Media Arts
Les Field—Anthropology
David Henkel—Community and Regional Planning

Antony Higgins—Spanish and Portuguese
Miguel Korzeniewicz—Sociology
Kimberle Lopez—Spanish and Portuguese
Ana Magdalena Hurtado—Anthropology
Margo Milleret—Spanish and Portuguese
Mark Peceny—Political Science
Kenneth Roberts, Political Science
William Stanley—Political Science
Charlene Villaseñor Black—Art History

Interdisciplinary Committee on Latin American Studies

Chairperson, Linda Hall—History
Geoffrey Banister—International Management
Judy Bieber—History
Garland Bills—Linguistics
Melissa Binder—Economics
Claudia Isaac—Community and Regional Planning
Robert Himmerich y Valencia—History
Carole Nagengast—Anthropology
Karen Remmer—Political Science
Kenneth Roberts—Political Science
Susan B. Tiano—Sociology
Jon Tolman—Spanish and Portuguese

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 in the College of Arts and Sciences and administered by the Director of Latin American Studies. 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.

Major Study Requirements

A minimum of 36 hours, including the required courses outlined in A, B, and C below, are needed for a major in Latin American Studies. Students will work closely with the Student Advisor, and the Director of Latin American Studies in planning their program of study and must receive approval for all course work related to the major.

1. Languages of Latin America: A student may choose one of the following to develop language proficiency. Spanish concentration, Portuguese support skill: Spanish 301-302, Portuguese 275 or 276. Portuguese concentration, Spanish support skill: Portuguese 311, 312, Spanish 101-102.
2. Students will complete four of the following core courses:
Anth 343, Econ 421, Geog 301 or 302, Hist 281 or 282, Pol Sc 356, Phil 389 or 390, Soc 350 or 450, Span 431.
3. Majors will complete 12 hours from the Approved Electives for Latin American Studies, listed below.

A listing and description of Latin American content courses currently being offered can be obtained from the Latin American Institute, 801 Yale N. E.

Brazil Studies Concentration

A new option within the undergraduate major provides for a Certificate of Concentration in Brazilian Studies. Students electing to concentrate in Brazilian Studies will complete the Portuguese language concentration requirement and five of the following courses: Port 200, Port 335, Pol Sc 340, Phil 388, Port 401, 414, or 415.

Dual Major

Under the "Three-Two" MBA Program a student may take a dual major in Latin American studies and economics and continue for a MBA, completing the entire program in five years. Details are available at the Anderson School of Management or at the Latin American Institute.

Minor Study Requirements

A minimum of 24 hours, including Span 301-302, or Port 311, 312; 3 courses selected from Anth 343, Econ 421, Geog 301 or 302, Hist 281 or 282, Pol Sc 356, Phil 389 or 390, Soc 350 or 450, and Span 431; and 9 hours from the courses identified as Approved Electives. Consult with the Director of Latin American Studies at the Latin American Institute for approval for all course work to be counted toward the minor.

Approved Electives

Anth 322, 324, 332, 337, 340, 341, 343, 344, 345, 384, 430; Art Hi 343, 411, 412, 450, 483; Econ 421, 423; Geog 301, 302; Hist 280, 281, 282, 320, 380, 381, 383, 384, 389, 390, 393, 397, 398, 399, 418, 481, 482, 483, 484, 485, 486, 488, 489; Phil 387, 389, 390; Pol Sc 308, 320, 321, 345, 355, 356, 455; Port 311, 312, 414, 415, 416, 421, 457, 458, 461, 462; Soc 221, 326, 328, 350, 389, 390, 420, 450; Span 301, 302, 307, 334, 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 majors may offer 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 Programs and submit a formal letter of application during their junior year. Honors candidates must register for six hours of Latin American Studies 497 and 499 and complete a Senior Honors Thesis which will be orally defended.

Graduate Program

Graduate Advisors

Linda Hall, Director of Latin American Studies
Joan A. Swanson, Student Advisor

Application Deadlines

Please note that the application deadlines for Latin American Studies Programs will change beginning with the academic year 1998-1999. The changes are as follows:

Fall semester and Summer session : February 1
(with financial aid consideration) April 1 otherwise
Spring semester: November 10

Please contact the Student Advisor of the Latin American Institute if you have any questions (505)277-2961.

Degrees Offered

M.A. in Latin American Studies (MALAS)

Concentrations: Anthropology, art history, Brazilian literature, community and regional planning, economics, history of the colonial period, history of the national period, international management, philosophy, political science, sociology, Spanish American literature, Spanish linguistics, women and gender.

Ph.D. in Latin American Studies

Concentrations:
Major Field: anthropology of Latin America, pre-Colombian

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 the following: economics, international management, and philosophy.

The 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 Bachelors degree, competence in Spanish or Portuguese, and a demonstrable interest in Latin American area studies acquired through course work or experience. Background work in Latin American history and economics is recommended.

Degree Requirements

Plan I (thesis option) 36 credit hours. Students must select two areas of specialization within the MA/LAS 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 the major field and one from the minor field 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, 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 four dual degree programs noted below (see also page 55). 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 features a course sharing arrangement that permits the student to obtain both degrees with a minimum of 52 (normally 72) hours beyond the B.A. degree if no waivers are granted. A separate option for the undergraduate student is the three-two program that allows the student to complete the B.A. in Latin American Studies and the M.B.A. in less time than would normally be required if the student were to pursue both degrees in sequence. It is important that students interested in this degree plan enter the program early in their undergraduate careers.

MALAS/MCRP. 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 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 degree

in approximately two-thirds of the time it would normally take to earn both degrees separately.

MALAS/MSN. This joint program is designed to prepare nurses for leadership roles in health care delivery systems serving populations in Latin America or Hispanic populations in the United States. Applicants to the program must hold a Bachelors degree with a major in nursing from an accredited college or university.

MALAS/JD. This dual degree program, jointly administered by the School of Law, is intended to prepare legal professionals to work in Latin America or with Hispanic peoples in the United States, by combining legal training with Latin American language and area 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, nine hours of international law, 24 hours of Latin American studies, and a three-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 graduate advisors in the School of Law and in the Latin American Institute.

The 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 who enter the program with well-defined goals for their course of study of Latin America. The program is rigorous enough for comprehensive preparation in a specific discipline and flexible enough to enable students to focus on additional areas of interest. The combination of rigor and flexibility reflects two divergent trends in the marketplace: the academic setting, usually in a disciplinary department, and the nonacademic arena in public and private sector organizations. It is intended that the graduate of the program have the single discipline subject matter competence needed to qualify for an academic position, as well as the broadly-grounded Latin American expertise expected of an area studies specialist.

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 students 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 Bachelors 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)

355. [*355.] Central American Politics. (3)
(Also offered as Soc 355.) The political dynamics of Central American republics, considered on a country by country basis. Recommended preparation: Hist 282.

497. Independent Studies. (1-3 hrs., to a maximum of 6)
Prerequisite: permission of program chairperson. For undergraduates only.

499. Senior Honors Thesis. (3)
Prerequisite: candidacy for honors in Latin American Studies.

504. Seminar in Latin American Studies. (3) Δ
(Also offered as Span 504, Hist 504 and 589.) {Fall, Spring}

525. Proseminar on Latin American Politics. (3)
(Also offered as Soc 525.)

551. Masters Problems. (1-3 hrs. each semester)
Guided individual research and reading.

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. Masters Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

651. Latin American Doctoral Problems. (1-3 hrs. per semester)

699. Latin American Studies Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

LINGUISTICS

Garland D. Bills, Chair
The University of New Mexico
Humanities Bldg. 526
Albuquerque, NM 87131-1196
(505) 277-6353 FAX (505) 277-6355
E-MAIL: gbills@unm.edu
WEB: <http://www.unm.edu/linguist>

Professors

Garland D. Bills, Ph.D., University of Texas (Austin)
Joan L. Bybee, Ph.D., University of California (Los Angeles)
Vera P. John-Steiner, Ph.D., University of Chicago
John W. Oller, Jr., Ph.D., University of Rochester

Associate Professors

Larry P. Gorbet, Ph.D., University of California (San Diego)
Eduardo Hernández Chávez, Ph.D., University of California (Berkeley)
Alan J. Hudson, Ph.D., Yeshiva University
Sherman E. Wilcox, Ph.D., University of New Mexico

Assistant Professors

Melissa Axelrod, Ph.D., University of Colorado (Boulder)
William P. Isham, Ph.D., Northeastern University (Boston)
Jill P. Morford, Ph.D., University of Chicago
Phyllis Perrin Wilcox, Ph.D., University of New Mexico

Lecturers

Leslie C. Greer, M.A., University of Rochester
Roseann S. Willink, M.A., University of New Mexico

Professor Emeritus

Robert W. Young, Honorary LL. D., University of New Mexico

Associated faculty in other departments.

Introduction

The Department of Linguistics offers a B.A. major and minor in Linguistics and a B.S. major in Signed Language Interpreting in the College of Arts and Sciences 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, and semantics as well as in the interdisciplinary fields of applied linguistics, psycholinguistics, and sociolinguistics. Heavy emphasis is placed upon the role of language in culture and society, particularly in the Southwest, and upon the educational applications of the language sciences.

Major Study Requirements

Linguistics

The B.A. major in Linguistics requires a minimum of 36 hours numbered above 200 (24 in required courses, 12 approved electives) and four semesters of a second language or the equivalent. Required courses are: Ling 292L, 303, 304, 322, 331, 362 or 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.

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 and the Department of Linguistics. Students electing this major do not need a minor.

Signed Language Interpreting

The B.S. major in Signed Language Interpreting requires Ling 101 and a minimum of 36 hours in Sign numbered above 200: 201, 210, 211, 212, 214, 310, 352, 410, 411, 412, 418, 419. Students majoring in Signed Language Interpreting must be approved by the department.

Minor Study Requirements

The minor in Linguistics requires at least 21 hours of linguistics courses numbered above 200: Ling 292L, 303, 304, 322, and 9 additional hours selected from the requirements or approved electives for the major.

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/mentor and should submit a proposal in the form of a letter to the department chair.

If the proposal is approved by the department chair, 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 six hours of honors work are in addition to the minimum number of hours required for the major.

Graduate Programs

Graduate Advisor

Alan Hudson

Application Deadlines

Fall semester:

March 31 for M.A. and March 1 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 March 1.

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 concentration. This degree is offered under Plan I or Plan II according to the regulations set forth in earlier pages of this Catalog, except that a minimum of 12 hours of 500-level courses are 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.

Ph.D. in Linguistics

Candidates for the master's degree must complete 15 hours of core course work, including one 400 or 500 level course in each of the following areas: phonology, syntax, psycholinguistics, sociolinguistics, and theoretical or applied linguistics. The remaining required hours are selected by the candidate, with the approval of the Graduate Advisor.

Admission to the Ph.D. program is highly selective. The following criteria must be met: (1) completion of the course work equivalent to the UNM M.A. in Linguistics with an average of B+ or better, (2) Pass with Distinction on the UNM M.A. Comprehensive Exam or the submission of a research paper of publishable quality, and (3) willingness of a UNM Linguistics faculty member to serve as the student's mentor.

Requirements for the Ph.D. are: (1) one 500-level course each in phonology and syntax beyond what is required for the M.A.; (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.

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. (Fall, Spring)

292L. Introduction to Linguistic Analysis. (3) Bills, 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. 3 lectures, 1 hr. lab. (Fall, Spring)

295. 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) Bybee, Hudson (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. (Fall, Spring)

***304. Phonological Analysis.** (3) Bybee, Hudson (Also offered as Anth 317.) Phonetic principles and phonological theory, descriptive analysis of phonological systems, transcriptional practice and problems from selected languages. Prerequisite: 292L. (Fall)

***322. Grammatical Analysis.** (3) Gorbet, Hudson (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: 292L. (Spring)

***331. Language in Society.** (3) Bills, Hernández Chávez, Hudson 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. (Fall)

***332. Spanish-English Bilingualism.** (3) Hernández Chávez 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.

***359. Language and Culture.** (3) Basso, Dinwoodie, Gorbet, (Also offered as Anth 310 and C & J 359.) Examination of the interrelations of language and speech with other selected aspects of culture and cognition. Prerequisite: an introductory linguistics course. (Spring)

***362. Language Testing.** (3) Oller (Also offered as ETSCS 362.) Survey of language testing procedures with special applications in multilingual and bilingual programs. Prerequisites: an introductory linguistics course; some knowledge of statistics recommended. (Fall)

***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: 292L or Psych 265. (Fall)

***401-402. Topics: American Indian Languages.** (3, 3) 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.

***405. Native American Languages.** (3) Gorbet, Axelrod (See Anth 415.)

***410. Topics in Anthropological Linguistics.** (3) Δ (See Anth 410.)

***412. Morphology.** (3) 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: 292L.

***413. Linguistic Field Methods.** (3) Gorbet, Axelrod (Also offered as Anth 413.) Practice in transcribing from oral dictation, phonemic analysis, introduction to problems of morphology. Prerequisites: 304 and permission of instructor.

***422. Child Language.** (3) Morford, John-Steiner (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.

***425. Semantic Analysis.** (3) Axelrod, Gorbet An introduction to the study of sentence and word level meaning in the languages of the world, emphasizing the role of speaker and hearer, linguistic and extralinguistic context, lexical semantics and grammatical meaning. Prerequisite: 322.

***429. Discourse Analysis.** (3) John-Steiner 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.

***430. Language Development.** (3) (See SHS 430.)

***432. Societal Bilingualism.** (3) Hernández Chávez, Hudson 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.

***433. Sociolinguistic Variation.** (3) Bills, Hudson Linguistic variability in relation to social status and situational context, attitudinal correlates of language stratification and sociolinguistic change in progress. Prerequisite: 331.

***440. Introduction to Linguistics.** (3) Oller 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. (Fall, Spring)

***441. English Grammars.** (3) (Also offered as Engl 441.) Prerequisite: Engl 240 or permission of instructor.

***446. 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.

***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.

***490. Topics in Linguistics. (1-3) Δ**
Special topics motivated by expertise of instructor and interest of students.

495. Undergraduate Problems. (1-6 hrs. per semester)
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.

501. Mathematical Theory of Formal Languages. (3)
(See C S 601.)

502. Segmental and Autosegmental Phonology. (3) Bybee
The basic organizational units of phonology: features, segments, syllables, words, suprasegmentals, tone, stress and intonation. Topics: natural phonological processes, diachronic changes, and topological variation involving these units.
Prerequisite: 304.

503. Phonological Representation. (3) Bybee
The nature of phonological representations in the lexicon and the interaction of morphology and syntax with phonology. Topics: underspecification, lexical phonology, cognitive phonology, rules, schemas, and productivity.
Prerequisite: 304.

522. Formal Syntactic Theories. (3)
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.

523. Functional Syntactic Theories. (3) Axelrod, Gorbet
(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.

539. Seminar in Sociolinguistics. (3) Δ Bills, Hernández Chávez, Hudson
Variable topics such as variation theory, language planning, pidgins and creoles, language attitudes, and dialectology.

541. English Grammars. (3)
(Also offered as Engl 541.)

554. Seminar in Linguistic Theory. (3) Δ
(Also offered as Anth 514.) Current topics and issues in phonology, syntax, or semantics.

555. Seminar in Educational Linguistics. (1-3) Δ
(Also offered as ETSCS, C & J 555.)

562. Seminar in Language Testing. (3) Oller
(Also offered as ETSCS 562.)

563. Seminar in Language Acquisition. (3) John-Steiner
(Also offered as Bil Ed 563.)
Prerequisites: an introductory linguistics course and a course in developmental or cognitive psychology.

565. Seminar in Thought and Language. (3) John-Steiner
(Also offered as Psych, PsyFdn 565.) The role of language in human cognition is approached from a socio-cultural framework. Topics include: 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.

569. Seminar in Psycholinguistics. (3) Δ Morford
(Also offered as Psych 569.)
Prerequisite: permission of instructor.

573. Language Issues in Education. (3) Hernández Chávez
Prerequisite: a course in sociolinguistics or in the sociology of education.

595. Graduate Problems. (1-6 hrs. per semester)
Original independent study project approved by instructor.
Prerequisite: permission of instructor.

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

699. Dissertation. (3-12 hrs. per semester)
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 or minor study offered.

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) §
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.

***301-302. Advanced Navajo. (3, 3) §**

301—May be repeated for a maximum of 6 hours for upper level students and more advanced students who want to continue their language skills in Navajo.
Prerequisite: 202 or 206, or equivalent.

***401. Navajo Linguistics. (3) Δ**

Study of selected aspects of the structure of the Navajo language. Emphasis on individual research.
Prerequisite: 202, or permission of instructor.

495. Undergraduate Problems. (1-6, to a maximum of 6) Willink

Prerequisite: permission of instructor.

595. Graduate Problems. (1-6 hrs. per semester)

Original independent study project approved by instructor.
Prerequisite: permission of instructor.

Signed Language Interpreting (Sign)

(For major/minor study requirements, see *Linguistics*, page 191.)

201. Introduction to Signed Language. (3) P. Wilcox, S. 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. (Summer, Fall, Spring)

202. Orientation to Deafness. (3) S. Wilcox

Overview of definitions, causes, and scope of deafness; introduction to speech and the hearing mechanism; implications of deafness in the context of personal, family, and community life.

210. American Sign Language. (3) Greer, Isham, P. Wilcox
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. {Fall, Spring}

211. American Sign Language II. (3) Greer, P. Wilcox
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. {Fall, Spring}

212. Fingerspelling I. (3) Greer, S. 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 insure that the student acquires a comprehensive background.
Prerequisite: 201 or permission of instructor. {Spring}

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.

***303. 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.

***310. American Sign Language III. (3) Greer, Isham**

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. {Fall, Spring}

***352. Language and Culture in the Deaf Community. (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. {Spring}

***410. 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, 214, 310, and 352, and Ling 101 or permission of instructor.

***411. Consecutive Interpretation. (3) Isham**

Theory and practice of consecutive interpretation. Topics: message analysis, attention, cultural mediation, and reducing interference from the source language. Equal time is spent with ASL & English texts.
Prerequisite: *410 or permission of instructor.

***412. Simultaneous Interpreting. (3) Isham**

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 or permission of instructor.

***418. Seminar in Signed Language Interpreting. (1-3) S. Wilcox**

A detailed study of current trends and practices in signed language interpreting and evaluation, along with similarities and differences between signed language and spoken language interpreting. Introduction to interpreting process models and assessment models and discussion of current research in the field of interpreting. Students will conduct a small-scale research project and participate in a debate of issues surrounding the interpreting profession. {Fall}

***419. Practicum in Signed Language Interpreting. (1-3) P. Wilcox**

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: 410 or permission of instructor. {Upon demand, Fall, Spring}

490. Topics in Signed Language. (1-6)*495. Undergraduate Problems. (1-6)**

MATHEMATICS AND STATISTICS

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 William A. Johnson, Adjunct Associate Professor, Ph.D., University of Arizona
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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
 Clifford R. Qualls, Ph.D., University of California (Riverside)
 Arthur Steger, Ph.D., University of California

Introduction

Mathematics is fundamental to the formulation and analysis of scientific theories and is also a rich and independent field of inquiry. Active research throughout the mathematical sub-disciplines, spurred on, in part, by advances in computing technology, leads to new perspectives and applications. The major in Mathematics and Statistics combines broad study of fundamental theories with in-depth investigation of a particular subject, chosen from options in pure and applied mathematics and statistics.

High School Students. High school students planning to take mathematics courses at UNM must take two years of algebra and one year of geometry in order to satisfy the university admission requirements. Those planning to take calculus should take more advanced mathematics courses, in particular trigonometry, while in high school. It is strongly recommended that mathematics be taken during the senior year of high school.

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 or better in the prerequisite course.

Flow Chart for Beginning Courses

A student's preparation determines the starting course in any sequence.

Transitional courses
 }---> 121
 120---> }---> 123
 }---> 150

Business sequence
 180---> 245

Calculus for biological and social sciences
 180---> 181

Mathematics major sequence
 }--->321
 162L---> 163L---> 264L---> }--->361; see below for advanced courses.

Engineering sequence
 }---> 264L
 162L---> 163L }---> 314
 }---> 316

Elementary education sequence
 111--->112--->215

Elementary education students not prepared for Math 111 will begin with Math 100.

Major Study Requirements

The following is required of all Mathematics and Statistics majors:

- 162L, 163L, 264L, 321 (linear algebra), 361 (advanced calculus); 321 and 361 are not required in Mathematics Education.
- Assignment of an advisor. Students must be assigned an advisor as soon as they decide to major in mathematics and statistics.

3. Knowledge of a computing language at the level of C S 151L is required.
4. Of the Mathematics and Statistics courses taken, at least 27 hours must be numbered 300 or above (with a grade of C or better).
5. Completion of one of Options I, II, III, IV or V below.

The department anticipates that some of these options will change in the near future; students are advised that they may follow either the present options or any revised option.

Option I (Pure Mathematics). The option in Pure Mathematics requires 322, 345 (or 441), and 362 (or 421), plus completion of at least six hours in courses numbered above 400.

Option II (Applied Mathematics). The program must include 311 or 362, 312, 313, 316, 375 and two of 441, 462, 463, 464.

Option III (Statistics). The program must include 345, 347, 348, 445, and at least one of 441, 444, 447, 448, 449, 452, 453 or 550. For students planning on graduate study in statistics, 362 and 441 are recommended.

Option IV (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: 321 (or 314), 305, 306, 338, 345 and at least twelve hours from 307, 308, 309, 311, 317, 319, 322, 331, 361, 375, 406 or other upper division courses approved by the math-education advisor. (Supporting courses must also be taken in the College of Education.)

Option V (Mathematics of Computation). This option requires, along with the usual Math major requirements, the following:

1. 317, 318, 319, 322, 375, 464, and one of 345, 441.
2. A minor in Computer Science. Currently this includes 21 C S hours of which the following are required: C S 151L, C S 201, C S 251L, EECE 236L, C S 257L, C S 341L and C S 351L.

The C S advisor may make exceptions where appropriate. (See catalog for substitutions/restrictions.)

Additional information for mathematics majors.

1. Each Mathematics major should be in regular contact with the advisor assigned to discuss his or her program of studies.
2. Since most 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. For students interested in a career in actuarial science. Preparation for the first actuarial exam consists of the courses 162L, 163L, 264L, and 314. Preparation for the second actuarial exam consists of courses 441 and 542. Partial preparation for later exams is provided by Math 375 and many of the upper-division statistics courses. For information on careers in actuarial science and preparation for additional exams, students should contact the department for referral to an appropriate advisor.
4. 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.

Minor Study Requirements

Math 264L and 12 hours in courses numbered above 300. The pass/fail (CR/NC) option may not be used for minor study.

Restrictions

1. Credit not allowed for both Math 121 and 150.
2. Credit not allowed for both Math 162L and 180.
3. Credit not allowed for both Math 163L and 181.
4. Credit not allowed for both Math 311 and 362.
5. Credit not allowed for both Math 314 and 321.
6. Credit not allowed for both Math 361 and 461.
7. Credit not allowed for both Math 322 and 422.
8. Students who have credit for any courses numbered Math 121 and above may not take IS-M100 or Math 120 for credit.
9. Students who have credit for any courses numbered 162L and above may not take Math 120, 121, 123, or 150 for credit.
10. A student normally may not take an examination to validate credit in mathematics or statistics courses.

Graduate Program

Graduate Advisors

Contact the graduate committee of the department for assignment of a graduate advisor.

Review of Applications Begins

Fall semester: February 1
Spring semester: November 1
Summer semester: March 1

NOTE: Early application is recommended. Fall and spring dates are observed for financial aid.

Degrees Offered

M.A. in Mathematics

Concentrations: pure mathematics, applied mathematics, applied statistics.

Ph.D. in Mathematics

Concentrations: pure mathematics, probability and statistics, applied mathematics.

The Master of Arts degree is offered by the Department of Mathematics and Statistics in the areas of pure mathematics, applied mathematics, and applied statistics. 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. The student planning to study applied statistics should have taken introductory statistics, linear algebra, and a calculus sequence including multivariate 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 Arts degree is awarded under Plan II only (non-thesis plan). There is no minor requirement and at least 24 hours 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.

For a graduate minor at least 9 hours of work in mathematics or statistics approved by both the students 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.

The Doctor of Philosophy degree is offered by the department with specializations in the areas of pure mathematics, applied mathematics, and applied probability and statistics. Knowledge of one foreign language chosen from French, German, or Russian is expected for the degree in mathematics; knowledge of a computer language is expected for statistics.

General requirements for both the M.A. and Ph.D. degrees are given in the earlier pages of the Catalog. Descriptions and requirements of the programs may be found in the Handbook for Graduate Students in Mathematics and Statistics. Copies of the Handbook can be obtained by writing directly to the Department of Mathematics and Statistics.

Students desiring to take a course who do not have the indicated prerequisite should consult with the course instructor.

Mathematics (Math)

I. Introductory Courses

IS-M 100. Arithmetic and Introductory Algebra. (4)

Arithmetic and introductory algebra for students who are not prepared to begin at the intermediate algebra level. Placement is by Introductory Studies Program procedures (see also the Mathematics Placement procedures in the current schedule of classes). Offered by TV-I, TV-I campuses and UNM main campus. **Offered on a CR/NC basis only.** {Fall, Spring}

120. Intermediate Algebra. (3) ¹

As preparation for Math 121 or Math 150. Covers linear equations and inequalities, polynomials, factoring, exponents and radicals, fractional expressions and equations, quadratic equations.

Prerequisites: High School Algebra I and adequate ACT Mathematics score, 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. **Offered on a CR/NC basis only.** {Summer, Fall, Spring}

121. College Algebra. (3) ¹

Algebra as preparation for Math 180. Includes the study of equations, inequalities, graphs, functions, exponential and logarithmic functions, systems of equations and inequalities, and polynomials. Prerequisite: fulfillment of department placement requirements or a grade of CR in Math 120. {Summer, Fall, Spring}

123. Trigonometry. (2) ¹

Definition of the trigonometric functions, radian and degree measure, graphs, basic trigonometric identities and inverse trigonometric functions.

Prerequisite: fulfillment of department placement requirements or grade of CR in Math 120. {Summer, Fall, Spring}

129. Mathematics, A Survey. (3)

An introduction to some of the great ideas of mathematics. May consist of various topics in modern mathematics or it may deal with the history and philosophy of mathematics.

Prerequisite: fulfillment of department placement requirements or a grade of CR in Math 120. {Fall, Spring}

145. Introduction to Statistics. [An Introduction to Probability and 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 CR in Math 120. {Summer, Fall, Spring}

150. Pre-Calculus Mathematics. [Advanced College Algebra.] (3) ¹

Algebra as preparation for Math 162. Includes a study of functions with emphasis on graphs, equations, inequalities, exponential and logarithmic functions.

Prerequisite: fulfillment of department placement requirements or grade of CR in Math 120. {Summer, Fall, Spring}

162L. Calculus I. (4) ¹

Derivative as a rate of change, intuitive, numerical, and theoretical concepts, applications to graphing, trigonometric and exponential functions, integral as a sum, relation between integral and derivative, applications, mean value theorem.

Prerequisite: fulfillment of department placement requirements or C or better in Math 150; also Math 123. {Summer, Fall, Spring}

163L. Calculus II. (4) ¹

Applications of the definite integral, transcendental functions, techniques of integration, improper integrals, numerical methods of integration, and infinite series.

Prerequisite: C or better in Math 162L 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. {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 or better in 180 and some knowledge of trigonometry or 123 (123 can be taken simultaneously with 181). {Summer, Fall, Spring}

191-192. Freshman/Sophomore Seminars. (2, 2)

An honors course consisting of background and supplementary material with emphasis on the notion of proof, logic, problem solving, writing math. Especially valuable for students enrolled in Math 162L-163L. {Offered on demand}

245. Introduction to Business Statistics. [Fundamentals of Probability and 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.

264L. Calculus III. (4)

Vector representation of curves and surfaces, partial derivatives, gradient, tangent planes, directional derivative, multiple integrals, cylindrical and spherical coordinates, applications.

Prerequisite: C or better in 163L or permission of department chairperson. {Summer, Fall, Spring}

¹ See *Restrictions*, above.

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 and measurement.

Prerequisite: 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 algebra; some applications of mathematics; elements of logic; enrichment topics for the classroom. Introduction to programming.

Prerequisites: 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.

Prerequisites: 162L or 181.

305. Early Mathematics from a Historical Perspective. (3) 2

A survey of mathematical developments prior to 1600; emphasis on solution of problems; comparison of early with modern methods of solutions.

Prerequisite: 163L. {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}

307. Elementary Topology. (3) 2

An introduction to topology that stresses careful definition and proof techniques. Topics are introduced geometrically and then generalized and made more abstract. Sets are discussed in detail.

Prerequisite: 163L. {Offered upon demand}

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. Problems range from easy to difficult. {Offered upon demand}

309. Applications of Mathematics. (3) 2

Applications of elementary mathematics to the physical, biological, and social sciences.

Prerequisite: one year of calculus. {Offered upon demand}

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.

Prerequisites: one year of calculus. {Fall}

339. Topics in Mathematics for Elementary and Middle School Teachers. (1-3) † 2

Presents mathematical topics of concern to elementary and mid-school teachers. Open only to in-service and prospective teachers.

Prerequisite: permission of instructor. {Offered upon demand}

350. Topics in Mathematics for Secondary Teachers. (1-3) † 2

Presents mathematical topics of concern to secondary teachers. Open only to in-service and prospective teachers. Prerequisite: permission of instructor. {Offered upon demand}

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 or better in 264L 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: 264L, 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: one year elementary calculus. {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.

Prerequisites: 163L and knowledge of a programming language. 264L and C S 151L are 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, mathematical induction principles. Discrete probability, elementary ordinary generating functions, recurrence relations, and sorting algorithms.

Prerequisite: one year of calculus. {Fall, Spring}

****318. Graph Theory. (3)**

Trees, connectivity, transversability, planarity, colorability, 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: 264L. {Fall, Spring}

322. Modern Algebra I. (3)

Groups, rings, homomorphisms, permutation groups, quotient structure, ideal theory, fields.
Prerequisite: 264L. {Fall}

****327. Discrete Structures. (3)**

For computer engineers, this course studies sets, relations, functions, induction, graph theory, isomorphisms, posets, lattices, Boolean algebra, and some group theory.
Prerequisite: one year of calculus. {Fall}

****331. Survey of Geometry. (3)**

Topics from affine, projective, Euclidean, and hyperbolic geometries.
Prerequisites: 163L and 314, or 321. {Offered upon demand}

****345. Elements of Mathematical Statistics and Probability Theory. (3)**

An introduction to probability including combinatorics, Bayes' theorem, probability densities, expectation, variance, correlation. An introduction to applied statistics including estimation, confidence intervals, hypothesis testing.
Prerequisite: one year of calculus. {Summer, Fall, Spring}

****347. Data Analysis. (3)**

An introductory course covering such topics as exploratory data analysis, one-way ANOVA, multiple comparisons, non-parametric techniques, simple, linear and multiple regression. Emphasis placed on the use of the statistical packages, such as SAS and Minitab.
Prerequisite: 145 or 245 or 345, or equivalent. {Fall}

****348. Data Analysis II. (3)**

Multivariate ANOVA, principal components, cluster analysis, discriminate analysis and classification, logistic regression, factor analysis, loglinear model analysis of multidimensional contingency tables. Emphasis placed on the use of the statistical packages such as SAS and Minitab.
Prerequisite: 347 or permission of instructor. {Spring}

***356. Symbolic Logic. (4) [3]**

(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.
Prerequisite: Phil 257 or permission of instructor

****361-362. Advanced Calculus. (4, 3)**

A rigorous development of the differential and integral calculus of functions of one and several real variables.
Prerequisite: 264L is required for 361 and 314 or 321 is recommended for 362. {361-Fall, Spring; 362-Spring}

****375. Introduction to Numerical Computing. (3)**

(Also offered as C S 375.) An introductory course covering such topics as solutions 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: 163L and some ability in Fortran or C programming. {Fall, Spring}

391. Advanced Undergraduate Honors Seminar. (1-3 hrs. each semester, to a maximum of 8)

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)

Selected topics from analysis, algebra, geometry, statistics, model building, interdisciplinary studies, and problem solving. {Offered upon demand}

***405. Linear and Integer Programming. (3)**

(Also offered as C S 405.) Linear Programming: conversion of problems to linear programs, geometrical interpretation, simplex method and duality, degeneracy and cycling. Integer programming by use of cutting planes. Advanced topics: sparse matrix implementation, problems with special methods of solution.
Prerequisites: 314, C S 151L.

***406. Later Mathematics from a Historical Perspective. (3)**

A survey of mathematical developments after 1600; emphasis on solution of problems.
Prerequisite: 305 or permission of instructor. {Offered upon demand}

***415. Philosophy of Mathematics. [Foundations 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 materials covered make essential use of important results of logical theory.
Prerequisite: 356 or 456 or permission of instructor.

***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 the student interested in abstract mathematics who wishes to learn to do rigorous proofs.
Prerequisite: one year of college mathematics. {Offered upon demand}

***417. Combinatorial Analysis. (3)**

Binomial and multinomial theorems, basic and advanced enumeration techniques, counting numbers including Bell, Catalan, Euler, Fibonacci, Gaussian binomial coefficients, and Stirling; ordinary and exponential generating functions; recurrence relations; partitions (linear and plane); path problems, and selected other topics.
Prerequisite: 317 or permission of instructor. {Offered upon demand}

***418. Graph Theory. (3)**

Trees, connectivity, coverings, traversability, planarity, colorability, digraphs. The emphasis will be on proofs of theorems.
Prerequisite: 318 or permission of instructor. {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: 264L. {Fall}

***430. Tensor Analysis. (3)**

Tensors, exterior differential calculus, Stokes' theorem and applications to physics and engineering.
Prerequisite: 311 or 362 or permission of instructor. {Offered upon demand}

***431. Introduction to Topology. (3)**

Metric spaces, topological spaces, continuity, algebraic topology.
Prerequisite: 361. {Alternate Falls}

***434. Introduction to Differential Geometry. (3)**

Prerequisite: 311 or 362. {Offered upon demand}

***439. Topics in Mathematics. (1-3 hrs. per semester) †**

{Offered upon demand}

***441. Probability and Its Applications. (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: 264L or equivalent. {Fall}

***444. Multidimensional Contingency Table Analysis. (3)**
 This course examines the use of log-linear models and logistic regression models to analyze count data. Computer applications.
 Prerequisite: an introductory statistics course such as Math 345 or permission of instructor. {Alternate Springs}

***445. Applied Regression Analysis. (3)**
 Simple regression and multiple regression. Residual analysis and transformations. Matrix approach to general linear models. Stepwise procedures, nonlinear least squares, robust regression. Computer applications.
 Prerequisites: 345 and some familiarity with matrix algebra or permission of instructor. {Fall}

***447. Methods of Multivariate Analysis. (3)**
 (Also offered as Psych 402.) Properties of the multivariate normal and related distributions. Tests of hypotheses based on these distributions. Multivariate analysis of variance, discriminant analysis, principal components and factor analysis with applications.
 Prerequisites: 314, 345 or permission of instructor. {Offered upon demand}

***448. Nonparametric Methods. (3)**
 Statistical problems and their nonparametric solutions. Rank order tests, sign tests, chi-square tests, and Kolmogorov-Smirnov tests. Tolerance intervals and nonparametric estimation. Relative efficiency of nonparametric inference.
 Prerequisites: 345 or 441 or permission of instructor. {Offered upon demand}

***449. Topics in Probability and Statistics. (3) †**
 {Offered upon demand}

***452. 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: 441 or permission of instructor. {Alternate Springs}

***453. Reliability Theory. (3)**
 Statistical failure models. Distributions. Hazard rate. Estimation and testing hypotheses for failure models. Bayes methods. Accelerated life testing. System reliability.
 Prerequisite: 345. {Alternate Falls}

***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.

****461. Introductory Real Analysis for Engineers.**
 [Introductory Real Analysis.] (4)
 Continuity, differentiability and integrability for functions of one real variable. (This course will not be counted in the hours necessary for a mathematics major).
 Prerequisite: 264L. {Fall, Spring}

***462. Introduction to Ordinary Differential Equations. (3)**
 Linear systems. Existence and uniqueness theorems, flows, linearized stability for critical points, stable manifold theorem.

Gradient and Hamiltonian systems. Limit sets, attractors, periodic orbits, Floquet theory, and the Poincare Map. Introduction to perturbation theory.
 Prerequisites: 314, or 321, 316, 361 or permission of instructor. {Fall}

***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, 361 or permission of instructor. {Spring}

***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 or permission of instructor. {Fall}

***466. Mathematical Methods in Science and Engineering. (3) Δ**
 Topics from selected areas of applied mathematics.
 Prerequisites: 311, 312, 313, 316 or permission of instructor. {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. Fourier Series and Integrals. (3)**
 Convergence and summability theory of trigonometric series; Bessel's and Parseval's relations; Fourier integrals and their inversion; expansions in series of orthogonal functions; selected applications.
 Prerequisite: 361 or permission of instructor. {Offered upon demand}

***481. Linear Spaces. (3)**
 Linear spaces, normed linear spaces, Hilbert spaces, linear operators, spectral analysis, application to differential and integral equations.
 Prerequisite: 361. {Offered upon demand}

***499. Individual Study. (1-3 hrs. per semester, to a maximum of 6)**
 Guided study, under the supervision of a faculty member, of selected topics not covered in regular courses. Admission by approval of the department chairperson.

¹ See *Restrictions*, above.

IV. Graduate Courses

504. Introductory Numerical Analysis: Numerical Linear Algebra. (3)
 (Also offered as C S 575.)
 Prerequisites: 464 and some knowledge of programming. {Spring}

505. Introductory Numerical Analysis: Approximation and Differential Equations. (3)
 (Also offered as C S 576.)
 Prerequisites: 316 or 361 or equivalent and some knowledge of programming. {Fall}

510. Introduction to Analysis I. (3)
 Real number system, basic set theory, basic point set topology, sequences, series, convergence, integration (Lebesgue theory on R).
 Prerequisites: 321, 361. {Fall}

511. Introduction to Analysis II. (3)

Continuation of 510. Differentiation in \mathbb{R}^n . Inverse and Implicit function theorems.
Prerequisite: 510. {Spring}

518. Selected Topics in Combinatorics and Graph Theory. (3)

{Offered upon demand}

519. Selected Topics in Number Theory. (3) †

{Offered upon demand}

520. Abstract Algebra I. (3)

Theory of groups, permutation groups, Sylow theorems. Intro. to ring theory, polynomial rings. Principal ideal domains.
Prerequisite: 264. {Fall}

521. Abstract Algebra II. (3)

Continuation of 520. Module theory, field theory, Galois theory.
Prerequisites: 321, 520. {Spring}

522. Structure Theory of Fields. (3)

Embedding and extensions for fields. Algebraic closure. Sturm-Artin theory of real zeros, algebraic dependence and algebraic theory of differential operators on a function field of characteristic zero. Applications of Sylvester's elimination theory for polynomial equations in several variables.
Prerequisite: 421. {Offered upon demand}

523. Commutative Algebra. (3)

Ideal theory in commutative rings, especially Noetherian rings. Associated primes, Hilbert-Basissatz and Nullstellensatz, Cohen-Seidenberg theorems. Elementary real commutative algebra.
Prerequisite: 421 or 522. {Offered upon demand}

529. Selected Topics in Algebra. (3) †

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. [533.] Algebraic Topology I. [Algebraic Topology]

Introduction to homology and cohomology theories. Homotopy theory, CW complexes.
Prerequisites: 431, and 521, or permission of instructor. {Alternate Falls}

533. Algebraic Topology II. [Algebraic Topology.] (3)

Continuation of 532. Duality theorems, universal coefficients, spectral sequence.
Prerequisite: 532 {Alternate Springs}

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) †

540. Applied Markov Models. (3)

Markov chains and processes with applications. Classification of states. Decompositions. Stationary distributions. Probability of absorption, the gamblers ruin and mean time problems. Queuing and branching processes. Introduction to continuous time Markov processes. Jump processes and Brownian motion.
Prerequisite: 441 or permission of instructor. {Spring}

541. Probability Theory. (3)

A measure theoretic introduction to probability theory. Construction of probability measures. Distribution and characteristic functions, independence and zero-one laws. Sequences of independent random variables, strong law of large numbers and central limit theorem. Conditional expectation. Martingales.
Prerequisite: 563. {Alternate Springs}

542. Statistical Inference. (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: 441. {Spring}

543-544. Advanced Statistical Inference. (3, 3)

Standard limit theorems, theory and methods of point estimation, sufficiency and its applications. Hypothesis testing, confidence intervals, and decision theory.
Corequisite: 541. {Alternate Falls/Springs}

545. Analysis of Variance and Experimental Design. (3)

A data-analytic course. Multifactor ANOVA. Principles of experimental design and analysis of randomized blocks, Latin squares, split plots, etc. Random and mixed models. Extensive use of computer packages with interpretation, diagnostics.
Prerequisite: 445. {Spring}

546. Theory of Linear Models. (3)

Theory of the Linear Models discussed in Math 445 and 545. Linear spaces, matrices, projections. Multivariate normal distribution and normal theory of quadratic forms. Non-full rank models and estimability. Gauss-Markov theorem. Distribution theory for normality assumptions. Asymptotic theory. Hypothesis testing and confidence regions.
Prerequisites: 542, 545, and linear algebra. {Alternate Falls}

547. Multivariate Analysis and Advanced Linear Models. (3)

Hotelling T^2 , multivariate ANOVA and Regression, classification and discrimination, principal components and factor analysis, clustering, graphical and computational techniques.
Prerequisites: 546. {Alternate Springs}

548. Statistical Laboratory. (1)

Provides experience in statistical consulting and analysis of real data. Special topics in computing and statistics included.
Prerequisite: 445. {Offered upon demand}

549. Selected Topics in Probability Theory. (3) †

550. Sampling Theory and Practice. (3)

Basic methods of survey sampling; simple random sampling, pps-sampling, cluster sampling, systematic sampling and general sampling schemes; estimation based on auxiliary information; stratified sampling; two-stage and multi-stage sampling schemes; assessment and control of non-sampling errors; design of complex samples and case studies.
Prerequisite: 345 or permission of instructor. {Alternate Falls}

551-552. **Problems.** (1-3, 1-3 hrs. per semester) †

555. Time Series Analysis, Theory and Application. (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.
Prerequisites: 345 and 441 or equivalent. (Alternate Falls)

556. Reliability Theory. (3)
Probability models and characterizations for survival time data. Statistical methods including maximum likelihood and other parametric techniques, non-parametric, and proportional hazards.
Prerequisites: 441, 540, 542. (Alternate Falls)

557. Selected Topics in Numerical Analysis. (3) †
(Also offered as CS 557.) This course will vary from time to time depending upon demand and staff availability. Possible topics include approximation theory, two point boundary value problems, quadrature, integral equations and roots of nonlinear equations. (Offered upon demand)

559. Selected Topics in Statistics. (3) †

561-562. Functions of a Complex Variable. (3, 3)
Analyticity, Cauchy theorem and formulas, Taylor and Laurent series, singularities and residues, conformal mapping, selected topics.
Prerequisite: 362. (561 Fall, 562 Spring)

563-564. Functions of a Real Variable, Measure, Integration. (3, 3)
Functions of one and several real variables, measure theory, integration, function spaces.
Prerequisite: 362; 510 recommended. (563 Fall, 564 Spring)

565. Harmonic Analysis. (3)
Fourier analysis on the circle, real line, and on compact and locally compact groups.
Prerequisite: 563. (Offered upon demand)

566. Pattern Recognition. (3)
(Also offered as EECE 517, 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. Introduction to sequential, hierarchical, and syntactic methods.
Prerequisites: EECE 340

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) †

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, strong background in ODE's and experience in PDE's. (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)

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)

575. Dynamic Optimization. (3)
A general introduction to optimal control theory and its applications to the physical and social sciences.
Prerequisites: 314, 316; recommended: 362. (Offered upon demand)

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) †

581-582. Functional Analysis. (3, 3)
Linear transformations on Banach and Hilbert spaces, spectral theory of normal operators, semi-groups of operators, applications to quantum mechanics, Banach algebras, topics in nonlinear analysis.
Prerequisite: 362; 510 recommended. (Offered upon demand)

583. Methods of Applied Mathematics I. (3)
Approximation in Hilbert spaces. Basic operator theory. Integral equations. Distribution theory. Greens functions. *Differential operators. Boundary value problems.* Nonlinear problems.
Prerequisites: 312, 314, 316, 361. (Alternate Fall)

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, 361 or equivalent with permission of instructor. (Alternate Springs)

589. Selected Topics in Functional Analysis. (3) †

598. Practicum. (1-6)
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. (Offered upon demand)

619. Seminar in Number Theory. (1-3) †

629. Seminar in Algebra. (1-3) †

639. Seminar in Geometry and Topology. (1-3) †

649. Seminar in Probability and Statistics. (1-3) †

650. Reading and Research. (1-6) †

669. Seminar in Analysis. (1-3) †

679. Seminar in Applied Mathematics. (1-3) †

689. Seminar in Functional Analysis. (1-3) †

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

Peace Studies Minor

Committee Members

McAllister Hull (Physics)
Don Lee (Philosophy)
Jane Slaughter (History)
Fred Sturm (Philosophy)
Jay Sorenson (Political Science)
Lee Zink (Economics)

Introduction

The principal factors contributing to international conflict are at the same time philosophical, geographical, biological, psychological, cultural, sociological, economic, and political. These factors, through their respective disciplines, have been the focus of scholarly analysis for centuries; yet the key principles that would promote peaceful settlement of many conflicts seem to elude us. The imperative for a broader understanding of conflict evolution and resolution is heightened by the fact that the instruments of warfare have become so efficient that past codes of international behavior may bring us dangerously close to ultimate global destruction.

Because the issues concerning world peace and conflict are so complex and broad in scope, no single profession or academic discipline can claim to offer all of the answers. Hence, an appreciation for basic principles that address evolving human needs can best be supplied through an interdisciplinary educational program drawing from a range of academic disciplines representing the Humanities, Social Sciences, and Natural Sciences. Such a program is designed to broaden the perspective of participating students, thereby strengthening their potential as informed citizens, while enhancing their professional capabilities as well.

Program Goals

The minor in Peace Studies is an interdepartmental and interdisciplinary program designed to introduce students within the College of Arts and Sciences to the basic causes, technological principles, and potential consequences of conflict. More important, the program will afford students the opportunity to examine alternatives to war, and to reflect upon the nature of peace as a sustainable condition at the individual as well as collective level.

In order to satisfy these broader goals, the following specific objectives have been identified:

- ground students in the concepts and applications of methodologies from relevant disciplines with regard to issues of war and peace;
- assist students in integrating theory and practice through field and/or research experience; and
- encourage dialogue and collaboration among students and faculty in the on-going development of the peace studies curriculum.

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 in the College of Arts and Sciences.

Program Requirements

The minor in Peace Studies will require successful completion of 24 credit-hours: 12 hours of required courses, with the remaining 12 hours taken from four groups of electives, one course from each group (see course listing below).

Required Courses - 12 credit-hours

Entry - Pol Sc 240 *International Politics* (3)
Phy Sc 105 *Physics and Society* (3)
Context - Independent Study* - Internship (1 or 2)*
Phil 498 *Reading and Research* (1 or 2)*
Closure - Phil 441 *Philosophical Movements* (3)
(Peace Studies Seminar)

* Independent study performed under appropriate professor appointed by the administrative committee. Note also that these two courses together must total, but cannot exceed 3 credits.

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 be permitted with approval of the advisory committee.

Group I—Thought, Ideology, and Ethics

Suggested courses:
Ec-Ph 485 Phil Fdn of Econ Theory (3)
Phil 255 Contemporary Moral Issues (3)
Phil 358 Ethical Theory (3)
Pol Sc 260 Political Ideas (3)
Pol Sc 362 Modern Political Theory (3)

Group II—Principles and Methodological Approaches

Suggested courses:
Anth 130 Cultures of the World (3)
Biol 402 ST/Consequences of Nuclear War (3)
C & J 325 Intercultural Communication (3)
Geog 201 World Regional Geography (3)
Pol Sc 220 Intro Comparative Politics (3)

Group III—Conflict and Conflict Resolution at the National and International Level

Suggested courses:
Soc 221 Global Issues (3)
Any course in Sociology, Political Science, or History dealing specifically with one nation or region, e.g.,
Hist 349 Russia 1855 to Present (3)
Pol Sc 357 Russia/Eurasia Politics (3)
Any 300 or 400 level Political Science course in comparative governments or international relations, e.g., Pol Sc 300 *Political Topics* (3); Pol Sc 357 *Russia/Eurasia Politics* (3); Also Pol Sc 321, 342, 475, 496

Group IV—Conflict and Conflict Resolution at the Sub-National Level

Suggested courses:
Afro A 294 Institutional Racism (3)
Hist 330 History of Women's Rights Movement (3)
Pol Sc 307 Politics of Ethnic Groups (3)
Psych 411 Cross-Cultural Psychology (3)
Soc 216 Dynamics of Prejudice (3)
Soc 331 Collective Behavior (3)
Wm St 353 Women and Creativity (3)

PHILOSOPHY

George Frederick Schueler, Chairperson
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Department of Philosophy, Humanities 517
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Professors

Russell B. Goodman, Ph.D., The Johns Hopkins University
George Frederick Schueler, Ph.D., University of California (Berkeley)
Fred Gillette Sturm, Ph.D., Columbia University

ARTS & SCIENCES

Associate Professors

Andrew Burgess, Ph.D., Yale University
 John Bussanich, Ph.D., Stanford University
 Barbara Hannan, Ph.D., University of Arizona
 John Taber, Ph.D., Universitat Hamburg

Assistant Professors

Rebecca Kukla, Ph.D., University of Pittsburgh
 Amy Schmitter, Ph.D., University of Pittsburgh
 Sergio Tenenbaum, Ph.D., University of Pittsburgh
 Aladdin Yaqub, Ph.D., University of Wisconsin

Professors Emeriti

Hubert G. Alexander, Ph.D., Yale University
 Helena Eilstein, Ph.D., University of Warsaw
 Melbourne G. Evans, Ph.D., University of California
 (Berkeley)
 Donald Lee, Ph.D., University of California (San Diego)
 Paul F. Schmidt, Ph.D., Yale 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 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, (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

31 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- 402, 403, 404, 406, 409, 410, 412, 413, 421, 422, or
- 442 Individual Philosophers

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
 - 380 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

18 or 19 hours including either 156 or 356; at least 2 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.

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 Advisor

John Bussanich

Review of Applications Begins

Fall semester: January 31 (with financial aid)
 March 1 (without financial aid)

Degrees Offered

M.A. in Philosophy, Ph.D. in Philosophy

Philosophical studies can take an historical, analytic, or speculative focus. The program in philosophy aims at flexibility and freedom in order to enable each student to include his or her own interests and needs. The department, however, requires that each student receive broad and systematic training in all basic areas of the discipline. Joint courses and programs are available with several other departments.

The department requires that all prospective graduate students take the Graduate Record Examination, and submit a writing sample of not more than 20 typed pages, preferably but not necessarily on a philosophical topic.

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 three-part comprehensive examination.

Within the M.A. program, concentrations in Asian and comparative philosophy, philosophy of literature, and religious studies are available. The concentration in religious studies is administered by the Philosophy Department, and

the religious studies courses listed on page 225 is administered by the interdepartmental Religious Studies Committee appointed by the Dean of Arts and Sciences.

The Philosophy Department encourages students who wish to obtain Master's degrees in two departments to see Dual Graduate Degrees, page 55. Cooperative study leading to a Ph.D. in American Studies, with a concentration in Philosophy, is available. Consult American Studies in this Catalog.

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.

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. {Summer, Fall, Spring}

107. Living World Religions. (3)

(Also offered as Relig 107.) Introduction to major living world religions, such as Buddhism, Christianity, Hinduism, Islam, and Judaism.

111-112. Humanities I - II. (3, 3)

Comparative introduction to the development of human civilizations emphasizing philosophic thought, religious practice, and artistic expression. {Fall, Spring}

156. Reasoning and Critical Thinking. [Introduction to Logic 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. {Summer, Fall, Spring}

202. Modern Philosophy. (3)

An historical study from the Renaissance through Kant. {Summer, Fall, Spring}

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.

241. Philosophical Problems. (3) Δ

Topic to vary. An elementary treatment of some major philosophical issue.

242. Great Thinkers. (3) Δ

Figure will vary. A study of the thought of some major world thinker.

244. Introduction to Existentialism. (3)

An examination of the works of writers like 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.

255. Contemporary Moral Issues. (3)

Ethical issues arising in contemporary society, e.g. sexual morality, preferential treatment, racism, punishment, war, world food distribution.

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.

263. Eastern Religions. (3)

(Also offered as Relig 263.) A study of major Asian traditions, such as Taoism, Hinduism and Buddhism.

264. Western Religions. (3)

(Also offered as Relig 264.) A study of major Western traditions, such as Christianity, Islam, and Judaism.

275. Philosophy of Correction. (3)

Philosophical issues which underlie social institutions of law and corrections.

280. Moral Problems in Great Literature. (3)

Selected literary masterpieces (mostly fiction) from ancient to modern times, and from various cultural traditions, taken as a basis for discussions about some of the most persistent and significant moral problems.

*303. 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.

*304. Medieval European Philosophy. (3)

Major thinkers from Augustine through Ockham. Prerequisite: 201 or permission of instructor.

*332. American Philosophy. [North American Philosophy.] (3)

A survey of American philosophical thought, emphasizing transcendentalism and pragmatism. Coverage of such figures as Emerson, Thoreau, Pierce, James, Dewey, Rorty, Putnam, and Cavell. Prerequisite: 101 or 201 or 202 or permission of instructor.

*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.

*335. Topics in Indian Philosophy. (3) Δ

Prerequisite: 334 recommended.

*336. Chinese Philosophy I. (3)

The development of Chinese thought from pre-Confucian times through the T'ang dynasty. {Fall, Spring}

*337. Chinese Philosophy II (3)

Chinese thought from the Sung dynasty to the present. {Fall, Spring}

341. Philosophic Questions. (1-3) Δ

An investigation of some important philosophic debates.

342. Selected Philosophers. (3) Δ

A treatment of the thought of a major philosopher.

*344. Nineteenth Century Philosophy. (3)

From Kant through Hegel, Marx, Schopenhauer, Kierkegaard, Mill, Nietzsche.

Prerequisite: 202 or permission of instructor.

***345. 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.

***346. Twentieth-Century Philosophy. (3) †**

Twentieth-century philosophies.
Prerequisite: 202 or 344 or permission of instructor.

***347. Contemporary Anglo-American Philosophy. (3)**

A discussion of central issues and controversies in the twentieth century British and American philosophy (appearance and reality; the notion of scientific method; the relation between the physical and the mental; causality and freedom; the nature of morality).
Prerequisite: 202 or permission of instructor.

***348. Comparative Philosophy. (3)**

A comparative study of the Buddhist, Chinese, European, Indian, and Islamic philosophical traditions with reference to ontology, epistemology, axiology, and socio-political thought.
Prerequisite: 101 or 201 or 202 or 334 or 336 or permission of instructor.

***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.

***352. Theory of Knowledge. (3)**

Problems and theories of epistemology.
Prerequisite: 101 or 201 or 202 or permission of instructor.

***354. Metaphysics. (3)**

Theories of reality.
Prerequisite: 101 or 201 or 202 or permission of instructor.

***356. Symbolic Logic. (4) [3]**

(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.
Prerequisite: 257 or permission of instructor

***358. Ethical Theory. (3)**

Inquiry concerning goodness, rightness, obligation, justice, and freedom.
Prerequisite: 101 or 201 or 202 or 255 or permission of instructor.

***360. Christian Classics. (3)**

(Also offered as Relig 360.) A study of major writings in the Christian tradition, written by such persons as Augustine, Aquinas, Pascal, Luther, and Teresa of Avila.
Prerequisite: one previous course in Philosophy or Religious Studies or permission of instructor.

***361. 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 Philosophy or Religious Studies or permission of instructor.

***363. Environmental Ethics. (3)**

Close reading of contemporary writings by naturalists, lawyers, theologians, and philosophers on the philosophical aspects of environmental problems.

***365. Philosophy of Religion. (3)**

(Also offered as 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. Philosophy of Art and Aesthetics. (3)**

A phenomenological investigation of the world of the arts with emphasis on aesthetic appreciation, artistic creativity, and the structuring of works of art.
Prerequisite: minimal ability to work within a given artistic medium or permission of instructor. {Fall}

***371. Classical Social and Political Philosophy. (3)**

From Plato to Hobbes.
Prerequisite: 101 or 201 or permission of instructor.

***372. Modern Social and Political Philosophy. (3)**

From Hobbes to present.
Prerequisite: 101 or 202 or 371 or permission of instructor.

***380. 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.

***385. 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.

***387. Latin American Liberation Theology. (3)**

(Also offered as Relig 387.) 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 Philosophy, Religious Studies, Latin American Studies or permission of instructor.

***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.

389. [*389.] Latin American Philosophy. (3)

(Also offered as Hist, Soc 389.) Pre-Columbian thought through independence ideologies.
Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor. {Fall, Spring}

390. [*390.] Latin American Philosophy II. (3)

(Also offered as Hist, Soc 390.) Positivism through contemporary thought.
Prerequisite: one previous course in Philosophy or Latin American Studies or permission of instructor.

***402. Plato. (3)**

Prerequisite: one course in Philosophy. 201 highly recommended.

***403. Aristotle. (3)**

Prerequisite: one course in Philosophy. 201 highly recommended.

***404. Augustine. (3)**

(Also offered as Relig 404.)
Prerequisite: one course in Philosophy or Religious Studies. 201 or Phil/Relig 360 strongly recommended.

***406. Descartes. (3)**

Prerequisite: one course in Philosophy. 202 highly recommended

***409. Hume. (3)**

Prerequisite: 202 or permission of instructor.

***410. Kant. (3)**

Prerequisite: 202 or permission of instructor.

*412. Hegel. (3)

*413. Kierkegaard. (3)
(Also offered as Relig 413.)

*415. **Philosophy of Mathematics.** [Foundations 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.

*421. Heidegger. (3)

*422. Wittgenstein. (3)

*429. **Aesthetics Institute Workshop.** (1)
Offered either as a one-week session during the summer at the Lawrence Ranch and Harwood Foundation, or as a six-session sequence during the spring semester. Lectures and discussions on specific topics in the Philosophy of Art and Aesthetics. May be repeated to a maximum of 3 hours.

*438. **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. **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. **Buddhist Sutras Seminar.** (3) Δ
(Also offered as Relig 440.) Two week, intensive summer course at Jemez Bodhi Mandala 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) Δ
Topic varies.
Prerequisite: one previous course in Philosophy or permission of instructor.

*442. **Individual Philosophers.** (3) Δ
Figure varies.
Prerequisite: one previous course in Philosophy or permission of instructor.

*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.

*449. **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, Hist, Pol Sc 453.) Cross-cultural and interdisciplinary investigations of problems and methodologies current in Asian studies.

*455. **Topics in Philosophy of Science.** [Philosophy of the Natural Sciences.] (3) Δ
This course consists of a close and critical examination of selected issues that are related to one or more of the natural or social sciences.
Prerequisite: 156 or 350 or 356 or permission of instructor. May be repeated as long as topic varies.

*456. [*357.] **Metalogic.** [Symbolic Logic.] (4) [3]
(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.

*470. **Philosophy of History.** (3)
(Also offered as Hist 470.) Nature, structure, and presuppositions of theories of history and historical methods.
Prerequisite: one previous course in Philosophy or permission of instructor.

*480. **Philosophy and Literature.** (3)
(Also offered as Eng-Ph 480.) May be repeated for credit as subject matter varies, with permission of instructor.
Prerequisites: 6 hours of literature and 3 hours of philosophy from the courses specified as requirements for the program.

*485. **Philosophical Foundations of Economic Theory.** (3)
(Also offered as Ec-Ph 485.)
Prerequisites: Econ 105, 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}

514. **20th Century European Theory.** [Survey of Contemporary Schools of Sociological Theory II.] (3)
(Also offered as Soc 514.) Analytical Marxism, Nietzsche, Spengler, Sociobiology, Foucault, Sartre, Lukacs, The Frankfurt School.

526. **Seminar in Asian Philosophers.** (3) Δ

541. **Seminar in Philosophical Movements.** (3) Δ

542. **Seminar in Individual Philosophers.** (3) Δ

551. **M.A. Problems.** (1-3 hrs. per semester) Δ

556. [656.] **Seminar in Philosophical Logic.** (3)
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.
Prerequisites: 356 and permission of instructor.

580. **Philosophy of Literature.** (3)
Selected topics in the interrelationship of philosophy and literature. N.B.: Seminar for Philosophy M.A. candidates concentrating in philosophy of literature.

599. **Master's Thesis.** (1-6 hrs. per semester)
Offered on a CR/NC basis only.

651. **Ph.D. Problems.** (1-3) Δ

654. **Ph.D. Seminar in Metaphysics & Epistemology.** [Ph.D. Seminar in Metaphysics.] (3)

658. **Ph.D. Seminar in Value Theory.** (3)

699. **Dissertation.** (3-12 hrs. per semester) Δ
Offered on a CR/NC basis only.

PHILOSOPHY-ECONOMICS

See *Economics-Philosophy*.

PHILOSOPHY-ENGLISH

See *English-Philosophy*.

PHYSICS AND ASTRONOMY

David Wolfe, Chairperson
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Howard C. Bryant, Ph.D., University of Michigan
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Lecturer

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Research Faculty

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Douglas Fields, Ph.D., Indiana University
James Lowe, Ph.D., Birmingham University
Gerald Moore, Ph.D., Brandeis University
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Marlan O. Scully, Ph.D., Yale University
Stephanie A. Sonleitner, Ph.D., University of New Mexico
Gerard J. Stephenson, Ph.D., Massachusetts Institute of Technology
Geoffrey B. West, Ph.D., Stanford University

Introduction

The basic courses Physics 160, 161, 163L, 262, 264L, and Math 162L, 163L, and 264L are prerequisite to all 300-level and higher physics and astronomy courses, including especially major and minor study in physics and in astrophysics for either the B.S. or the B.A. degree.

Major Study Requirements

Freshmen students planning to major or minor in physics or astrophysics who have the necessary mathematics usually take Physics 160 and Math 162L in their first semester and Physics 161, 163L, and Math 163L 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 their respective areas.

The B.A. degree is designed for persons 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 three-hour Physics course numbered above 300. The honors courses 496, 497 or 498L may be substituted for 491, 492 or 493L, respectively.

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; Chem. 121L-122L; six courses numbered above 399. The honors course 496 may be substituted for 491.

For the degree of B.A. in Physics & Astrophysics: Astr. 271; Physics 330; two courses chosen from Physics 303, 307L, or 405; three additional three-hour, upper-level courses in Physics or Astronomy, one of which must be in Astronomy; Math 311, 316.

Minor Study Requirements

Physics

Four courses selected from Physics 301, 302, 303, 304, 330, 405, 406; Math 316.

Astrophysics

Physics 330 and three hours chosen from Physics 301, 302, 303, 405; Astr 270, 271; three hours of Astronomy courses numbered above 399; Math 316.

Departmental Honors

Undergraduate students interested in graduating with Departmental Honors are encouraged to apply to the department in the second semester of their junior year. The Honors program is intended both to deepen the student's knowledge in a contemporary area of their major field and to ground this knowledge in their understanding of the world around them. The program is recommended for those students anticipating graduate study.

The program will involve the student more closely than usual with one or two individual professors within the department. Prospective honors students must enroll in at least six hours chosen from Physics 496, 497, or 498L. More details can be obtained from the student's departmental advisor. (The minimum overall GPA for graduation with departmental honors is 3.25.)

Additional Information

Graduate Study

Prerequisite for all courses numbered 500 and above: an undergraduate major in physics equivalent to that outlined above.

Group Requirements

Courses in this department satisfy the requirements of Group 4 in the College of Arts and Sciences.

Graduate Program

Graduate Advisors

Bernd Bassalleck and Sudhakar Prasad.

Application Deadlines

Fall semester: June 30

Spring semester: October 31

Summer session: April 30

International Application Deadline: March 1

NOTE: Financial aid deadline: March 1

Degrees Offered

M.S. and Ph.D. in Physics

Concentrations: astrophysics, atmospheric physics, atomic physics, cosmic radiation, general relativity, infrared astrono-

my, high energy and intermediate energy physics, laser physics, medical physics, molecular physics, nonlinear optics, nuclear physics, particle physics, quantum optics, radio astronomy, scattering theory, solar energy physics, space physics.

Ph.D. in Optical Sciences (Optical Physics)

Concentrations: laser physics, nonlinear optics, optical materials, physical optics, quantum optics.

A graduate student who elects physics as the major subject for an advanced degree must have had an undergraduate major in physics or its equivalent. A candidate for a graduate minor in physics should consult the chairperson of the department before declaring this minor. The GRE General Examination is required for consideration for admission; the GRE Physics Examination is recommended.

General requirements for both the M.S. and the Ph.D. degrees are given in the earlier pages of this Catalog. There is no foreign language requirement for graduate degrees in physics. Proficiency in at least one computer language is encouraged.

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 and 476 or 493 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.

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, a laboratory or problems course, four seminars (Physics 400 and 500), and four electives chosen from a departmental list available from the student's department advisor. Details MUST be discussed with a graduate advisor. Physics 522 is strongly recommended. 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.

The Doctor of Philosophy in Optical Sciences requires a minimum of 52 semester hours of graduate work exclusive of dissertation. These hours must include Physics 463, 464, 466, 467, 511, 512, 521, 554, 555 and one of 476L, 522, 530, 564, 566, or 569. If material equivalent to Physics 476L or 493L is not included in the student's prior education, one of these courses must also be taken for the Ph.D. degree. Students are encouraged to take two semesters of Physics 500 (*Advanced Seminar*).

Associated with the department are the Center for Advanced Studies, the New Mexico Center for Particle Physics, the Institute for Astrophysics, located in the department building, and the Center for High Technology Materials, located in the EECE building. Considerable interaction occurs between these centers and the optical research interests at Kirtland Air Force Base, Sandia Laboratories, and other organizations in Albuquerque. These facilities offer considerable opportunities for research work toward both the M.S. and the Ph.D. degrees. An extensive selection of optics courses is available.

The candidate for a Ph. D. degree may carry on research for the dissertation at the Los Alamos National Laboratory, under the terms of an agreement for cooperation between the University of New Mexico and the Laboratory. Certain conditions have been specified by the Laboratory for the acceptance of students for research at Los Alamos. Each case is considered on an individual basis. See Center for Graduate Studies at Los Alamos in the General Information Section.

Prospective candidates for the degrees are requested to communicate with the chairperson of the department.

General Interest Courses in Physics and Astronomy

Astr 101. Introduction to Astronomy. (3)

The theme is cosmic evolution. It provides a guided tour of the universe to find out where and when we are in the cosmos. The presentation is descriptive and non-mathematical. It starts with an overview into people's ideas about the universe. After an inquiry into the origin and evolution of the solar system, a study of stars is made to find the place of the solar system in the Milky Way Galaxy. Finally, a history is presented of the physical, chemical, and biological evolution of the universe, from its beginning in a big bang to the possibility of life elsewhere in the Galaxy. Special topics may include black holes, interstellar communication, UFOs, and missions to the planets. No preparation is assumed. Important concepts of physics, chemistry, geology and biology are introduced in the context of the course. See *Astr 111L* for optional observations. {Summer, Fall, Spring}

Astr 109. Selected topics in Astronomy (1-3) [3]

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.
Prerequisites: 101 and permission of instructor. {Offered upon demand.}

Astr 111L. Astronomy Laboratory. (1)

Intended as an adjunct to Astr 101, this course deals with elementary techniques in astronomical observations. 2 hrs. Pre- or corequisite: Astr 101. {Fall, Spring}

Physics 102. Introduction to Physics. (3)

Designed for non-science students in all colleges as well as for students planning to major in the sciences who want a general introduction to the basic phenomena and concepts of physics. The treatment is primarily descriptive, with practical demonstrations and applications and with a minimum of elementary mathematics. No previous preparation is assumed. Basic physical concepts such as energy, momentum, and electric charge are discussed as well as the properties of gravitational, electromagnetic and nuclear forces, and wave phenomena. The basic ideas of relativity and quantum theory are introduced. See *Physics 112L* for an optional laboratory. {Summer, Fall, Spring}

Physics 105. Physics and Society. (3)

Intended for the student with minimum previous exposure to physical science. The concepts, ideas, and methodology of physics are developed as the basis for a discussion of their impact on society and the impact of society on the development of physics. Thermal physics leads to a discussion of meteorology, climatology, pollution, weather modification, violent storms, aviation weather and soaring; energy concepts and special relativity lead to a discussion of mass energy, nuclear fission and fusion reactors, nuclear weapons, science policy and ethics, energy problems and alternative sources. {Spring}

Physics 106. Light and Color. (3)

This elementary course in optics and optical phenomena is intended primarily for students in the liberal arts, fine arts, and education. Light and color and optical systems are explained with demonstrations and graphical techniques,

without formal mathematics. The formation of images with mirrors and lenses, wave phenomena, the eye, rainbows, tricks with polarized light, lasers and holography are covered. See *Physics 116L* for an optional laboratory. {Fall}

Physics 108. Introduction to Musical Acoustics. (3)

Designed to provide a physical foundation of understanding the experience of music and the acoustics of the environment of music. It consists of the nonmathematical application of concepts of physics to sound perception, musical instruments, and to acoustics of the auditorium. Most of the topics covered are fully demonstrated in class. These include the nature of sound and its sources, functioning of the ear, harmonics and tone quality, auditorium response, pitch and musical scales, demonstration and analysis of the piano and other stringed instruments, woodwinds, brasses, the voice, discussion of electronic reproduction and synthesis of sound. See *Physics 118L* for an optional laboratory. {Spring}

Physics 112L. Physics Laboratory. (1)

A physics laboratory offered in conjunction with Physics 102 for students desiring laboratory credit. Experiments and projects designed to explain basic physical concepts related to the atom, the environment, and the universe.

Pre- or corequisite: Physics 102. 2 hrs. lab. {Fall, Spring}

Physics 116L. Light and Color Laboratory. (1)

A laboratory offered in conjunction with Physics 106L for students desiring laboratory credit. Experiments and demonstrations with optical phenomena; lenses, mirrors, the eye, interference, diffraction, polarization, lasers.

Pre- or corequisite: Physics 106. 2 hrs. lab. {Fall}

Physics 118L. Musical Acoustics Laboratory. (1)

Intended as an adjunct to Physics 108, this course emphasizes electronics and electronic equipment pertaining to acoustics and to music.

Pre- or corequisite: Physics 108. 2 hrs. lab. {Spring}

Physics (Physics)

For Physics 102 through 118L see the general interest courses described above.

151. General Physics. (3)

Mechanics, sound, heat. The sequence 151, 152, 153L, 154L is required of pre-medical, pre-dental, and pre-optometry students. Only 151 and 152 are required of pharmacy students.

Prerequisite: A working knowledge of algebra at the level of Math 150, and of trigonometry. {Summer, Fall, Spring}

152. General Physics. (3)

Electricity, magnetism, optics.

Prerequisite: 151. {Summer, Fall, Spring}

153L. General Physics Laboratory. (1)

Mechanics, sound, heat.

Pre- or corequisite: 151. 3 hrs. lab. {Fall, Spring}

154L. General Physics Laboratory. (1)

Electricity, magnetism, optics.

Pre- or corequisite: 152. 3 hrs. lab. {Fall, Spring}

157. Problems in General Physics. (1)

Problem solving and demonstrations related to 151.

Corequisite: 151. Offered on a CR/NC basis only. {Fall, Spring}

158. Problems in General Physics. (1)

Problem solving and demonstrations related to 152.

Corequisite: 152. Offered on a CR/NC basis only. {Fall, Spring}

160. General Physics. (3)

Mechanics, sound. The sequence 160, 161, 163L, 262, 264L is required of students planning to major in certain sciences and in engineering.

Pre- or corequisite: Math 162L. {Summer, Fall, Spring}

161. General Physics. (3)

Heat, electricity, magnetism.

Prerequisite: 160; pre- or corequisite: Math 163L. {Summer, Fall, Spring}

162. Exploring Physics and Astronomy. (1)

The instructor meets with the students once per week for a discussion seminar with a department faculty member or a guided tour of a physics and astronomy laboratory.

Prerequisite: 160. **Offered on a CR/NC basis only.** {Fall, Spring}

163L. General Physics Laboratory. (1)

Mechanics, sound, heat.

Pre- or corequisite: 161. 3 hrs. lab. {Fall, Spring}

167. Problems in General Physics. (1)

Problem solving and demonstrations related to 160.

Corequisite: 160. **Offered on a CR/NC basis only.** {Fall, Spring}

168. Problems in General Physics. (1)

Problem solving and demonstrations related to 161.

Corequisite: 161. **Offered on a CR/NC basis only.** {Fall, Spring}

262. General Physics. (3)

Optics, modern physics.

Prerequisite: 161; pre- or corequisite: Math 264L. {Summer, Fall, Spring}

264L. General Physics Laboratory. (1)

Electricity, magnetism, optics.

Pre- or corequisite: 262. 3 hrs. lab. {Fall, Spring}

265L. Individual Laboratory Work in General Physics. (1)

Prerequisite: permission of instructor. 3 hrs. lab. {Offered upon demand}

267. Problems in General Physics. (1)

Problem solving and demonstrations related to 262. Corequisite: 262. **Offered on a CR/NC basis only.** {Fall, Spring}

****301. Thermodynamics and Statistical Mechanics. (3)**

[Heat and Thermodynamics.] (3)

Classical thermodynamics; classical statistical mechanics; quantum statistical mechanics.

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, Lagange's and Hamilton's equations, small vibrations.

Pre- or corequisites: Math 316 and 311 for 303; Math 312 for 304. {Fall}

****304. Analytical Mechanics. (3)**

Statics and dynamics of particles and rigid bodies, mechanics of continuous media, Lagange's and Hamilton's equations, small vibrations.

Pre- or corequisites: Math 316 for 303; Math 312 for 304. {Spring}

****307L. Junior Laboratory. (3)**

Experimental methods of physics. 1 lecture, 3 hrs. lab. each semester. {Fall}

308L. Junior Laboratory. (3)

Experimental methods of physics. 1 lecture, 3 hrs. lab. each semester. {Spring}

****327. Geophysics. [Solid Earth Geophysics.] (3)**

(Also offered as E&PS 427.) Applications of gravity, magnetism, 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, Math 264, or permission of instructor.

****330. Introduction to Modern Physics. [Atomic and Nuclear 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) ††**

Student presentations, both extemporaneous and prepared, of undergraduate physics problems. **Offered on CR/NC basis only.** {Fall, Spring}

****405. Electricity and Magnetism. (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.

Pre- or corequisites: Math 311 and 316. {Spring}

****406. Electricity and Magnetism. (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.

Pre- or corequisite: 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. {Spring}

***432. Introduction to Hydrodynamics. (3)**

(Also offered as Astr 432.) Basic concepts and principles, rotational and irrotational flows, momentum equation, stability, turbulence, flowpatterns, shocks, applications. {Offered upon demand}

***437. Introduction to Solar-Terrestrial Physics. (3)**

(Also offered as Astr 437.) The sun as a star, solar activity, acceleration of particles on the sun and in interplanetary space, dynamics of the solar wind and the interplanetary magnetic field, magnetosphere of the earth, ring current, radiation belts, solar-terrestrial effects. {Offered upon demand}

***445. Introduction to Cosmic Radiation. (3)**

(Also offered as Astr 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}

***450. Introduction to Subatomic Physics. (3)**

Introductory topics in nuclear and particle physics; overview of standard model.

Prerequisite: 491 or equivalent. {Spring}

***451. Problems.** (1-3 hrs. per semester, to a maximum of 6)

Offered on a CR/NC basis only.

***452. Research Methods.** (1-3 hrs. per semester, to a maximum of 6)

***463. Advanced Optics I.** (3)

(Also offered as EECE 463.) Electromagnetic theory of geometrical optics, Gaussian ray tracing and matrix methods, finite ray tracing, aberrations, interference and diffraction.

Prerequisite: 302. (Fall)

***464. Laser Physics I.** (3)

(Also offered as EECE 464.) Quantum theory of radiation. Introduction to two-level system, spontaneous and stimulated emission; gas, semiconductor and solid state lasers.

Prerequisite: 406 or EECE 362. (Fall)

***466. Methods of Theoretical Physics I.** [Methods of Theoretical Physics.] (3)

Complex variables; special functions; ordinary differential equations; integral transforms; numerical methods. (Fall)

***467. Methods of Theoretical Physics II.** [Methods of Theoretical Physics.] (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. 1 lecture, 3 hrs. lab. (Fall)

***477L. Experimental Techniques of Optics.** (3)

Diffraction, interference, optical detectors, lens aberrations, lasers, spectra, scattering, optical testing. 1 lecture, 3 hrs. lab. (Spring)

***491. Intermediate Quantum Mechanics I.** [Contemporary Physics.] (3)

Schrodinger Equations; Heisenberg uncertainty principle; postulates; Dirac notation; one-dimensional potentials; harmonic oscillator; angular momentum; H-Atom. (Fall)

***492. Intermediate Quantum Mechanics II.** [Contemporary Physics.] (3)

Spin; Pauli principle; Perturbation theory; scattering; applications of quantum mechanics. (Spring)

***493L. Contemporary Physics Laboratory.** (3)

Spectrographic methods; lasers, atomic structure; high Tc superconductivity; natural and artificial radioactivity; cosmic rays. 1 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)

496. Intermediate Quantum Mechanics Honors I. [Contemporary Physics Honors.] (3)

Schrodinger Equations; Heisenberg uncertainty principle; postulates; Dirac notation; one-dimensional potentials; harmonic oscillator; angular momentum; H-Atom. (Fall)

497. Intermediate Quantum Mechanics Honors II. [Contemporary Physics Honors.] (3)

Spin; Pauli principle; Perturbation theory; scattering; applications of quantum mechanics. (Spring)

498L. Contemporary Physics Honors Laboratory. (3)

Spectrographic methods; lasers, atomic structure; high Tc superconductivity; natural and artificial radioactivity; cosmic rays. 1 lecture, 5 hrs. lab. (Spring)

500-501. Advanced Seminar. (1-3, 1-3)

Offered on CR/NC basis only. (Fall, Spring)

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. [Electrodynamics I.] (3)

Review of electro- and magnetostatics; E & M waves; covariant electrodynamics; radiation; scattering; diffraction, and collisions. (Spring)

512. Selected Topics in E & M. [Electrodynamics II.] (3)

Prerequisite: 511. (Offered upon demand)

521. Graduate Quantum Mechanics I. [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 and 492, or equivalent. (Fall)

522. Graduate Quantum Mechanics II. [Quantum Mechanics II.] (3)

More on angular momentum; scattering; identical particles; relativistic quantum mechanics; second quantization; introduction to QED.

Prerequisite: 521, or equivalent. (Spring)

523. Quantum Field Theory I. (3)

Prerequisites: 521 and 522. (Alternate Years)

524. Quantum Field Theory II. (3)

(Offered upon demand)

529. Condensed Matter I. (3)

Band concepts; Bloch functions; phonons and their interactions; superconductivity.

Prerequisites: 430 and 521. (Alternate Falls)

530. Condensed Matter II. [Selected Topics in Solid State Physics.] (3)

Optical properties; Transport theory; excitons; superfluidity.

Prerequisite: 529. (Alternate Springs)

531. Atomic and Molecular Structure. [Atomic 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)

532. Selected Topics in Atomic and Molecular Structure. [Molecular Structure.] (3)

Prerequisite: 521, or equivalent. (Offered upon demand)

534. Plasma Physics I. (3)

(Also offered as Astr, Ch-NE, EECE 534.) Plasma parameters, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, nonlinear effects, applications. Prerequisite: consent of instructor. (Fall)

535. Plasma Physics II. (3)

(Also offered as Ch-NE, EECE 535.) Derivation of fluid equations; CGL, MCD; equilibrium in the fluid plasma; energy principle; Rayleigh-Taylor, two-stream, and firehose insta-

bilities; 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. {Fall}

537. Advanced Astrophysics II. [Selected Topics in Astrophysics and Space Physics.] (3) †
(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. {Spring}

538. Advanced Methods of Theoretical Physics. (3) †
{Offered upon demand}

540. Introduction to Nuclear Physics. (3)
{Offered upon demand}

542. Particle Physics I. [Selected Topics in Theoretical Nuclear Physics.] (3)
Overview of the standard model, including electroweak interactions, gauge theories, QCD, other selected topics. Prerequisites: 450, 491 and 492 or equivalent. {Alternate Falls}

543. Particle Physics II. [Selected Topics in High-Energy Physics.] (3)
Continuation of 542. {Alternate Springs}

551-552. Problems. (1-4 hrs. each semester)
Offered on a CR/NC basis only.

554. Advanced Optics II. (3)
Coherence theory, fully coherent objects, imaging by partially coherent objects, partially polarized light. Prerequisite: 463. {Spring}

555. Nonlinear Optics. (3)
General concepts, microscopic approach, transient response and pulse propagation, nonlinear processes. Prerequisites: 554, 564. {Alternate Springs}

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}

564. Laser Physics II. (3)
Semiclassical laser theory, mode problems, pulse propagation, self-induced transparency, phase conjugate optics, photon statistics. Prerequisite: 464. {Alternate Springs}

566. Quantum Optics. (3) ††
Research topics at the frontiers of quantum optics including photon statistics, superradiance, advanced laser theory, quantum noise, quantum nondemolition, and the application of quantum optical techniques to the foundations of physics. Prerequisite: 564. {Fall}

569. Advanced Topics in Modern Optics. (3) † ††
Possible topics include dye lasers, solid-state lasers, novel lasers, interaction between intense lasers and matter, advanced nonlinear optics spectroscopy. {Offered on demand}

570. Theory of Relativity. (3)
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. [Statistical Mechanics II.] (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, EECE 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}

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

650. Research. (1-12)

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

1 May be repeated up to 6 hours

Astronomy (Astr)

For Astr 101 through 111L 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 162L, and any physics course numbered 150 or higher. {Fall}

271. General Astronomy. (3)
Stellar astronomy, the galaxy, extra-galactic systems, cosmology. Pre- or corequisites: Math 150 or 162L, and any physics course numbered 150 or higher. {Spring}

272L. General Astronomy Laboratory I and II. (1)
Observations of the moon, planets, and stars. Pre- or corequisites: 270-271. 3 hrs. lab. {Fall}

273L. General Astronomy Laboratory I and II. (1)
Observations of the moon, planets, and stars. Pre- or corequisites: 270-271. 3 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, 492 or their equivalent. {Fall}

***422. Stars and Stellar Systems. (3) ††**
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) †**

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 macroscopic time-dependent properties of our galaxy.

Considerable emphasis placed on the use and interpretation of actual observations. (Offered upon demand)

***426. Optics and Instrumentation. (3) †**

Principles of optics and quantum physics applies 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) †**

Planetary physics; planetary investigation using space vehicles; optical properties of planetary atmospheres. (Offered upon demand)

***432. Introduction to Hydrodynamics. (3)**

(Also offered as Physcs 432.) Basic concepts and principles, rotational and irrotational flows, momentum equation, stability, turbulence, flow patterns, shocks, applications. (Offered upon demand)

***437. Introduction to Solar-Terrestrial Physics. (3)**

(Also offered as Physcs 437.) The sun as a star, solar activity, acceleration of particles on the sun and in interplanetary space, dynamics of the solar wind and interplanetary magnetic field, magnetosphere of the earth, ring current, radiation belts, solar-terrestrial effects. (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 hrs. per semester, to a maximum of 6)*534. Plasma Physics I. (3)**

(Also offered as Ch-NE, Physcs, EECE 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 523.) 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. (Fall)

537. Advanced Astrophysics II. [Selected Topics in Astrophysics and Space Physics.] (3) †

(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. (Spring)

1 May be repeated up to 6 hours

POLITICAL SCIENCE

Neil J. Mitchell, Chairperson
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Assistant Professors

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Wendy Hansen, Ph.D., California Institute of Technology
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Kenneth M. Roberts, Ph.D., Stanford University
William B. Stanley, Ph.D., Massachusetts Institute of Technology

Lecturers

Edward K. Fuge, ABD, University of Denver
Ellen Grigsby, Ph.D., University of North Carolina (Chapel Hill)

Adjunct

Karl R. Braithwaite, Ph.D., University of Wisconsin
Larry J. Gordon, M.P.H., University of Michigan
Roger Hagengruber, Ph.D., University of Wisconsin

Professors Emeriti

Edwin C. Hoyt, Ph.D., Columbia University
Peter A. Lupsha, Ph.D., Stanford University
Martin C. Needler, Ph.D., Harvard University
Harold V. Rhodes, Ph.D., University of Arizona
Robert J. Sickels, Ph.D., Johns Hopkins University
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, but also is a vital part of a liberal arts education.

Major Study Requirements

A total of 33 hours is required for a major in political science. These hours must be distributed among the following:

- 12 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);

2. 18 hours from courses numbered 300 or above;
3. 3 additional hours from any level.

NOTE: Students who have already had courses in political science may not count Pol Sc 110 toward a 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.

Minor Study Requirements

A total of 21 hours, including at least three of the core courses and three courses numbered 300 or above is required for a minor in political science.

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 nine hours: 495, 496 (or with prior approval, other 400-level course) and 497.

Graduate Program

Graduate Advisor
Wendy Hansen

Application Information

Fall admission only.
Deadline for admission and financial aid: February 1.

Degrees Offered

M.A. in Political Science, Ph.D. in Political Science

Concentrations: American politics, comparative politics, international relations, Latin American politics, 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 seven areas: American politics, comparative politics, international relations, Latin American politics, methodology, political theory and public policy. At the M.A. and Ph.D. levels, each student will concentrate in two fields. A minimum of 12 semester hours of upper division or graduate work in political science is required for admission to graduate study. (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 foreign languages or other research tools, as determined by the students committee on studies. 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 UNM Office of Graduate Studies, the following items are required for admission to the Department of Political Science: (1) an official copy 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. 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.)

215. Law in the Political Community. (3)

(Also offered as Am St 215.) Introduction to the role of law legal actors and institutions in politics and society. (Fall, Spring)

291. Internship. (1-3) Δ [1-6]

Provides supervised work experience in the practical application of political science skills.

Prerequisites: permission of instructor and department chairperson. 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.

*300. Political Topics. (3) Δ

Specific topics of political science which relate contemporary issues to the discipline. Precise topics will be noted in appropriate class schedules prepared for registration. May be repeated for credit.

*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.

491. Internship. (1-3) Δ

Provides supervised work experience in the practical application of political science skills.

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.

497. Senior Thesis. (3)
Prerequisite: permission of instructor.

499. Independent Study. (1-3)
Open to majors with 3.30 GPA and permission of instructor.

Core Courses

200. American Politics. (3)
Survey of American politics, including political behavior of the American electorate, the theory of democracy, the structure and function of American political institutions, and contemporary issues. {Fall, Spring}

220. Comparative Politics. (3)
Designed to give students the ability to understand and evaluate political regimes by focusing on the political history, socio-economic structure, and contemporary political institutions and behavior. Includes consideration of European, communist, 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. {Fall, Spring}

***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.

***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 Afro A 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.

***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 and 215.

***316. Constitutional Law: Rights. (3)**
Judicial interpretations of incorporation of Bill of Rights, civil liberties (religion, speech, assembly, association, press, expression, privacy) rights of criminally accused, and civil rights.
Prerequisite: 200 and 215.

***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.

***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 grass-roots activism and "women's issues" in public policy.

***415. Judicial Politics. (3)**
Advanced study of actors, their roles, adjudicatory institutions, and processes by which they operate in American politics.
Prerequisites: 200 and 215.

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.

230. Introduction to Russian Studies (3)
(Also offered as Hist, Russ 230.) A team-taught course designed to introduce the student to the broad outlines of Russian history, culture, and current events.

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.

***321. Comparative Politics: Developing Countries. (3)**
Prerequisite: 220.

***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 or 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 Soviet political system with emphasis on dynamics and institutional structure.

Prerequisite: 220.

***420. Political Violence. (3)**

Examines political violence cross-culturally and cross-temporally. Emphasis is placed on theories, models, and explanation of the phenomenon.

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 Political Economy perspective.

Recommended preparation: 355 or 356.

International Politics***340. Topics in International Politics. (3) Δ**

Selected problems of international politics.

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.

***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.

***443. International Law and Organization. (3)**

Prerequisite: 240.

***444. Intelligence and International Security. (3)**

Course examines the intelligence community of the US, the intel process, and compares intel in a democracy with other nations, esp. related to foreign policy.

Prerequisites: 200 and 240. Recommended: 342.

***478. Seminar in International Studies. (3)**

(Also offered as Econ, M Lang, Soc 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.

***365. Feminist Political Theory. (3)**

Survey of feminist theories of politics. Feminist interpretations of the history of political theory, examination of the history of feminist theorizing. Analysis of current topics in feminist political theory.

Prerequisite: 260 or Wm St 324

***368. American Political Thought. (3)**

Recommended preparation: 200, 260 (Offered upon demand)

***463. Contemporary Political Theory. (3)**

Study of Western political and social theory in the twentieth century.

Prerequisite: 260.

Public Policy***350. Public Finance. (3)**

(Also offered as Econ 350.) Taxation, government borrowing, financial administration, and public expenditures.

Prerequisite: Econ106.

***371. Public Policy Theories and Perspectives. (3)**

Introduction to the major concepts and theoretical formulations underlying the field of public policy.

***372. Urban Politics and Policy. (3)**

Introduction to urban politics and policy, including survey of government forms, political processes, and the interaction of urban institutions and policies.

Prerequisite: 200.

***375. Public Management and Administration. (3)**

(Also offered as Pub Ad 421.) The organization, administration, and operation of American national governmental bureaucracy in the formulation and implementation of public policy.

Prerequisite: Pol Sc 200 or 270.

***377. Organized Crime and Political Corruption. (3)**

Relationship between political corruption and organized crime at the local, state, and federal level.

***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.

500. Contemporary Public Administration. (3)

(Also offered as Pub Ad 500.)

502. Analytical Methods for Planning. (3)

(Also offered as Econ 502.) Students should have taken a basic statistics course prior to enrollment.

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. [Topics in American Government and Politics.] (3) Δ
May be repeated for credit.

520. Proseminar: Comparative Government and Politics. (3)
{Offered upon demand}

521. Research Seminar in Comparative Government and Politics. (3) †
{Offered upon demand}

525. Pro-Seminar on Latin American Politics. (3)
Prior course work in Latin American politics required; reading knowledge of Spanish is highly desirable.

535. Comparative Public Administration. (3) Heady
(Also offered as Pub Ad 535.)
Prerequisite: 375 or permission of instructor.

540. Pro-Seminar in International Relations. (3)

541. Research Seminar in International Relations. (3)
{Offered upon demand}

551-552. Problems. (1-3, 1-3 hrs. each semester)

560. Pro-Seminar in Political Theory. (3)
{Offered upon demand}

561. Research Seminar in Political Theory. (3) †
{Offered upon demand}

570. Pro-Seminar in Public Policy. (3)
(Also offered as Pub Ad 570.) Review of representative theories of public policy, including policy formation, implementation, impact analysis. {Offered upon demand}

580. Introduction to Empirical Research. (3)
An overview of the philosophy of science as applied to political science research and study of social science research design.
Prerequisite: 280 or equivalent.

581. Statistics for Social Research. (3)
Prerequisite: 280 or equivalent or permission of instructor.

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 CR/NC basis only.**

584. Interdisciplinary Seminar on Problems of Modern-civilization in Latin America. (3)
(Also offered as Econ, Hist, Soc 584.)

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

PSYCHOLOGY

Michael J. Dougher, Chairperson
The University of New Mexico
Department of Psychology, Logan Hall
Albuquerque, New Mexico, 87131-1161
(505) 277-4121

Professors

Lynette F. Cofer, Ph.D., Cornell University
Harold D. Delaney, Ph.D., University of North Carolina
Michael J. Dougher, Ph.D., University of Illinois (Chicago)
Dennis M. Feeney, Ph.D., University of California (Los Angeles)

John P. Gluck, Jr., Ph.D., University of Wisconsin (Madison)
William C. Gordon, Ph.D., Rutgers University
Richard J. Harris, Ph.D., Stanford University
Mark A. McDaniel, Ph.D., University of Colorado
William R. Miller, Ph.D., University of Oregon
Samuel Roll, Ph.D., Pennsylvania State University
Britton K. Ruebush, Ph.D., Yale University
Robert J. Sutherland, Ph.D., Dalhousie University

Associate Professors

Paul C. Amrhein, Ph.D., University of Wisconsin (Madison)
Kristina T. Ciesielski, Ph.D., Polish Science Academy (Nencki Institute)
Steven W. Gangestad, Ph.D., University of Minnesota
Gordon K. Hodge, Ph.D., University of California (Los Angeles)
Eligio R. Padilla, Ph.D., University of Washington
Jane E. Smith, Ph.D., State University of New York (Binghamton)
Holly B. Waldron, Ph.D., University of Utah
Ronald A. Yeo, Ph.D., University of Texas (Austin)

Assistant Professors

Judith A. Arroyo, Ph.D., University of California (Los Angeles)
Jack J. Blanchard, Ph.D., State University of New York (Stony Brook)
Robert Egly, Ph.D., Arizona State University
Timothy E. Goldsmith, Ph.D., New Mexico State University
Kathy Stansbury, Ph.D., University of California (Los Angeles)
Akaysha C. Tang, Ph.D., Harvard University

Professors Emeriti

Henry C. Ellis, Ph.D., Washington University
G. Robert Grice, Ph.D., University of Iowa
Peder J. Johnson, Ph.D., University of Colorado
Frank A. Logan, Ph.D., University of Iowa

Affiliated and Adjunct Faculty

Charles Cofer, Ph.D., Brown University
Linda M. Contos, D.V.M., Ross University
Al S. Fedoravicius, Ph.D., University of Waterloo
Kathleen Y. Haaland, Ph.D., University of Rochester
Mary Harris, Ph.D., Stanford University
George F. Luger, Ph.D., University of Pennsylvania
Stephen R. Perls, D.Ed., University of Oregon
Bruce Porch, Stanford Medical School

Major Study Requirements

The student wanting an introduction to psychology should take both Psych 105, and its associated laboratory 106L. Students should then take multiple 200-level courses before registering for more advanced courses. In arranging his or her program, the student should be guided by the numbering system. Not only does the first number indicate the approximate level at which the material will be taught, but the second number indicates the area within psychology with which the course is primarily concerned. The code is as follows: 0—basic, general psychology; 1—applications of psychology; 2—child/developmental psychology; 3—clinical/personality psychology; 4—comparative/physiological psychology; 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 except, where indicated, year-long courses are numbered sequentially.) Frequently, advanced courses in each of these areas require earlier courses, and such a pro-

gression is normally desirable even when not required. However, all prerequisites for any course may be waived by permission of instructor.

Acceptance of transferred credits toward a major or minor in psychology must be approved by the Associate Chairperson for Undergraduate Education.

B.A. Track

To obtain a B.A. in Psychology a student must complete satisfactorily 34 credit-hours in Psychology (or 33 credit hours if an upper-division lab is taken--see item 4 below) and should minor in an Arts and Sciences eligible department other than Biology, Chemistry, Computer Science, Mathematics, or Physics. These Psychology credits should include:

1. Psychology 105 (3 credits) and 106L (1 credit).
2. Psychology 200 (3 credits)
3. Two courses from each of the following two categories (a total of twelve credits):
 Category 1: Psych 240, Psych 260, Psych 265
 Category 2: Psych 220, Psych 232, Psych 271
4. Either four courses (12 credits) at the 300 level or above, or three courses (9 credits) at the 300 level or above and one laboratory at the 300 level or above.
5. Three credits of Psychology electives.

The 34 hours required for a major can include only 3 hours of Psych 499.

Majors (B.A. only) in psychology who elect to minor in Human Services are required to complete 24 hours in Human Services consisting of the following courses: FS 281, 252, 352, 355, 359, 395, and 495. Students must apply to the Human Services program for admission. For more information, call 277-4535.

B.S. Track

- Same as B.A. track with the following two exceptions:
1. A student must complete a minor in or distributed among Biology, Chemistry, Computer Science, Mathematics, or Physics.
 2. Of the three Psychology courses required at the 300 level or above, one of these courses must be Psych 302.

For a distributed minor with a B.A. or B.S. there must be at least one upper division course in each of two or more areas and a total minimum of 30 hours.

Minor Study Requirements

15 hours beyond 4 hours general psychology (Psych 105 and 106L)

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 4 hours general psychology, including 200, 302, 391, 392, 491, and 492, and two courses each from Category 1 and Category 2 above. The usual requirement for B.S. majors of a laboratory course numbered above 300 is waived for honors majors.

NOTE: Psychology 260 or 265 is a prerequisite, and 200 and 302 are pre- or corequisites for the first Junior Honors Seminar, Psychology 391.

Graduate Program

Graduate Advisor
Lois Kennedy

Application Deadlines
 Fall semester: January 15
 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

M.S. in Psychology, Ph.D. in Psychology

Major areas: clinical, cognitive/learning, developmental, personality, behavioral neuroscience, quantitative/methodology, and social.

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 Chair 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 GPA 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 reenumeration for such activities is received.

Every Fall semester, graduate students selected to teach the introductory psychology labs are required to attend weekly seminars on teaching the labs in particular and teaching psychology in general. All graduate students are strongly encouraged to enroll in teaching seminars and workshops offered by the Teaching Assistant Resource Center.

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. (Fall, Spring, Summer)

106L. General Psychology Laboratory. (1)

Laboratory projects relevant to Psychology 105. Students conduct, analyze, and write about psychological experiments with the goal of developing understanding of scientific methods applied to psychological concepts.

109. Coping With College. (1-3)

Goal is to improve the student's strategies for learning and living in a university environment. Psychological principles are applied to improving memory, reading, listening, taking exams, personal adjustment, motivation, stress-management, habits, and interpersonal relations. (Credit not allowed toward an A&S degree).

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 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)

210. Educational Psychology. (3)

The contribution of psychological theory, research and methods to our understanding of the educational process.

Prerequisite: 105.

211. Applied Psychology. (3)

Topics in applications to everyday life, such as personnel selection, consumer psychology, and environmental problems.

Prerequisite: 105.

220. Child Psychology. (3)

Description of the more salient aspects of the behavior and development of children and adolescents. Particular emphasis is placed on pertinent psychological research and practical applications to life situations.

Prerequisite: 105. (Fall, Spring)

230. Adjustment and Interpersonal Relations. (3)

Processes of normal human adjusting and coping in both personal and interpersonal spheres. Topics include applications of psychology to stress and mood management, self-esteem, social adjustment, communication and relationships.

Prerequisite: 105.

231. Psychology of Human Sexuality. (3)

Exploration of the physiological, cultural, social and individual factors that influence sexual behavior, sex roles, and sex identity.

Prerequisite: 105.

232. Clinical Psychology. (3)

Introduction to clinical psychology as a profession and research area: psychometrics and assessment, systems of prevention and therapy, forensic psychology, program evaluation, professional/ethical issues.

Prerequisite: 105. (Spring)

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 121L. (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 mental processes involved in the encoding, storage, retrieval, and utilization of knowledge including attention, memory, comprehension, categorization, reasoning, problem solving, language, and motor skills.

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.

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.

Prerequisites: 200, 232. (Offered upon demand)

321. Introduction to Child Research. (3)

The study of the young child with emphasis on research, theory, and methodology. Studies using preschool and lower elementary school children are examined in terms of methodology, theoretical basis, results and interpretations.

Prerequisites: 105 and 220.

322L. Child Research Laboratory. (2)

Research projects related to topics in 321.

Pre- or corequisite: 321. (Students must have 4-hr. block of time during normal school hours and means of transportation.) 4 hrs. lab.

****325. Psychology of Infancy. (3)**

An advanced course which presents theory and research on the physical, cognitive, emotional, and perceptual changes in the first two years of life.

Prerequisites: 105, 220.

****327. Social Development. (3)**

An advanced course which integrates theory and research focusing on dimensions of normal social growth from infancy through adolescence.

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. Emphasis is on the usefulness and limitations of current research when applied to practical problems.

Prerequisite: 230 or 232.

332. Abnormal Behavior. (3)

Review of the historical, scientific, and ethical issues in the field of psychopathology. Categorization of deviant behavior is regarded as less important than theories of abnormal behavior development, systems of therapy, and relevant research.

Prerequisite: 230 or 232.

333L. Abnormal Behavior Laboratory-Part I. (2)

Research projects related to topics in 332, particularly in the areas of schizophrenia, eating disorders, and phobias. Focuses on conceptualizing, designing, and conducting clinical research. Special attention devoted to psychophysiological measurements.

Pre- or corequisites: 332 and permission of instructor. Psych 334L must be taken upon completion of 333L. {Fall}

334L. Abnormal Behavior Laboratory-Part 2. (2)

Provides research experience with actual clinical populations, particularly in the areas of eating disorders, phobias, and schizophrenia. Expands research skills acquired in 333L, and involves students in the preparation of papers for conference presentations.

Prerequisite: 333L and permission of instructor. {Spring}

****337. Family Psychology. (3)**

(Also offered as H S 337.) 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.

338L. Family Psychology Laboratory. (2)

Provides research experience with clinical populations of disturbed families. Allows students to develop expertise in social interaction research methods and involves students in the preparation of data for professional dissemination.

Prerequisites: 337 and permission of instructor.

****361. Human Learning and Memory. (3)**

How humans acquire and utilize 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 361.

Prerequisite: 200; corequisite: 361.

****363. 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.

364L. Psychology of Perception Laboratory. (2)

Laboratory projects related to topics in 363.

Prerequisite: 200; corequisite: 363.

****367. Psychology of Language. (3) Morford**

(Also offered as Ling 367.) Theoretical and methodological issues in psycholinguistics, including comprehension, speech perception and production, language acquisition, bilingualism, brain and language, reading.

Prerequisites: 265 or Ling 292L. {Fall}

375. Psychology of Women. (3)

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.

391. Junior Honors Seminar. (3)

Discussion of the history and systems of psychology and the philosophy of science, 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 systems in the history of psychology.

Prerequisite: 105.

***402. Multivariate Statistics. (3)**

(Also offered as Math 447.) Analysis of situations involving more than one dependent variable: discriminant analysis, multivariate analysis of variance, canonical correlation, principal components analysis, factor analysis. Includes use of computer packages.

Prerequisite: 200 or equivalent. 300 advised.

***411. 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.

Prerequisites: 105.

***413. Industrial and Organizational Psychology. (3)**

Survey of industrial/organizational psychology as a science and profession. Techniques of problem analysis, collection, and interpretation of relevant data and application of findings are discussed in relation to a variety of organizational systems.

Prerequisite: 105 and 271.

****414. Human Factors Psychology. (3)**

Application of psychological principles to the design and evaluation of person-environment systems.

Prerequisite: 105 and 260 or 265.

***415. Environmental Psychology. (3)**

The impact of environments on human behavior drawn from psychology, anthropology, architecture, and urban studies. Applications of behavioral data to the design of environmental systems.

Prerequisites: 105 and 271.

****420. Advanced Developmental Psychology. (3)**

Investigation of the theoretical bases and critical issues in the area of developmental psychology.

421L. Advanced Developmental Psychology Laboratory. (2)

Will provide experience with research methods in developmental child psychology. Small projects (4-5), one research proposal on topic of choice.

Pre- or corequisite: 420.

***422. Child Language. (3) Morford, John-Steiner**

(Also offered as Ling 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.

428. Cognitive Development. (3)

Research and theory concerning the development of conceptual, intellectual and linguistic behavior in children.

Prerequisites: 105, and 220.

***430. Alcoholism. (3)**

Causes, course, prevention and treatment of problem drinking.

Prerequisite: 105.

****432. 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.

433L. Child Psychopathology Laboratory. (2)

Supervised practicum experience with children manifesting a variety of learning and developmental disturbances in school and treatment settings.

Pre- or corequisites: 432, 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: permission of instructor.

435L. Behavior Therapies Laboratory. (2)

Laboratory projects related to topics in 434.

Prerequisites: 260, 332; corequisite: 434.

436L. Alcoholism Laboratory—Part I. (2)

Two-semester sequence of laboratory projects relevant to topics in 430.

Prerequisite: 200; corequisite: 430. Psych 437L must be taken upon completion of 436L.

437L. Alcoholism Laboratory—Part II. (2)

Part II of two-semester laboratory in research relevant to topics in Psych 430.

Prerequisites: 200, 430, 436L.

***440. Advanced Physiological Psychology. (3)**

Critical issues, concepts, and methodologies in psychobiology and the neurosciences. Emphasis on current research.

Prerequisite: 240 and/or permission of instructor.

441L. Advanced Physiological Psychology Laboratory. (2)

Laboratory projects related to topics in 440.

Prerequisite: 200; corequisite: 440.

***442. Neural Plasticity and Behavior. (3)**

Emphasis on experimental studies of behavioral recovery after brain injury.

Prerequisite: 240.

***444. Human Neuropsychology. (3)**

The analysis of brain-behavior relationships regarding affect, higher cognitive functions (language, memory, spatial reasoning) in humans.

Prerequisites: 240 and permission of instructor.

***447. Psychopharmacology: Drugs of Abuse. (2-3)**

Study of the pharmacological action and physiological and psychological effects of drugs of abuse including stimulants, depressants, narcotics and hallucinogens. When taught as a 2-hour course, material is condensed, is applied in content, and basic brain systems are only briefly covered.

Prerequisites: 240 and/or permission of instructor.

***450. Special Topics in Psychology. (1-3 hrs. per semester) Δ**

Study of any psychological topic not otherwise included in the curriculum upon expression of mutual interest by students and faculty. (Offered upon demand)

***463. Human Performance. (3)**

The study of skilled mental and physical performance and the psychological processes and structures underlying these activities. Language comprehension, skilled reading, and fine perceptual-motor movements, like those involved in

sports activities, typing, and speech production, will be considered. The particular skills emphasized will vary from semester to semester.

Prerequisite: 260 or 265.

464L. Human Performance Lab. (2)

Laboratory projects related to topics in 463.

Prerequisite: 200; corequisite: 463. 4 hrs. lab.

***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 or C S 351L or permission of instructor. Recommended: C S 457.

****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. 4 hrs. lab.

***469L. Experimental Psycholinguistics. (3) Morford**

(Also offered as Ling 469L.) Laboratory course in psycholinguistics; review of classic issues and research. Provides an opportunity to learn basic research methods in experimental psycholinguistics and gain skills necessary to conduct independent research.

Prerequisite: 367 and a course in statistics or research methodology. {Fall}

***471. 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.

Prerequisite: 271.

***472. Social Cognition. (3)**

In-depth examination of the study of how people make sense of other people and themselves. Topics include social perception, heuristics, attributions, impression formation, stereotyping, theories of emotion.

Prerequisite: 271.

***473. 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.

Prerequisite: 271.

475L. Social Psychology Laboratory. (2)

Laboratory projects relevant to topics in 471, 472, and 473, and discussion of research issues unique to social psychology.

Prerequisite: 200; pre- or corequisite: 471 or 472 or 473. 4 hrs lab.

491. Senior Honors Seminar. (3)

Experimental methods and laboratory techniques. Senior thesis based on independent research.

Prerequisite: 392. 3 hrs. lab. {Fall}

492. Senior Honors Seminar. (3)

Continuation of 491. 3 hrs. lab. {Spring}

499. Undergraduate Problems. (1-3 hrs. per semester, to a maximum of 6)

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 the computerized statistical package, SPSSX. 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. SPSSX. Corequisite: 502 or permission of instructor. (Spring)

505. Research Seminar. (1)

Facilitates development of active research in our first-year graduate students. Presentations include (1) research lectures by faculty and graduate students, (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.

520. Seminar in Developmental Psychology. (3)

A graduate-level course on cognitive-developmental and social-developmental research and theory with emphasis on applications to everyday behavior. Prerequisites: 220 and 420.

523. Seminar in Social Development of the Child. (3)

A graduate level seminar that focuses on issues such as the evolutionary roots of social responsibility, theories of attachment, parent-child interactions, aggression, as well as cultural and gender factors in child development.

525. Seminar on Infancy. (3)

A seminar covering social, emotional, and cognitive development of normally developing individuals. Age frame includes prenatal development through 30 months. Focus on the interaction between physiological and emotional development in the parent/child relationship.

528. Seminar in Cognitive Development. (3)

This seminar surveys the historical achievements of Piaget and information processing approaches to understanding the changes in cognition that occurs during development along with more recent evolutionary and connectionistic approaches.

531. Professional and Cultural Issues in Clinical Psychology. (3)

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.

535. Psychological Evaluation: Personality Functions. (3) Gangestad

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.

536L. Practicum in Psychological Evaluation. (3)

Practicum experience in the administration and interpretation of cognitive and personality tests.

537. Seminar in Child Psychopathology. (3)

538. Seminar in Psychoanalytic Ego Psychology. (3)

540. Biological Bases of Behavior. (3)

Provides an introduction to basic aspects of neuroscience; e.g., historical perspectives, neurocytology, neurophysiology, neurochemistry, neuropharmacology, neuroanatomy. In depth critical discussion of fundamental and current topics. Prerequisite: 440 or 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.

547. Psychopharmacology: Therapeutic Drugs. (3)

Pharmacokinetic, pharmacodynamics, and mechanisms of action of drugs used to treat psychological disorders. Therapeutic rationale, range of effects, and efficacy are discussed.

551. Graduate Problems. (1-3) Δ

561. History and Systems of Psychology. (3)

Survey of historic and contemporary systematic issues and conceptual viewpoints in psychology.

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.

565. Seminar in Thought and Language. (3)

(Also offered as Ling, PsyFdn 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.

567. Theories of Perception. (3)

568. Cognitive Processes. (3)

Coverage of traditional and current theoretical approaches to visual and auditory detection and perception, and motor control (locomotion, reaching, grasping, drawing, writing, and speech) in humans.

569. Seminar in Psycholinguistics. (3) Δ

(Also offered as Ling 569.)

571. Seminar in Social Psychology. (3)

572. **Theories of Personality.** (3)

573. **Seminar on Cross Cultural Research.** (3)

599. **Master's Thesis.** (1-6 hrs. per semester)
Offered on a CR/NC basis only.

600L. **Practicum.** (1-3) 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: Hotelling's T^2 , 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.** (3) Δ
Offered on a CR/NC basis only.

632L. **Practicum in Psychotherapy with Adults II.** (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)

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) [1-3] 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. **Special Topics in Psychology.** (1-3)

699. **Dissertation.** (3-12 hrs. per semester)
Offered on a CR/NC basis only.

QUATERNARY STUDIES

Leslie D. McFadden, Chairperson
The University of New Mexico
Department of Quaternary Studies
Northrop Hall 216
Albuquerque, NM 87131
(505) 277-2308

Committee in Charge

Professors

Leslie D. McFadden, Ph.D., University of Arizona (Earth & Planetary Sciences)

Manuel C. Molles, Ph.D., University of Arizona (Biology)

Frank J. Pazzaglia, Penn State University (Geology)

Wirt Wills, Ph.D., University of Michigan (Anthropology)

J. C. Winter, Ph.D., University of Utah (Contract Archeology)

Interdepartmental undergraduate and graduate minors in Quaternary Studies are offered to majors in the Departments of Anthropology, Biology, Chemistry, and Earth and Planetary Sciences.

Undergraduate Minor Requirements

The minor requires 30 hours in courses listed in the Quaternary Studies Pool, including Quat 326, Chem 121L, 122L, and Math 162L (or 180, 181). No more than 18 hours may be taken in any one department and courses in the major field may not be used for the minor. The following courses have been approved for the Quaternary Studies Pool (see appropriate departmental listings for course descriptions and prerequisites).

Anth	320, 321
Biol	121L, 122L, 221, 350L, 463L, 386L, 495
Chem	253L, 301, 302, 303L, 304L
E&PS	101, 105L, 102, 102L, 103, 209, 319L, 333, 410, 431L, 439, 441L, 481L, 485L
Math	162L, 163L, 264L or E&PS 418
Physcs	160, 161, 262

Other courses may be approved upon petition to the committee. Note that Biol 219 is a prerequisite for higher level biology courses.

Graduate Minor Requirements

Contact a member of the committee in charge for the specific graduate requirements.

Quaternary Studies (Quat)

326. **Quaternary Systems.** (3)

(Also offered as E&PS 326.) Interdepartmental seminar and readings, addressing important problems between modern and ancient systems. {Fall}

539. **Advanced Quaternary Geology and Geomorphology.** (4)

(Also offered as E&PS 539.) Field research, including recognition and description of Quaternary features, use of appropriate techniques, and interpretation and synthesis of results.

Prerequisites: 101, 481 or permission of instructor. {Offered upon demand}

RELIGIOUS STUDIES

Andrew Burgess, Chairperson
The University of New Mexico
Religious Studies Program
Humanities 525
Albuquerque, NM 87131-1151
(505) 277-4009

Professors

Committee in Charge

Andrew J. Burgess—Philosophy
Patrick H. McNamara—Sociology
Fred Gillette Sturm—Philosophy
Janice Schuetz—Communication
Donald D. Sullivan—History
James Treat—American Studies
Richard Wood—Sociology

Associated Faculty

Alfonso Ortiz, Anthropology
Ferenc M. Szasz, History

Introduction

Religious Studies is an interdisciplinary and interdepartmental program offering a wide range of approaches to the study of religions. Students enter such a program with a variety of professional and personal goals. (1) Some adopt the major or minor because they look for a broad program using a variety of methods to focus upon an area of great personal interest. (2) Others take a dual major, in order to attain a balance between disciplinary method and interdisciplinary content. (3) Many students use the major or minor as a pre-professional program that provides background for further study in counseling, ministry, religious education, social work, law, or graduate work in Religious Studies.

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 or 231; 232; 263; 264; and 447. In addition to the four lower division required courses, the student must also take at least one other course (which may include 447) in each of the four distributional areas—Asian Religions, Western Religions, Biblical Studies, and Religion in America.

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, 263, 438, 439, 440, 441, 448, 449, 453, 456.
2. **Western Religions:** 105, 264, 301, 302, 305, 306, 325, 350, 360, 361, 365, 404, 413, 423, 437, 450, 452, 465, 475.
3. **Scriptive Studies:** 103, 104, 109, 110, 230, 231, 232, 463.
4. **Religion in America:** 308, 333, 387, 422, 430, 478, 481, 482, 532, 536; 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 Chairperson 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 study of religious texts and are integrated with a program of advanced scripture studies.

Except for Relig 333, 422 and 430, 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 chairperson 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.

Religious Studies (Relig)

103. Introduction to Bible. (3)

Survey of Bible in historical context.

104. New Testament Greek. (1-6) Δ

(Also offered as Greek 104.) Introduction to New Testament Greek. Students may repeat the course for credit up to a maximum of six hours.

105. Religion and the Arts. (3)

Introduction to the relationship between religion and culture as reflected in the arts.

107. Living World Religions. (3)

(Also offered as Phil 107.) Introduction to major living world religions, such as Buddhism, Christianity, Hinduism, Islam, and Judaism. {Fall}

109. Biblical Hebrew I. (4)

(Also offered as M Lang 109.) Introduction to the language of the Hebrew Bible.

110. Biblical Hebrew II. (3)

(Also offered as M Lang 110.) Introduction to the language of the Hebrew Bible.
Prerequisite: Relig 109.

230. Old Testament History. (3)

Pentateuch and the historical books of the Old Testament. {Fall}

231. Old Testament Prophets. (3)

Prophetic books and later Old Testament writings. {Spring}

232. New Testament. (3)

New Testament and early Christian history. {Spring}

247. Studies in Religions. (3) Δ

Elementary topics in the study of world religions. Topics to vary.

263. Eastern Religions. (3)

(Also offered as Phil 263.) A study of major Asian traditions, such as Taoism, Hinduism, and Buddhism. {Fall}

264. Western Religions. (3)

(Also offered as Phil 264.) A study of major Western traditions, such as Christianity, Islam, and Judaism. {Spring}

***301. History of the Jewish People to 1492. (3)**

(Also offered as Hist 301.) Survey of Jewish history in Ancient and Medieval times. {Fall}

***302. Modern History of the Jewish People. (3)**

(Also offered as Hist 302.) Survey in ethnic history stressing political, religious, and social developments from the expulsion from Spain (1492) to the present. {Spring}

***305. History of Christianity to 1517. (3)**

(Also offered as Hist 305.) The history of Christianity from its beginnings in Palestine to the eve of the Protestant Reformation. {Fall}

***306. History of Christianity, 1517 to Present. (3)**

(Also offered as Hist 306.) The development of Christianity from the Protestant Reformation into the modern world. {Spring}

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.

***325. Reformation Era, 1500-1600. (3)**

(Also offered as Hist 325.) Religious revolution and concurrent development in European politics, society, and culture.

***333. 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) 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. 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. {Fall}

***361. 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. {Spring}

***365. 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)**

(Also offered as Phil 387.) 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.

***404. Augustine. (3)**

(Also offered as Phil 404.)

Prerequisite: one course in Philosophy or Religious Studies. Phil 201 or Phil/Relig 360 strongly recommended.

***413. Kierkegaard. (3)**

(Also offered as Phil 413.)

***422. Sociology of Religion. (3)**

(Also offered as Soc 422.) Structure and functioning of religious institutions in Western and non-Western societies. Prerequisite: Soc 101. {Spring}

***423. Continental Women Theological Writers. (3)**

(Also offered as Comp L 423.) A study of the contributions made to Twentieth Century religious thought by four major women writers—Simone Weil, Gertrud Von Le Fort, Raissa Maritain, and Edith Stein.

***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.

***437. History of the Holocaust. (3) Pugach**

(Also offered as Hist 437.) 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.

***438. 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. 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. Buddhist Sutras Seminar. (3) Δ**

(Also offered as Phil 440.) Two week intensive summer course at Jemez Bodhi Mandala Zen Center. Study of both theory and practice with visiting professors from various universities. Opportunity for directed meditation for interested participants.

***441. 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) 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. 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. {Spring}

***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.

***456. Islam. (3)**
 (Also offered as Hist 456.) 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.

***463. Seminar in Biblical Studies. (1-3) Δ**
 Topics in the literary and historical analysis of Biblical texts.

465. C. S. Lewis. (3)
 Treats of the literary and theological writings of this Twentieth Century thinker.

***475. Dante in Translation. (3)**
 (Also offered as Ital 475.) Principally the Vita Nuova and the Divine Comedy.

***478. History of Religion in America. (3) Szasz**
 (Also offered as Hist 478.) 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. New Mexico Hispanic Ritual. (3) †**
 Religious rituals and customs enacted by New Mexico Hispanics (songs, plays, ceremonies) in the context of ethnohistory.

***482. New Mexico Hispanic Religious Arts. (3)**
 Religion-related material culture fashioned by New Mexico Hispanics (painting, sculpture, architecture) in the context of ethnohistory.

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. (Spring)

532. Sociology of Religion. (3)
 (Also offered as Soc 532.)

536. Theories of Symbolic Action. (3)
 (Also offered as Anth 536.)

547. Advanced Seminar in Religious Studies. (1-3) Δ

RUSSIAN STUDIES

See *International Studies*.

**SCIENCE, TECHNOLOGY,
 AND SOCIETY MINOR
 PROGRAM**

Ronald Reichel, Richard Mead, Co-Directors
 The University of New Mexico
 General Honors Center
 114 Humanities Bldg., Rm. 140C
 Albuquerque, NM 87131
 (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 UNM 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.

ARTS & SCIENCES

SOCIOLOGY

Richard M. Coughlin, Chairperson
The University of New Mexico
Social Science Building, Rm.1103
Albuquerque, NM 87131-1166
(505) 277-2501, FAX (505) 277-8805

Professors

Beverly H. Burris, Ph.D., New York University
Richard M. Coughlin, Ph.D., University of California (Berkeley)
George A. Huaco, Ph.D., University of California (Berkeley)
Gary D. LaFree, Ph.D., Indiana University
Philip A. May, Ph.D., University of Montana
Patrick H. McNamara, Ph.D., University of California (Los Angeles)
Gilbert W. Merx, Ph.D., Yale University
H. Laurence Ross, Ph.D., Harvard University
Susan B. Tiano, Ph.D., Brown University
Bert Useem, Ph.D., Brandeis University
Nelson P. Valdes, Ph.D., University of New Mexico

Associate Professors

Dodd H. Bogart, Ph.D., University of Michigan
Robert A. Fiala, Ph.D., Stanford University
Phillip B. Gonzales, Ph.D., University of California (Berkeley)
Jane C. Hood, Ph.D., University of Michigan
Keiko Nakao, Ph.D., University of California (Irvine)
Arthur W. St. George, Ph.D., University of California (Davis)
Paul D. Steele, Ph.D., University of Texas

Assistant Professors

Miguel E. Korzeniewicz, Ph.D., Duke University
John M. Roberts, Ph.D., Cornell University
Richard L. Wood, Ph.D., University of California (Berkeley)

Lecturer III

Tomas Atencio, Ph.D., University of New Mexico

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, e.g. 205 (*Crime and Society*) should be taken before taking 312 (Causes of Crime and Delinquency) or 313 (Social Control) and 312 and 313 should be taken before attempting 412 (Police and Social Control), 414 (Sociology of Corrections) 416 (Sociology of Law) or 418 (Selected Topics in Criminology).

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 GPA of 2.00 in the Sociology major or minor and a 2.00 overall GPA. A cumulative GPA of 2.25 or better in all courses completed is required for regular admission to the sociology major.

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, student 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 (6 courses) are drawn from all sociology courses not specifically required above, but must include at least 12 hours (4 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 subfield 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.

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 GPA of 2.00 in the Criminology major or minor and a 2.00 overall GPA. A cumulative GPA 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—31 hours core and 9 hours of pertinent electives as advised.

Core courses: 101, 205, 280, 312, 313, 371, 381, 412 (or 414, 416, or 418), 471, 481L. Generally, students should follow core courses in sequence, beginning with 100-level requirements, preceding to 200-level requirements, and so on. Electives: students should 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. Other electives must be approved beforehand by the undergraduate advisor in the Sociology Department. Some upper-division electives require other courses as prerequisites.

Minor Study Requirements

Minor in Sociology

A sociology minor requires 21 hours (7 courses). The core courses are 101, 280, and one of 371 and 471. The 12 elective hours (4 courses) are drawn from all sociology courses not specifically required above, but must include at least 6 hours (2 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 special 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 (7 courses). The core courses are 101, 200, 300, and 400. The 9 elective hours are from the following list of designated electives: Sociology 205, 211, 213, 216, 225, 230, 308, 310, 312, 313, 321, 322, 326, 345, 351, 414, 418, 420, 481L; Anthropology 307, 308, 345; Economics 331, 335, 341, 422; Political Science 270, 371, 372, 375, 470; Psychology 220, 230, 231, 331, 332, 373, 411. Substitution of a course not on the above 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 21 hours (7 courses). The core courses are 101, 205, 312, 313, and one of 412, 414, 416, 418 (one of these is required, but additional courses from the set may be used as electives). It also required 6 hours from a list of designated electives approved by the department. Substitution of a course not on the list is possible **only** with the approval of a sociology undergraduate advisor.

Departmental Honors

Superior sophomore or junior students, especially those anticipating graduate study in sociology or criminology or those interested in professional school (i.e., Law School), 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. Students enrolled in the honors program are required to take Sociology 399 and 499 (Senior Honors Thesis). See the Departmental Undergraduate Advisor for specific requirements for the departmental honors program.

Graduate Program

Graduate Advisor
Beverly Burris

Review of Applications Begins
Fall, Spring, and Summer: February 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. graduate program depends on a strong record of academic performance at the undergraduate level. This is usually understood to mean at least a B average (3.0 in a 4.0 system) in all previous academic work. GRE scores (verbal and quantitative) are also evaluated as part of the application procedure. Also, the applicant is asked to submit a letter of intent, three letters of recommendation, and two writing samples. In addition, the entering graduate student must have had at least 12 semester hours of advanced undergraduate work in sociology, including evidence of satisfactory work in sociological research methods.

A graduate student admitted with deficiencies in any of these prerequisites must remove the deficiency by satisfactorily completing (with at least a grade of B, 3.0) the appropriate course work. Credit hours earned in courses taken to remove deficiencies do not apply to the minimum hours required for a master's degree.

The M.A. degree requires 24 hours of course work, 6 hours of thesis, and a written thesis. Prior to writing a thesis, students must appoint a thesis committee consisting of a chairperson and at least two other faculty members.

Concentrations: criminology, comparative sociology, gender studies, sociology of Latin America, political sociology, race/ethnic relations, stratification, and work and organizations.

Requirements for all students seeking a master's degree in sociology include: Sociology 523, Proseminar (students should take this course as early in their careers as possible); Sociology 500, *Classical Social Theory*; Sociology 513 or 514, *Contemporary Social Theory I and II*; Sociology 580, *Methods of Social Research*; Sociology 581; *Advanced Social Statistics I* and Sociology 599, *Masters Thesis*.

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. Specific requirements for all students seeking a Ph.D. in Sociology include: Sociology 500, *Classical Social Theory*; Sociology 523, *Proseminar*; Sociology 513 and 514, *Contemporary Social Theory I and II*.

II; Sociology 580, 581, and 582 *Graduate Methods and Statistics*; and either Sociology 583 (*Special Topics*) or a 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; an examination showing proficiency in reading one foreign language; comprehensive examinations (written and oral); and a Ph.D. dissertation.

Sociology (Soc)

101. Introduction to Sociology. (3)

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.

200. Foundations of Social Welfare. (3) Atencio, Coughlin

Historical development of social welfare institutions and the welfare state; social indicators and the quality of life. Prerequisite: 101. (Fall, Spring)

205. Crime and Society. (3) LaFree, Steele, Useem

The main objectives of this course are to introduce students to the study of crime, provide a basic knowledge of key criminology concepts, consider crime as a social problem, review the history of criminology and study the links between criminology and crime policy. Prerequisite: 101.

211. Social Problems. (3) Coughlin, Ross

Sociological approaches to problems such as poverty, crime and delinquency, sexual behavior, mental disorders, drug use, corporate power, and other issues selected by the instructor. Prerequisite: 101. May not be repeated for credit toward a major or minor. (Fall, Spring)

213. Deviant Behavior. (3) Bogart, LaFree, Steele, Tiano

Survey of major forms of norm-violating behavior in American society, such as drug and alcohol abuse, mental illness, criminal behavior, and sexual deviance. Discussion of sociological explanations of the causes of, and attempts to address, these behaviors. Prerequisite: 101.

216. The Dynamics of Prejudice. (3) Gonzales, McNamara,

The study of prejudice and discrimination, including their historical and contemporary sources and prospects for their reduction, with applications to American institutions. Prerequisite: 101.

221. Global Issues. [Sociology of Rich and Poor Nations.] (3) Tiano, 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. (Summer, Fall, Spring)

250. Latin America Through Film. (3) Merckx, Remmer

(Also offered as Pol Sc 250.) Interdisciplinary introduction to Latin American studies through documentary films, lectures, reading, and discussion. Prerequisite: 101. (Spring)

280. Introduction to Research Methods. (3) Coughlin, Korzeniewicz, Nakao, 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) Atencio, 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. [*303.] Sociology of Political Behavior. (3) Coughlin, Fiala

Examination of the social bases of political behavior. Major topics include the character and expansion of the state, the social bases of various forms of political rule, and political change in the contemporary world. Prerequisite: 101. (Offered upon demand)

305. Man, Nature, and Society. (3) Atencio

Examination of man and the environment from an ecological perspective. Focusing on industrial and economic growth, natural resource development, environmental values and movement, resource management decision-making, comparative perspective of man's relationship to the environment. Prerequisite: 101. (Offered upon demand)

308. Sociology of Gender. (3) Bogart, Burris, Hood

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) Atencio

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. [*312.] Causes of Crime and Delinquency. (3) LaFree, Ross, Steele, Useem, Wood

Explanation of the social influences precipitating and associated with adult criminal and juvenile delinquent acts. Discussion of the characteristics of major forms of crime and delinquency, and of special populations of criminals and delinquents. Prerequisites: 101, 205.

313. [*313.] Social Control of Crime and Delinquency. (3) LaFree, Ross, Steele, Useem, Wood

Presentation of mechanisms of social control of crime and delinquency, including efforts at socialization, and sanctioning of these behaviors. Special attention to the structure and operation of the criminal justice system and discussion of special concerns and issues within it, such as plea bargaining, philosophies of punishment, rights and discretion. Discussion of the roles of other social institutions, such as the family, schools, work and religion in the control of crime and delinquency. Prerequisites: 101, 205.

321. [*321.] Sociology of Medical Practice. (3)
 (Also offered as Pharm 421.) 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. [*322.] Social Epidemiology. (3)
 Examines the influence of social variables on health, illness and death of man. The complex role of lifestyle, socio-economic 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) Atencio, Valdes
 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)

328. [*328.] Sociology of the Mexican American People. (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)

331. [*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.

335. Sociology of Mass Communication. (3)
 (Also offered as C & J 335.) Mass communication in society with emphasis on Western industrial societies, impact of mass communication on social movements and on sectors of the social structure; social psychology of mass communications.
 Prerequisite: 101. (Offered upon demand)

338. [*338.] The City in History. (3) Roebuck
 (Also offered as CRP 338.) An 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.
 Prerequisite: 101. (Spring)

345. Youth and Society. (3) McNamara
 Youth in varying social contexts. Intergenerational problems, role transitions, youth subcultures, and the relationships of youth to major social institutions.
 Prerequisite: 101. (Offered upon demand)

350. [*350.] Rural Society in Latin America. (3) Valdes
 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.

351. [*351.] The Urban Community. (3) McNamara
 The forms and development of urban community; demographic, spatial, functional, and temporal patterns; metropolitan development and city-hinterland relations.
 Prerequisite: 101. (Spring)

355. [*355.] Central American Politics. (3)
 (Also offered as L1-Am 355.) The political dynamics of Central American republics, considered on a country by country basis. Recommended preparation: Hist 282.

361. [*361.] Modernization of Traditional Societies. (3)
 The impact of technological and economic change on societal institutions with special attention to underdeveloped societies.
 Prerequisite: 101.

371. Classical Sociological Theory. (3) Burris, Fiala, Huaco
 The study of nineteenth 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, Nakao, Roberts, St. George
 An introduction to the basic statistics (both descriptive and inferential) employed in the analysis of quantitative sociological data. Psych 200 may be substituted for Soc 381, however it will be used as a 200-level course in the student's academic plan.
 Prerequisites: 101, 280. (Fall, Spring)

389. [*389.] Latin American Philosophy. (3)
 (Also offered as Hist, Phil 389.) Pre-Columbian thought through independence ideologies.

390. [*390.] Latin American Philosophy. (3)
 (Also offered as Hist, Phil 390.) Positivism through contemporary thought.

398. Special Topics in Sociology. (3)
 Prerequisite: 101. (Offer upon demand)

399. Sociology Honors Seminar. (3)
 Restricted to students admitted to departmental honors program.

***400. The Welfare State. (3)** Coughlin
 A historical and comparative study of the welfare state. How it functions and its present problems.
 Prerequisite: 200. (Spring)

***412. Sociology of Police and Social Control. (3)** Steele, Useem, Wood
 Discussion of the characteristics of law enforcement professionals, training, processes and relationship to social groups. Impact of law enforcement activity at the local, state and federal levels on the criminal justice system and rates and types of crime. Discussion of private security, discretion, organizational management and social attitudes toward police.
 Prerequisites: 312, 313.

***414. Sociology of Corrections. (3)** LaFree, Steele, Useem
 The goals, scope, and effectiveness of correctional sanctions. The appropriate scale and mix of sanctions. Institutional management and control. Site visits may be made to several facilities.
 Prerequisite: 312 and 313.

***415. Social Stratification. (3)** Burris, Nakao, Rhodes,
 Structure and dynamics of class, status, and power in society; social consequences of stratification.
 Prerequisite: 101. (Fall, Spring)

***416. Sociology of Law. (3)** LaFree, Ross
 An introduction to the social science materials on the nature of law, legal institutions, the legal profession, and the impact of law on behavior. Specific topics include theories of law and legality; comparative legal systems; police; lawyers; judges; juries; the effect of law on behavior; and the use of social science in the courts.
 Prerequisites: 213, 312, 313, 413, or 414. (Offered once per year)

***418. Selected Topics in Criminology. (3, to a maximum of 6)** LaFree, Ross, Steele, Useem, 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.

***420. Race and Cultural Relations. (3)** Gonzales, McNamara

Comparative and structural analysis of intergroup relations both in the United States and other countries and regions.

Prerequisite: 101. (Offered upon demand)

421. Sociology of Education. (3)

(Also offered as ESTCS 521.) Structure and functioning of educational institutions in the United States and other societies.

Prerequisite: 101.

***422. Sociology of Religion. (3)** McNamara, Wood

(Also offered as Relig 422.) Structure and functioning of religious institutions in Western and non-Western societies.

Prerequisite: 101. (Spring)

***430. Ideology, Literature, and Myth. (3)** Huaco

The social bases of ideology; ideological phenomena as distortions of social reality; isomorphism in social and cultural patterns; social causation of ideology. Theories of myth. Freudian, Jungian and structuralist approaches. Relations between ideology and myth.

No prerequisites. (Fall)

***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, Burris

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)** Burris, 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. [Social Change.] (3)** Korzeniewicz

A sociological perspective on economic, political and social trends worldwide. Implications of global change for individuals, organizations and societies.

***465. Philosophy of Social Sciences. (3)**

Examination of the structure, methods, and presuppositions of social sciences.

471. [*471.] Contemporary Sociological Theory. (3) Burris, Huaco, Tiano

Comparative analysis of major contributions to sociological theory in the twentieth century: Functionalism, Phenomenology, French Structuralism, Analytical Marxism.

Prerequisite: 101 or permission of instructor; 371 recommended. (Fall, Spring)

***478. Seminar in International Studies. (3)** Slavin

(Also offered as Econ, M Lang, Pol Sc 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. (Fall)

481L. [*481L.] Research Methods in Sociology. (4)

Coughlin, Nakao, 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. 3 lectures, 1 hour lab. (Fall, Spring)

***484. The Cuban Revolution, 1959 to Present. (3)** Valdes

(Also offered as Hist 484.) Background to revolution since 1898; emphasis on period since 1959. (Offered upon demand)

488. Field Observation and Experience. (1-4) Coughlin, Steele

A field placement arrangement for students in the social welfare and criminal justice concentrations. Participant observation in local agencies and sociological analysis of this experience.

Prerequisites: core courses in social welfare or deviance/criminology, and permission of instructor. (Fall, Spring)

490. Directed Study. (1-3, to a maximum of 6) Δ

Tutorial arrangement with a member of the sociology faculty. Restricted to students with substantial background in sociology. May be taken for departmental honors with prior approval of chairperson.

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 Sociology Theory. (3) Burris, Huaco

Advanced study of selected classical theorists.

Prerequisite: 371 or equivalent, as determined by instructor.

502. Seminar: Social Systems Analysis. (3) Bogart

503. Political Sociology. (3) Coughlin, Fiala

Survey of major research traditions for each theory of deviance and policy implication of deviance research.

504. Deviance. (3) LaFree, Steele, Ross

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, Korzeniewicz

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)

508. Latin American Development and Planning. (3)

Merx, 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.

510. Social and Political Movements. (3) Gonzales,

Useem

512. Ideology and Culture. [Sociology of Knowledge.] (3) Huaco

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.

513. Constructing and Analyzing Contemporary Sociological Theory. [Survey of Contemporary Schools of Sociological Theory I.] (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. [Survey of Contemporary Schools of Sociological Theory II.] (3) Huaco (Also offered as Phil 514.) Analytical Marxism, Nietzsche, Spengler, Sociobiology, Foucault, Sartre, Lukacs, The Frankfurt School.

515. Sociology of Law. (3) LaFree, Ross
Presentation of material from social science bearing on functions of law in dispute resolution and deterrence. Focus is on abilities and limitations of law as an institution of social control.

Prerequisite: 312, 313, 413, or 414.

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) LaFree, Steele
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) Valdes
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, McNamara

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) Bachelor (Also offered as Ed Fdn 581.)

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. [Proseminar in Theory.] (1) (3)
Introduces incoming graduate students to each of the department's regular faculty members and their work.

524. Social Stratification. [Theories of Social Stratification.] (3) Burris, Nakao, Rhodes
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.

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) [1]
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) McNamara, Wood (Also offered as Relig 532.) Nature of religious behavior; structure of religious organizations; socio-religious change in contemporary societies. Works of Weber, Freud, Marx, and Parsons, Bellah, Geertz will be reviewed.
Prerequisite: 422.

533. Interviewing Seminar. (3)
Students will combine theory and practice, alternating readings and discussion with a series of graded assignments including genealogical, life history, survey, and ethnosemantic interviews.

545. Sociology of Mass Communication. (3) (Also offered as C & J 545.) The role of mass media in modern society. Review of research on the process and effects of mass communication. Major concepts, theories, findings, and controversies relating to specific media.

551-552. Problems. (2-3, 2-3 hrs. each semester)
Tutorial arrangement with a member of the graduate faculty.

559. Social Science Research Methods and the Law. (3) LaFree
(Also offered as Law 559.) Survey of relationship between social science and legal process, uses of social research in application of law and research on determinants of legal agents decision-making. Prerequisite: 580.

570. Sociological Research: Special Topics. (3) (Also offered as Law 570.)

580. Methods of Social Research I. (3) Nakao, Roberts
Analytical examination of traditional methodological issues including measurement, experimental design, sampling, theory construction, role of statistics, and nature of probability. Prerequisites: 280 and 381 or equivalent.

581. Advanced Social Statistics I. (3) Nakao, Roberts
Examination of multivariate statistics and linear models and their application to sociological issues. Topics include multiple regression, analysis of variance, path analysis, logic analysis, and log linear models.
Prerequisite: 481L or equivalent, or permission of instructor. (Offered upon demand)

582. Advanced Social Statistics II. (3) Nakao, Roberts
A sequel to 581. Further examination of multivariate statistical techniques often used by researchers in sociology. Includes examination of factor analysis, canonical correlations, covariance structure and structural equation models. Prerequisite: Soc 481L.

583. Special Topics in Advanced Social Statistics. (3) Nakao, Roberts
A close examination of the properties and application of a single quantitative method (or a few related methods). Possible topics include structural equation models, log linear models, dynamic models, scaling.
Prerequisite: 581 and 582 or equivalent

584. Interdisciplinary Seminar on Problems of Modernization in Latin America. (3) Merck
(Also offered as Econ, Hist, Pol Sc 584.)

595. Special Topics in Sociology. (3)

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

699. Dissertation. (3-12)
Offered on a CR/NC basis only.

SPANISH AND PORTUGUESE

John M. Lipski, Chairperson
The University of New Mexico
Department of Spanish and Portuguese
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(505) 277-5907, 277-5908

Professors

John J. Bergen, Ph.D., University of California (Los Angeles)—Spanish
Garland D. Bills, Ph.D., University of Texas—Spanish
Anthony J. Cárdenas, Ph.D., University of Wisconsin—Spanish
John M. Lipski, Ph.D., University of Alberta—Spanish
Tey Diana Rebolledo, Ph.D., University of Arizona—Spanish
Jon M. Tolman, Ph.D., University of New Mexico—Portuguese

Associate Professors

Enrique R. Lamadrid, Ph.D., University of Southern California—Spanish

Assistant Professors

Antony Higgins, Ph.D., University of Pittsburgh—Spanish
Mary C. Inbarren, Ph.D., University of Florida (Gainesville)—Spanish
Michael H. Kidd, Ph.D., Cornell University—Spanish
Kimberle Lopez, Ph.D., University of California (Berkeley)—Spanish
Margo Milleret, Ph.D., University of Texas at Austin—Portuguese
Susana D. Rivera, Ph.D., University of New Mexico—Spanish

Professors Emeriti

Ruben Cobos, Ph.D., University of New Mexico—Spanish
Robert Duncan, Ph.D., University of Wisconsin—Spanish
Pelayo Fernández, Ph.D., Salamanca University—Spanish
Rosa Fernández, Ph.D., 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., University of New Mexico—Spanish
Tamara Holzapfel, Ph.D., University of Iowa—Spanish
Albert Lopes, Ph.D., University of California—Spanish-Portuguese
Raymond MacCurdy, Ph.D., University of North Carolina—Romance Languages
Marshall Nason, Ph.D., University of Chicago—Spanish
William Roberts, Ph.D., University of Wisconsin—Portuguese
Alfred Rodríguez, Ph.D., Brown University—Spanish
Sabine R. Ulibarrí, Ph.D., University of California (Los Angeles)—Spanish

Introduction

The mission of the Department of Spanish and Portuguese is to excel in research and teaching of culture, language, linguistics and literature in Spanish and Portuguese, drawing upon the unique cultural matrix of the Hispanic Southwest, and the rich American and European Luso-Hispanic heritage.

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.

To Challenge a Course

Students may obtain credit-hours in language courses (101, 102, 201, 202) without taking an examination by earning a grade of A or B in a UNM course numbered higher than the course(s) challenged. Pass/Fail (CR/NC) is assigned to all challenged course(s).

Placement

Students who have had previous exposure to Spanish or Portuguese are encouraged to enroll in as high a level as possible. A placement exam is recommended to confirm the appropriate level of skills before enrolling. For specific dates of examinations and for information regarding challenge procedures, contact the Department Secretary.

Spanish for Bilinguals

Sections numbered in the 150s in first and second year Spanish 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 wasted drilling aspects with which students are already familiar. All students who speak or understand some Spanish as a result of having heard it at home or from grandparents, are urged to enroll in these sections. A placement test is suggested before entering the program. (See the Department Secretary for times and dates.)

Major Study Requirements

Spanish

30 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; (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 emphasize one of the following areas: Spanish Peninsular Literature, Spanish American Literature, or 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.

Portuguese

30 hours in Portuguese courses numbered 200 or above. Required courses: 275-276, 311-312, 415-416, plus six additional hours at the 400 level. Work in another foreign language at the 200-276 level (or equivalent) must also be com-

pleted. 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 12 hrs. numbered 301 (repetition allowed as topic changes) with the remaining classes numbered above 301, 3 hours of which must be at the 400 level.

Portuguese. 24 hours in Portuguese. Any courses numbered 200 or above can be counted toward the second major.

Minor Study Requirements

18 hours in courses numbered 300 or above in Spanish; 18 hours in courses numbered 200 or above in Portuguese.

Graduate Program

Graduate Advisor
Enrique R. Lamadrid

Review of Applications Begins

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)

NOTE: Early application is recommended.

Degrees Offered

M.A. in Portuguese or Spanish Ph.D. in Romance Languages

Concentrations: Spanish Peninsular literature, Latin American literature, Spanish linguistics; Hispanic Southwest Studies; Portuguese.

Prerequisite for entrance into the M.A. program is an undergraduate Spanish or Portuguese major of 30 semester hours in courses numbered above 300, or the equivalent. The M.A. in Spanish and Portuguese at the University of New Mexico has four areas of concentration: Hispanic literature, Hispanic linguistics, Southwest Hispanic studies, and Portuguese. All students must choose a major and a minor area from this group. The option of a double major also exists.

The M.A. is offered under Plan I (thesis) and Plan II (course work only). Plan I requires a minimum of 27 hours of course work and a thesis. Plan II requires 33 hours of course work. Under Plan I a thesis proposal must be submitted to the students thesis committee no later than the beginning of the fourth semester of study, when the student will register for 6 hours of thesis credit. Under both plans students take comprehensive examinations at the end of their course work (minimum semester hour requirements for TAs under both plans are 9, 9, 9, 6). All course work must be at the 500 level or above, with the exception of Span 423 (*Cervantes Quijote*), Span 438 (*Mexican Literature*). All candidates must complete one year (6 semester hours) of university level study of a foreign language, in addition to the 33 hours of regular graduate course work. This requirement can be met through course work done as part of the B.A. This is in addition to the 33 hours of regular course work.

The department offers a Ph. D. in Romance Languages, with a major in one of the following fields: Portuguese, Spanish Peninsular literature, Latin American literature, Hispanic Southwest studies, and Spanish linguistics. Applicants to the Ph.D. program must hold a master's degree in Spanish or

Portuguese. Prospective candidates are requested to communicate with the chairperson of the department.

Detailed requirements for all these graduate degrees may be obtained from the department.

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. [Accelerated Beginning Portuguese.] (6)

An intensive one-semester multi-media 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. [Accelerated 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. [301.] Advanced Composition and Conversation. (3)

Grammar review coupled with intensive training in composition and conversational skills. Taught entirely in Portuguese. Prerequisite: 202 or 276.

312. [302.] Advanced Composition and Conversation II. (3)

Grammar review coupled with intensive training in composition and conversational skills and based on Brazilian tele-novelas. Taught entirely in Portuguese.

335. Brazilian Popular Culture. (3)

Through the lens of Brazilian popular music, cinema, and ritual expressions such as soccer and carnival, this course provides the non-Portuguese speaking student with an introduction to Brazilian history, culture, and society.

414. [*401.] 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 with a change of topic. Prerequisite: 301 or equivalent experience.

415. Musica Popular Brasileira. (3)

A survey of Brazilian popular music from its origins at the end of the Nineteenth Century to modern times. Concentration on choro, samba, samba-canção, Bossa Nova, Música Popular Brasileira, Tropicália, and beyond. Taught in Portuguese.

416. Cinema Brasileiro. (3)

A survey of Brazilian cinema concentrating on the Cinema Novo movement of the 1950s and 1960s. Cinema as a factor in national identity and the relationship between cinema and literature are two thematic emphases. Taught in Portuguese.

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.

457. [*457.] Brazilian Literature Survey I. [Brazilian Literature Survey.] (3)

Brazilian prose and poetry from colonial period to late nineteenth century.

Prerequisite: 301 or equivalent experience.

458. [*458.] Brazilian Literature Survey II. [Brazilian Literature Survey.] (3)

Contemporary Brazilian prose and poetry, with emphasis on Modernism and Post-Modernism.

Prerequisite: 301 or equivalent experience.

***461. Topics in Brazilian Literature.** (3) Δ

Individual authors, genres, and periods of Brazilian Literature. May be repeated for credit with a change of content.

462. [*451.] Survey of Portuguese Literature. (3)

Representative readings from the medieval *Cancioneiros* to Modernism and later trends.

***475. Comparative Romance Phonology.** (3)

(See *M Lang 475*.)

497. Undergraduate Problems. (1-6, to a maximum of 6)

Prerequisite: permission of instructor.

511. Advanced Composition and Conversation. (3)

Grammar review coupled with intensive training in composition and conversational skills. Taught entirely in Portuguese.

Prerequisite: 202 or 276.

512. Advanced Composition and Conversation II. (3)

Grammar review coupled with intensive training in composition and conversational skills and based on Brazilian tele-novelas. Taught entirely in Portuguese.

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 with a change of topic.

Prerequisite: 301 or equivalent experience.

515. Musica Popular Brasileira. (3)

A survey of Brazilian popular music from its origins at the end of the Nineteenth Century to modern times. Concentration on choro, samba, samba-canção, Bossa Nova, Música Popular Brasileira, Tropicália and beyond. Taught in Portuguese.

516. Cinema Brasileiro. (3)

A survey of Brazilian cinema concentrating on the Cinema Novo movement of the 1950s and 1960s. *Cinema as a factor* in national identity and the relationship between cinema and literature are two thematic emphases. Taught in Portuguese.

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.

551. Graduate Problems. (1-6 hrs. per semester)

Prerequisite: permission of instructor.

557. Brazilian Literature Survey I. (3)

Brazilian prose and poetry from colonial period to late nineteenth century.

Prerequisite: 301 or equivalent experience.

558. Brazilian Literature Survey II. (3)

Contemporary Brazilian prose and poetry, with emphasis on Modernism and Post-Modernism.

Prerequisite: 301 or equivalent experience.

560. Seminar in Portuguese Literature. (3) Δ

561. [501.] History of the Portuguese Language. (3)

The phonological, grammatical, and lexical development from Latin to Portuguese.

562. Survey of Portuguese Literature. (3)

Representative readings from the medieval *Cancioneiros* to Modernism and later trends.

570. Seminar in Brazilian Literature. (3) Δ

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only.

601. Literary Theory. (3)

(Also offered as M Lang, Span 601.) Theoretical schools and their 20th-century proponents, from Propp to Chomsky.

631. Latin American Vanguard Poetry. (3)

(Also offered as M Lang, Span 631.) Latin American (Brazilian and Spanish American) Vanguard poetry, from experimental period of the 1920s to the 1950s.

699. Dissertation. (3-12 hrs. per semester)

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. Bilingual students must enroll in corresponding sections numbered 150's.

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. Bilingual students must enroll in corresponding sections numbered 150's.

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.

120. Workshop in Conversational Spanish. (1-3) ¹

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. May be repeated for a maximum of 3 credit-hours.

200. Intermediate Spanish Abroad. (3)

Intensive language study with emphasis on culture in an immersion situation. Tied to UNM 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. Bilingual students must enroll in corresponding sections numbered 150's.

202. Intermediate Spanish. (3)

Intermediate Spanish for students who have completed 201 or equivalent. Continued development of all four skills with

emphasis on reading. Bilingual students must enroll in corresponding sections numbered 150's.

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

275. Accelerated Beginning Spanish. (6)
Specially designed course 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.

277-278. Spanish for Professionals. (3, 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. [Topics in Hispanic Culture.] (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.)
Prerequisites: 202, or 276.

302. Developing Spanish Writing Skills. [Topics in Language Study.] (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.

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. Spanish Linguistics for Teachers. (3)
Selected aspects of Spanish phonology, morphology, and syntax; theory and application to classroom teaching (all levels). Taught in Spanish.
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 iso-

lated groups, including Judeo-Spanish. Includes comparison with U.S. varieties.
Pre- or corequisite: 301. (Fall, Spring)

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.

****441. Teaching of Spanish. (3)**
(Also offered as CIMTE 441.) May be counted for teaching certificate but not for Spanish major or minor. Students are advised to take 441 prior to or parallel with student teaching.

****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: 442.

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. Offered on a CR/NC basis only.

542. History of the Spanish Language. (3)
The phonological, grammatical, and lexical development from Latin to Spanish. Required of all candidates for Ph.D.

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)
Approval of instructor advised.

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

550. Afro-Hispanic Language. (3)
The study of linguistic contacts between speakers of Spanish and sub-Saharan Africans in Europe, Africa, and the Americas in the 15th-20th centuries. Includes Afro-Iberian creoles and permanent African 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.

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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 M Lang, Port 601.) Theoretical schools and their 20th-century proponents, from Propp to Chomsky.

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 eleventh to the seventeenth century.
Prerequisite: 307.

****412. Survey of Spanish Literature II. (3)**
A survey of Spanish literature from the eighteenth, nineteenth and twentieth 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.

***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.

514. Major Figures from 1898 to 1936. (3)

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 (XIII-XVII centuries) and resolving textual problems.

517. Nineteenth-Century Spanish Literature. (3)
Neo-Classicism; Romanticism; Realism; Naturalism.

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 buscon, and other 17th-century picaresque novels.

522. Seminar in Spanish Poetry. (3)

523. Renaissance and Baroque Poetry. [Renaissance 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.

629. Seminar in Spanish Literature. (3) Δ

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 the critical 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 American 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*, *critica 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.

504. Seminar in Ibero-American Studies. (3) Δ
(Also offered as Lt-Am, Hist 504, 589.)

530. Seminar in Spanish American Theater. (3)
Overview of 20th-century theater, emphasizing major dramatic tendencies, such as teatro de costumbres, teatro surrealista, teatro del absurdo, and trends in dramatic criticism and theatrical production.

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, Julian 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

536. Colonial Literature. (3)
Main authors, generations, and centers of literary activity in the New World from 1492 to 1830.

631. Latin American Vanguard Poetry. (3)
(Also offered as M Lang, Port 631.) 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).

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 SW 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.

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.

679. Seminar in SW Folklore/Literature. (3) Δ
 Advanced study of folk and literary traditions with emphasis on critical approaches and theory.

V. General

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 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 hrs. per semester)
 Prerequisite: permission of instructor.

599. Master's Thesis. (1-6 hrs. per semester)
 Offered on a CR/NC basis only.

699. Dissertation. (3-12 hrs. per semester)
 Offered on CR/NC basis only.

SPEECH AND HEARING SCIENCES

Linda L. Riensche, Chairperson
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 Department of Speech and Hearing Sciences
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Associate Professors

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Assistant Professors

Patrick J. Finn, Ph.D., The University of California (Santa Barbara)
 Mary Oelschlaeger, Ph.D., University of Southern Illinois
 Janet Patterson, Ph.D., University of New Mexico

Research Assistant Professor

Sandra Damico, Ph.D., Louisiana State University

Visiting Assistant Professor

Deborah Detorie, Ph.D., University of Texas (Austin)
 Tabitha Parent, Au.D., Baylor College of Medicine

Instructors

Andrea Billey, M.S., Baylor College of Medicine
 Linda Bivins, M.A., New Mexico State University
 Katharine Blaker, M.S., University of New Mexico
 Elayne Kessler, M.A., M.P.A., Columbia University, University of New Mexico
 Susan Karasik-Rush, M.S., University of Texas (Dallas)
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Adjunct Professors

Michael Crum, Ph.D., Northwestern University
 Jack S. Damico, Ph.D., University of New Mexico
 Sandra Damico, Ph.D., Louisiana State University
 Karl Hattler, Ph.D., The University of Oklahoma Medical Center
 Bruce Porch, Ph.D., Stanford University
 Bruce Rappaport, Ph.D., University of Michigan
 Jacqueline L. Robinson, Ph.D., University of New Mexico
 Martin C. Schultz, Ph.D., The University of Iowa
 Joseph Stewart, Ph.D., The University of Iowa

Emeritus Faculty

Richard B. Hood, Ph.D., Stanford University

Honorary Consultants

Gare Fabile de Zaldo, Ph.D., Universidad Nacional Autonoma de Mexico
 Raul de Zaldo, Galina, M.B.A., Technological Institute of Monterrey

Visiting Scholars

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 XaVaira Florville Alejandre, M.D., Escuela Mexicana de Medicina de la Universidad La Salle

Introduction

The Bachelor's Degree in Speech and Hearing Sciences is a preprofessional degree for graduate work in Audiology or Speech-Language Pathology.

Audiologists are professionals with masters' 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. Audiologists work in hospitals, rehabilitation centers private practices, universities, schools, state and federal governmental agencies, industry, nursing homes, home health facilities, and health departments.

Speech-language pathologists are professionals with masters' or doctoral degrees who assess and treat communication disorders such as stuttering, delayed language development, aphasia, voice and articulation problems. 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-

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Hearing Association and fulfills entrance requirements for a master's degree program in speech-language pathology or audiology. A grade of at least a C must be earned in all required or required support courses. The pass/fail (CR/NC) option may not be used.

Advisement

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 (277-4453).

Major Study Requirements

1. Forty hours in required courses: Speech and Hearing Sciences 302, 303, 321, 350, 407, 410, 425, 428, 430, 431, 432, 450 and 458.
2. Eighteen hours in required support courses*:

3 credit-hours in basic human communication processes:
Ling 101, 292L, or 440.

3 credit-hours in biological/physical sciences.
Recommended: Physcs 108, Biol 121L.

3 credit-hours in college level mathematics (not historical or methodological mathematics).
Recommended: Math 121, 150, or 162L.

6 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 and 220, Soc 101, 230, Anth 110, 130, 237, 250 or 263.

- * Prerequisites or corequisites may exist. Check with department listing in this catalog.

3. Recommended minors include American Studies (Southwest Culture Studies), Anthropology, Communication and Journalism, Computer Science, Electrical and Computer Engineering, Family Studies, Linguistics, Physics, Psychology, Sociology, Spanish, Special Education, and TESOL.

Minor Study Requirements

Twenty-one hours as follows: Ling 101, 292L, or 440; SHS 302, 303, 321, 350, 425, 430.

Graduate Program

Graduate Advisor
Mary Oelschlaeger, Ph.D.

Application Deadlines

*Fall semester: February 15
Spring semester: September 15

*Only applications received by these deadlines are assured of consideration.

Degree Offered

M.S. in Speech and Hearing Sciences

Concentrations: speech-language pathology, audiology. The Department of Speech and Hearing Sciences awards Master of Science degrees in speech-language pathology and audiology under both Plan I (thesis) and Plan II (non-thesis)

according to regulations set forth in earlier pages of this Catalog. Both programs are accredited by the Council of Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association (ASHA). All students must fulfill the academic and practicum requirements for the Certification of Clinical Competence set forth by ASHA and specified departmental courses. Persons with a bachelors degree in a field other than Speech and Hearing Sciences are encouraged to apply. Advisement materials specifying admission and related material are available upon request from the department. All applicants should avail themselves of these materials prior to initiating the admission process.

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.

*321. Introduction to Audiology. (3)

Basic hearing science, pathological conditions of the auditory system, audiometric testing.

*350. Anatomy and Physiology of Speech. (3)

Introduction to basic anatomy and physiology of the speech mechanism. Four systems are examined: respiratory, phonatory, articulatory, and neurological.

*407. Auditory Learning Disabilities in Adolescents and Adults. (3)

Theoretical basis of auditory learning disabilities, behavioral manifestation and relationships with psychiatric disorders, abuse and neglect, juvenile delinquency and substance abuse.

Prerequisite: 302 and 321.

*410. Multicultural Issues in Communicative Disorders. (3)

Students will obtain knowledge and understanding of how the cultural and linguistic diversity of clients affect communication. Appropriate assessment procedures and intervention strategies will be discussed.

Prerequisite: 302.

*425. Aural Rehabilitation. (3)

Appraisal and management of individuals with impaired hearing.

Prerequisite: 321.

*428. Phonological Disorders in Children. (4)

Assessment and treatment of articulation and phonological disorders.

Prerequisites: 303 and Ling 292L or 440.

*430. Language Development. (3)

Developmental sequence of language acquisition & changes in communication behavior across the life span from birth to adulthood. Covers specific areas of phonology, morphology, semantics, syntax, pragmatics, literacy and metalinguistics.

Prerequisite: Ling 292L or 440.

***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.

***432. Language Assessment. (3)** Patterson
 Selection, administration and interpretation of standardized language tests; spontaneous language samplings and language analysis; report writing.
 Prerequisites: 430.

***450. Neural Basis of Communication. (3)**
 Structure and function of the central and peripheral nervous systems as they relate to normal and disordered communication.
 Prerequisite: 350 or permission of instructor.

451. Undergraduate Problems. (1-3, to a maximum of 6)
 Prerequisite: permission of instructor.

***458. Precinical Training. (4)**
 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.
 Prerequisites: 428, 431 and permission of instructor.

***459. Pre-Clinical Training Audiology. (3)**
 Course objective is to prepare graduate audiology students for clinical practice through instruction on how to perform audiologic testing (including case history and counseling) and allowing hands on lab assignments and direct observation in a variety of clinical settings.

500. Clinical Practice. (1-3, to a maximum of 15)
 Prerequisite: 458 or permission of instructor.

506. Research Design in Communicative Disorders. (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: 450.

510. Seminar in Multicultural Issues in Communicative Disorders. (1-3, to a maximum of 6)
 Prerequisite: permission of instructor.

517. Dysphagia. (3)
 Acquire knowledge relevant to the identification, evaluation, treatment of infant and adult swallowing disorders.

520. Hearing Science. (3)
 Anatomy and physiology of the auditory system.

521. Psychoacoustics. (3)
 Perception of sound and speech by the normal hearing and hearing impaired.

522. Hearing Conservation. (3)
 The role of the speech and hearing specialist in hearing conservation programs; screening and audiometry; special tests for infants and children; hearing problems in industry.
 Prerequisite: 321 or permission of instructor.

525. Voice Disorders. (3)
 Based on knowledge of normal voice production, various

voice disorders are surveyed and approaches to evaluation and treatment are discussed.

527. Assessment and Treatment of Adult Neurogenic Communication Disorders. (3)
 Comprehensive review of diagnostic and therapeutic approaches for adult neurogenic communication disorders.
 Prerequisite: 507 or permission of instructor.

531. Neuromotor Speech/Augmentative Communication Systems. (3)
 Overview of symptomatology of child and adult neurogenic disorders, with focus on assessment, design and implementation of augmentative/alternative communication.

532. Augmentative Communication. (1)
 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.

535. Medical Speech Language-Pathology: Special Population & Issues. (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: 350.

536. Seminar in Speech and Language Pathology. (1-3, to a maximum of 6)

537. Clinical Aphasiology. (3)
 A course to develop ability to score, administer and interpret the Porch Index of Communicative Ability.
 Prerequisite: 507 or permission of instructor.

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)
 Prerequisite: permission of instructor. (Offered upon demand)

540. Seminar on Reading and the Brain. (3)
 This course will explore the brain processes involved in reading using a systems analysis approach. After considering models and processes of reading and neurological and physiological substratum of reading, breakdown in reading will be examined.

551-552. Problems. (1-3)

558. Clinical Internship. (6-9)
 Prerequisite: permission of instructor. (Fall, Spring, Summer)

560. Clinical Audiology I. (3)
 Pure tone testing, speech testing, masking, immittance testing, introduction to evoked potentials testing, pediatric testing, hearing aid fitting and other topics in audiology.
 Prerequisite: 321 or permission of instructor.

561. Clinical Audiology II. (3)
 Advanced diagnostic procedures, including advanced immittance testing, central auditory processing assessment, and electronystagmography.
 Prerequisite: 560.

562. Electrophysiologic Measures of Audition. (3)
 Auditory evoked potentials testing.
 Prerequisite: 520, 560. (Spring)

563. Amplification. (3)
 Advanced topics in amplification including: fitting prescriptions, real-ear measurement, modification of electroacoustic characteristics of a hearing aid, digital hearing aids, class-

room amplification systems, cochlear implants and vibrotactile devices. Prerequisites: 560. {Summer}

564. Hearing Conservation. (3)

Hearing screening procedures for children and adults. Sound measurement, the effects of noise on hearing, occupational hearing conservation.

565. Seminar in Aural Rehabilitation. (3)

Prerequisites: 321, 425 or equivalent. {Fall}

567. Pediatric Audiology. (3)

Pediatric assessment and hearing loss management procedures.

Prerequisite: 560. {Fall}

568. Medical Audiology. (3)

Diseases and injuries of the ear resulting in reduced auditory function and their associated audiologic findings. Medical terminology, interoperative monitoring are also discussed. Prerequisite: 560.

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only.

WOMEN STUDIES

The University of New Mexico
Department of Women Studies
Mesa Vista Hall 2132
Albuquerque, NM 87131-1586
(505) 277-3854

Introduction

Women Studies is an interdisciplinary program that strives to provide equal education for both women and men by making the study of the history and culture of women, generally omitted from the traditional curriculum, the central focus of concentrated scholarship and learning. The Program is committed to the full integration of multicultural perspectives and female intellectual and leadership models at UNM. It supports the development and application of new theories of feminist studies throughout the university and works to create an academic atmosphere in which research about women and their achievements can continue to take place and receive serious attention.

Women Studies courses emphasize participatory education, in which student involvement, insight, and intellect are encouraged and made relevant in the learning process. Certain Women Studies courses are applicable for group requirement credit in the College of Arts and Sciences, and all Women Studies courses are acceptable for elective credit in all colleges. Any student interested in the Women Studies minor, as well as anyone with questions about our academic program, should contact the Program's academic advisor.

Minor Studies Requirements

The Women Studies minor consists of a multidisciplinary program of 24 credits in courses offered both by the Women Studies Program and by other departments. All minors are required to complete 9 hours in the following core courses:

Wm St 200 *Women in Contemporary Society*

-and-

Wm St 322 *Race, Class, and the Feminist Movement*

-or-

Wm St 324 *Contemporary Feminist Theory*

-and-

Wm St 392 *Senior Seminar*

The remaining 15 hours will be distributed among four groups of courses: Women in Cultural Context, History of Women, Social Science Analysis of Women, and Women Studies in the Arts and Humanities. Students must take at least one course from group A, Women in Cultural Context, and at least one course from two other groups. When this distribution requirement is met, the remaining hours may be concentrated in the group or groups the student chooses. At least 9 hours must be in courses numbered 300 or above.

Students may not apply to this minor courses included in their programs of studies for their majors.

Women Studies (Wm St)

181. Seminar for Returning Women Students. (3)

(Also offered as ETSCS 181.) 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. Introduction to Chicana Studies. (3)

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.

233. American Indian Women. (3)

An interdisciplinary course which focuses on the historical, cultural, economic, and political issues which affect the changing roles of the American Indian Woman.

234. Her Own Voice: Black Women Writers. (3)

An exploration of works written exclusively by black women as well as a multi-disciplinary approach to black women's experiences through their own writings, art, media.

250. Black Women. (3)

(Also offered as Afro A 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.

279. Interdisciplinary Topics. (1-3) Δ

Can be repeated for credit three times by students earning a minor in Women Studies.

322. Race, Class and the Feminist Movement. (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. {Fall}

331. Third World Women. (3)

A survey of women in various Third World regions in turn: Asia, Africa, Latin America, the Middle East. Titles of individual sections will vary as regions vary.

335. Lesbian Culture and Politics. (3)

Descriptive and theoretical focus on lesbian women in soci-

ety and within the women's movement; consideration of issues relevant to Lesbian identity.

339. Women and Cultural Violence. [Women Abuse.] (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 which 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.

379. Interdisciplinary Topics. (1-3) Δ
Can be repeated for credit three times by students earning a minor in Women Studies. (Fall, Spring)

392. Senior Seminar. (3)
An advanced course for seniors in Women Studies, emphasizing synthesis and development of research skills. Prerequisites: 200, senior standing and permission of instructor. (Spring)

479. Interdisciplinary Topics. (1-3)
Can be repeated for credit three times. (Fall, Spring)

487. Sexism in Education. (3)
(Also offered as ETSCS 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, ETSCS 290 or permission of instructor.

498. Field Experience. (3)
Planned and supervised work experience in a community agency serving women.

499. Undergraduate Problem. (1-3)
Student is expected to present a topic for study. Can be repeated for credit three times. Prerequisite: permission of instructor required before registering.

Related Courses

Am St 183. Introduction to Gender Studies. (3)

Am St 331. Gender and Science. (3)

Am St 332. Sex and Gender. (3)

Am St 333. Gender and Tradition. (3)

Anth *340. Topics in Cultural Anthropology. (3)
Class, Work & Gender.

Anth *362. Biocultural Bases of Women's Health. (3)

Ciscs 345. Women in Ancient Greece. (3)

C & J 436. Culture and Discourse (3)
(When topic is gender/women.)

C & J 472. Multiculturalism, Gender and Media. (3)

Engl 315. Interdisciplinary Approaches to Literature. (3)
(When topic is gender/women.)

German 336. Fairy Tales: From Cinderella to Pretty Woman. (3)

Hist *315. History of Women from Ancient Times to the Enlightenment. (3)

Hist *316. Women in the Modern World. (3)

Hist *330. History of the Women's Rights Movement. (3)

Hist *415. History of Sexuality. (3)

Hist *416. Women, War, and Revolution. (3)

Hist *418. Women in Colonial Latin America. (3)

Hist *479. Women in the U.S. West. (3)

Ling 295. Language and Gender. (3)

Mgt 467. Men, Women, and Leadership. (3)

Pol Sc 365. Feminist Political Theory. (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 Alternatives. (3)

Soc 308. Sociology of Gender. (3)





COLLEGE OF EDUCATION

Peggy Blackwell, Dean
The University of New Mexico
College of Education
Educational Administration Building 109
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USER REFERENCE: ORGANIZATION OF THIS CATALOG MATERIAL PERTAINING TO PROGRAMS IN THE COLLEGE OF EDUCATION

Information is organized in the order of the following headings:

INTRODUCTION

An overview of initial and advanced study in a changing profession.

UNDERGRADUATE STUDY INCLUDING POST-BACCALAUREATE TEACHER PREPARATION

Undergraduate Programs

- Initial Teacher Preparation Programs
- Non-Teaching Programs
- Post-Baccalaureate Initial Teacher Preparation Program
- Endorsements 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 Application to a Teacher Preparation Licensure Program
- Criteria for Undergraduate Application to Non-Teaching Programs
- Programs of Study in Teacher Preparation Licensure Programs
 - General Education
 - Teaching Field Endorsement
 - Pre-Professional Education
 - Professional Education including Student Teaching
 - Student Teaching
 - Requirements for Admission to Student Teaching

General Requirements for Graduation Licensure

- Additional Information
 - Enrollment Limitations
 - Probation and Suspension
 - Departmental Honors

GRADUATE STUDY

GRADUATE PROGRAMS AND PROCEDURES OVERVIEW

- Master's Programs
- Doctoral Programs
- Education Specialist Certificate Programs
- Professional Development
- Education Graduate Committee
- Professional Development Credit Council

ALPHABETICAL LISTING AND DESCRIPTION OF AREAS OF STUDY (INITIAL AND ADVANCED) INCLUDING:

- Application Procedures and Deadlines
- Program Requirements and Course descriptions

Introduction

In recent years, education has expanded beyond the boundaries of the school to address the continuing education of children, youth, and adults throughout a lifetime of learning. In order to prepare for the 21st century, professional educator studies are likely to be more intensive and both broader and deeper in knowledge and experiential expectations. Students completing programs in education must be prepared for a wide array of professional educator responsibilities.

In order to address this challenge, the College is organized in multi-programmatic divisions. 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. As a result curriculum review and revision must be ongoing; therefore, some programs listed in this catalog are seeking approval for curricular changes. It is essential that students consult with the College and appropriate division offices to obtain information on any such changes that are approved.

At the baccalaureate level, the College offers undergraduate initial (entry level) professional preparation programs for qualified individuals seeking careers in teaching and related occupations. At the post-baccalaureate level, the College offers initial professional preparation for qualified individuals seeking careers in teaching. Admission of qualified individuals to all initial professional preparation programs is competitive and must be successfully completed far in advance of the projected time to begin 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 administration, counseling, and training and learning technologies) require prerequisite degrees, experiences, and/or professional licensure.

Many professional 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 administration 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 State Board of Education and are accredited by the National Council for the Accreditation of Teacher Education (NCATE).

Other College efforts directly assist programs, faculty, and students in understanding diversity in educational contexts. The Latin American Program in Education (LAPE) assists the College and the university in offering graduate programs in Spanish that are specifically designed for educators from Latin American countries. Some program units and a number of faculty and graduate students across the College and the university participate in these offerings. LAPE activities bring international students to the educational context for all students and faculty in the College.

The College offers an initial (entry level) teacher preparation program for bachelor's completion and/or post-baccalaureate students in Gallup. This program works closely with the Navajo Division of Teacher Education, the Gallup-McKinley School District, and the UNM Gallup Branch.

The College also houses, in the Multicultural and Gender Equity Resource Center (MGERC) and Tireman Library, curricular collections that represent many Southwestern indigenous languages and cultures as well as representative Spanish language and cultures in the western hemisphere.

Undergraduate Study Including Post-Baccalaureate Teacher Preparation

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 also require an endorsement in a teaching field.

Initial Teacher Preparation Programs

Students completing the requirements and curriculum for a teaching licensure program 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 written examination prior to licensure. At this time, the state of New Mexico uses the Core Battery of the National Teachers Examination (NTE). For complete information, contact the College Advisement Center in Hokona Hall and the Division Office listed for each program:

- Art Education (B.A.Ed.; K-12th grades license)--Division of Educational Specialities, Hokona Hall
- Early Childhood Education (B.S.; Birth-8 years license)--Division of Educational Specialities, Hokona Hall
- Elementary Education (B.S.Ed.; K-8th grades license)--Division of Teacher Education, Hokona Hall
- Health Education (B.S.Ed.; 7-12th grades license)--Division of Individual, Family and Community Education, Simpson Hall
- Middle Level (contact Division of Teacher Education in Hokona Hall about this recently approved license)
- Physical Education (B.S.Ed. K-12th grades license)--Division 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)--Division of Teacher Education, Hokona Hall
- Special Education (B.S.Ed.; K-12th grades license)--Division of Educational Specialities, Hokona Hall

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.): Division of Physical Performance and Development, Johnson Center
- Community Health (B.S.): Division of Individual, Family, and Community Education, Simpson Hall
- Family Studies (B.S.): Division of Individual, Family, and Community Education, Simpson Hall
- Child Development and Family Relations (B.S.): Division of Individual, Family, and Community Education, Simpson Hall
- Exercise Science (B.S.): Division of Physical Performance and Development, Johnson Center
- Nutrition/Dietetics (B.S.): Division of Individual, Family, and Community Education, Simpson Hall

Technology and Training (B.S.): Division of Educational Leadership and Organizational Learning, Education Office Building

Post-Baccalaureate Initial Teacher Preparation Program

Students who have already completed a Bachelors degree with a major outside of education and who are now seeking a teaching career in elementary, middle, or secondary education may be qualified to apply for admission to a planned professional educator preparation program leading to eligibility for licensure. Such application must be completed far in advance of the projected time to begin such professional study. Selection for admission is competitive. For complete information contact the College Advisement Center and the Division of Teacher Education, both in Hokona Hall.

Endorsements for Initial Teacher Preparation Programs Including Undergraduate and Post-Baccalaureate

Initial (entry level) teaching licenses in Elementary Education and Secondary Education require that one or more endorsements are completed. An endorsement is a specific teaching field in which educators are authorized by the New Mexico State Board of Education to teach. Most of the College's professional educator preparation and degree programs require one or more of the following teaching field endorsements approved by the state: Bilingual Education, Communication Arts, Fine Arts, Health Education, Language Arts, Library Media, Mathematics, Modern and Classical Language, 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 a 24-36 hour minor; students planning a Secondary Education program may major in their teaching field in the College of Arts and Sciences as well. Multiple teaching fields or minors are encouraged and can be completed through careful planning with a faculty advisor.

For complete information on the endorsements of:

Bilingual Education, Communication Arts, Language Arts, Library Media, Modern and Classical Languages, Navajo Language, Reading, Social Studies (secondary) and Teaching English to Speakers of Other Languages (TESOL)

contact the College Advisement Center or the Division of Language, Literacy and Sociocultural Studies both in Hokona Hall.

For complete information on the endorsements of:

Art (for Art Education license), Mathematics, Science, or Social Studies (elementary)

contact the College Advisement Center or the Division of Educational Specialities, both in Hokona Hall.

For complete information on the endorsement of:

Health Education

contact the College Advisement Center or the Division of Individual, Family, and Community Education.

For complete information on the endorsement of:

Physical Education

contact the College Advisement Center or the Division of Physical Performance and Development.

For complete information on the endorsement of:

Fine Arts/Theatre or Dance

contact the Department of Theatre and Dance 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 licensure 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.

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 the granting of formal admission to a program in the College, the program will assign a program faculty advisor to review a program of studies. 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.

Students must meet minimum criteria that the College requires of all programs prior to making application for admission to a College program:

Eligibility Criteria for Undergraduate Application to the College of Education – All Programs

1. Twenty-six (26) hours of course work completed. Students are encouraged to apply as soon as possible after completing 26 hours.
2. GPA: 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 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 licensure programs are listed below following the **Applications and Admissions Process**. Admission 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 applications process prior to being admitted. Formal admission to a College program, simultaneously admits a student to the College; however, the student must initiate the transfer to the College as noted in step 7 of the Application Process (See 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. Student obtains an application packet from the College of Education Advisement Center, Hokona Hall.
2. Student completes an application packet and attaches additional information as requested. Student returns complete packet to College Advisement Center.

3. Upon receipt, 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 licensure programs are also met and (b) that all required information is included.
4. Advisement Center refers all applications meeting program requirements to the program(s) to which the student is seeking admission.
5. Program faculty review application and, if required, schedule an interview.
6. Program faculty recommend admission or denial of admission and communicates with student by mail. Note: Meeting minimum requirements does not guarantee admission. When more students apply than can be accommodated, programs must give preference to students who demonstrate qualifications above minimum requirements.
7. Students who are offered admission and plan to major in a program in the College of Education must contact the College Advisement Center, Hokona Hall, and initiate transfer into the College.
8. 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, a degree-granting College, or in non-degree status, will not be eligible to transfer to the College of Education nor are they eligible to take 300 and 400 level professional courses (some specific courses are approved for exception) until they are admitted. 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.

While the College honors state articulation agreements, 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). Individuals, including graduate students or those with an earned baccalaureate degree, seeking teacher preparation licensure only, must also be admitted to a planned teacher preparation program and complete all requirements specified by the College's state-approved program.

Minimum Criteria for Undergraduate Application to Teacher Preparation Licensure Programs

1. GPA options for applicants with 26 or more hours, or who are transferring from another institution:
 - a. College GPA 2.50 criteria (See above, eligibility criteria)
 - b. 2.70 GPA for last 24 hours, or
 - c. 3.0 for last 12 hours at UNM (content courses only) plus 2.50 GPA on the previous two semesters/quarters wherever taken.
2. Professional Skills Assessments Options:
 - a. PPST-- Minimum score of 172 in Reading, Math, and Writing.
 - b. ACT-- Minimum score of 22 in Math and English
 - c. SAT-- Minimum score of 480 in Math and 460 in English
 - d. NTE-- (National Teacher Exam) Minimum score of 644 in Communication Skills and 645 in General Knowledge

The PPST is offered only at Sylvan Learning Centers. The NTE is administered at intervals by the University. Information on both is available from the College Advisement Center or the University Testing Center. Information for alternative options to the above assessments is available from the College Advisement Center. Some of these assessment instruments are under review and may change in the future.

3. Satisfactory writing sample.
4. Demonstrated multicultural experience/knowledge.
5. Demonstrated experience with children and/or youth.
6. Satisfactory completion 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. Satisfactory completion of an interview with faculty in the major program and/or attainment of a minimum grade of B in the pre-education courses required in the major program.
9. Specific program requirements (contact the College Advisement Center).

Criteria for Post-Baccalaureate Application to a Teacher Preparation Licensure Program

Many students applying for admission to a licensure 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 GPA option.
2. Post-B.A. applicants to teacher preparation programs must take and pass the first two sections of the Core Battery of the National Teachers Examination (NTE). The official test results must be on file, with the application, in the College Advisement Center when the review of application is started.

Admission is a competitive process. Prospective students can obtain information for a specific licensure program from the College Advisement Center, Hokona Hall. Either prior to admissions or during the program, post-baccalaureate students must meet state licensure requirements which include:

- 54-57 hours in General Education (Arts and Sciences, Fine Arts)
- 24-36 hour teaching field (see endorsements in previous part of this section)
- A planned professional licensure program.

Criteria for Undergraduate Application to Non-Teaching Programs

Students should contact College Advisement Center, Hokona Hall, directly for information on admission to non-teaching programs as well as review admission procedures and curricular plans presented in the Description of Areas of Study Section that follows.

Programs of Study in Teacher Preparation Licensure Programs

All Undergraduate Programs in the College build on a strong base of general (liberal) education, a content minor, and professional education. It is important to note, however, that these dimensions of study in teacher preparation licensure programs are regulated by the State of New Mexico through State Board of Education regulations. In teacher preparation licensure, the bachelor's degree must include general edu-

cation, a teaching field endorsement (content minor), and professional education. The teaching field endorsement 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 54-57 hours minimum

1. Communication Arts	12
2. History (must include American History and Western Civilization)	12
3. Mathematics	6-9
4. Social Studies	6
5. Science	12
6. Fine Arts	6

NOTE: Many of these courses can be part of a student's Freshmen (first year) program either on main campus or at a two year branch. Students should seek advisement information as early as possible in order to assure meeting these licensure requirements.

Teaching Field Endorsements 24-36 hours

24-36 semester hours in one teaching field is required in a degree program for teacher preparation licensure. A composite teaching field may require up to 54 hours.

Suggested fields are mathematics, science(s), language arts, social studies, or other related content areas. Most must include 12 hours of 300 or 400 level courses.

Pre-Professional Education

Students interested in teaching as a career and admission to a teacher preparation licensure program are encouraged to complete the pre-professional education courses and activities prior to application. Course work in areas such as: *Introduction To Teaching As a Career, Microcomputers In The Schools, Developmental Psychological and Social Issues In Education, Introduction to Teaching in New Mexico, Human Growth and Development, and Classroom Learning* is recommended as early as possible. Students should contact the program of their choice to obtain a list of specific pre-education courses and requirements that support and enhance application to that program. In addition to pre-education 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: 24-42 hours

Each teacher preparation licensure program includes a designated set of semester hours ranging from 24 hours to 36 hours in the initial teacher preparation 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

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 capacity to meet the performance competencies identified by the State and the College draws from applying knowledge, skill, and experience developed through general education and the teaching field endorsement, as well as professional study. 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 and the office of the Division of Teacher Education in order to obtain accurate information about specific requirements, given the importance of this experience. 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 on the University calendar. Many College programs integrate the special methods courses with student teaching, and require a full year placement in one school setting. Most programs require a student teaching seminar meeting, once or more a week, in addition to the school time. While student input is sought by many of the programs, students are asked not to initiate conversations with schools. The placement of each student teacher in a specific school is the responsibility of the program faculty. Early planning with program faculty is essential for a productive and successful student teaching experience. In most instances, a student teaching fee is charged for each enrollment.

Requirements for Admission to Student Teaching

The student must have:

1. Been 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 completed all prerequisites required in their specific program.
3. Earned the minimum overall cumulative GPA required by the specific program, as well as meet any specified minimum GPA requirements established for courses in the major area, prior to entry into student teaching. Note: Requirements are not identical in all licensure programs.
4. Planned, with the appropriate program faculty advisor, a student teaching semester or academic year which 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. Completed the application to student teaching prior to the deadline noted by a specific program (March 1 for Fall and October 1 for Spring in most programs) with the College of Education Advisement Center. The Center maintains the application and subsequent placement information as provided by the student:
 - * Evidence of liability insurance is required from all student teachers prior to entry into student teaching. 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 Center.
 - * Evidence of a completed and passed tuberculosis skin test or chest X-ray. Official results of the examination and its findings, completed within three months of the date of application to student teaching, must be filed with the Center.
 - * Current address and phone number. Programs often need to contact students on final placement issues; especially during the early summer months, when phone numbers and addresses can change.
6. Filed an application for graduation in the College of Education Advisement Center.

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 immediately after 90 semester hours have been completed.

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 bachelors 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; and at least a 2.30 grade-point average in the major teaching fields.
3. Completion of 40 semester hours in courses numbered 300 or above.
4. Completion of the prescribed curriculum that leads to the desired degree. Students are entitled to graduate under the curriculum in effect at the time of their transfer into the College, if they have been in continuous attendance, or they may graduate under the curriculum that is in effect in the semester that they graduate.
5. Completion of English 102 with a C or better.
6. Grades of C or better in required major and minor courses.

Licensure

Students who complete the requirements for a teaching license are eligible to apply. Students who are majors in the College may apply to the State of New Mexico by completing the application form sent with their completion letter and submit it to the State Department of Education, 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 plan of study. These plans of study must be placed on file 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.

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, nor 12 hours during an eight-week summer session. Students may request approval for an overload if they:

1. Have maintained a GPA of 3.00 or higher; and
2. Present approval of a written petition to the program unit director and receive the approval of the Dean of their College.

Probation and Suspension

Students enrolled in the College of Education are placed on probation at the end of any semester in which the cumulative GPA on UNM work falls below a 2.00. Students are allowed to remain on probation for two semesters. If the student has not raised the cumulative GPA by the end of the second semester, he or she could be liable for suspension.

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 who seek to enter advanced professional graduate study in the College, may do so through professional development programs that lead to a certificate, through a master's degree program, through a doctoral program, or through the educational specialist certificate. These graduate programs provide advanced professional study in educational careers and initial professional training in specialized areas. Most programs offer emphases or speciality areas within the graduate program.

Students wishing to pursue graduate programs in education must meet both the minimum requirements for admissions to graduate study and the admission requirements of the College. Formal admission to graduate status must occur prior to, or concurrently with, admission to a specific program. Individual fields of study in education may establish prerequisites for admission in addition to those of the University and the College. Specific information about admission and program requirements can be found in the section following: **Alphabetical Listing and Description of Areas of Study.**

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.

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 Division Office listed:

- Art Education (M.A.)--Division of Educational Specialties, Hokona Hall
- Counseling (M.A.)--Division of Individual Family Community Education, Simpson Hall
- Educational Administration (M.A.)--Division of Educational Leadership and Organizational Learning, Education Office Building
- Educational Foundations (M.A.)--
 - Psychological Foundations Emphasis: Division of Individual, Family, and Community Education, Simpson Hall
 - Educational Thought and Sociocultural Studies Emphasis: Division of Language, Literacy, and Sociocultural Studies, Hokona Hall
- Elementary Education (M.A.)--
 - General Elementary Education Emphasis: Division of Teacher Education, Hokona Hall
 - Bilingual Education/TESOL Speciality Area: Division of Language, Literacy, and Sociocultural Studies, Hokona Hall
- Early Childhood Education Speciality Area: Division of Educational Specialties, Hokona Hall
 - Language, Literacy, Language Arts, Reading Speciality Areas: Division of Language, Literacy, and Sociocultural Studies, Hokona Hall
 - Mathematics, Science Education Speciality Areas: Division of Educational Specialties, Hokona Hall

- Middle Level Specialty Area: Division of Language, Literacy, and Sociocultural Studies, Hokona Hall
- Family Studies (M.A.)--Division of Individual, Family, and Community Education, Simpson Hall
- Health Education (M.S.)--Division of Individual, Family, and Community Education, Education Office Building
- Nutrition (M.S.)--Division of Individual, Family, and Community Education, Education Office Building
- Physical Education (M.S.)--
 - Curriculum and Instruction Emphasis: Division of Physical Performance and Development, Johnson Center
 - Exercise Science Emphasis: Division of Physical Performance and Development, Johnson Center
 - Sports Administration Emphasis: Division of Physical Performance and Development, Johnson Center
- Recreation/Environmental Education (M.A.)--Division of Educational Specialties, Hokona Hall
- Secondary Education (M.A.)--
 - General Secondary Education Emphasis: Division of Teacher Education, Hokona Hall
- Bilingual Education/TESOL Speciality Area: Division of Language, Literacy, and Sociocultural Studies, Hokona Hall
- Communication Arts Speciality Area: Division of Language, Literacy, and Sociocultural Studies, Hokona Hall
- Mathematics or Science Education Speciality Areas: Division of Educational Specialties, Hokona Hall
- Special Education (M.A.)--Division of Educational Specialties, Hokona Hall
- Organizational Learning and Instructional Technologies (M.A.)--Division of Educational Leadership and Organizational Learning, Education Office Building

The Master's degree in most of these programs is offered under both Plan I (with thesis) and Plan II (without thesis). Plan I requires a minimum of twenty-four (24) semester hours plus thesis. Plan II requires a minimum of thirty-two (32) semester hours. Many degree programs require more hours than these minimum requirements.

Normally the maximum amount of transfer credit that may be accepted toward a Master's degree in the College is 6 semester hours. In exceptional cases, a major professor and division director may jointly petition the Office of Graduate Studies to accept up to twelve 12 hours of transfer credit. Maximum workshop credit allowed under Plan I is five hours; under Plan II, eight hours. Maximum credit in independent study courses, including directed readings, internship, field experiences, and practicum, under Plan I is 6 hours; under Plan II, 12 hours.

NOTE: At the time of this writing, some master's programs have imposed a moratorium on admission of new students. Contact an Associate Dean of the College for current status.

Doctoral Programs

The College offers the degree of Doctor of Philosophy (Ph.D.) in Education and the degree of Doctor of Education (Ed.D.). There are ten approved concentrations which are offered through either one or both of these degrees. The faculty of each concentration possess the appropriate interests and expertise in order to participate in graduate study. The concentration faculty have designed the specific curricular program and conduct the program from admissions through the dissertation defense for that particular concentration. The concentration program must meet all requirements of Graduate Studies at the university and any additional requirements of the College. Each concentration is administered by one or more division offices. Some concentrations admit only to the Ph.D. in Education or the Ed.D. Other concentrations admit to either degree. Students seeking admission to a concentration should contact the appro-

appropriate division office for information and complete the procedures prescribed by the concentration and the Office of Graduate Studies.

The ten concentrations 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:**

Administration and Supervision (Ed.D., Ph.D.)--See description for Educational Administration.

Counseling (Ph.D.)--See description for Counselor Education.

Educational Linguistics (Ph.D.)--See description for Educational Linguistics.

Educational Thought and Sociocultural Studies (Ed.D., Ph.D.)--See description for Educational Thought and Sociocultural Studies.

Family Studies (Ph.D.)--See description for Family Studies.

Psychological Foundations (Ph.D.)--See description for Psychological Foundations.

Health, Physical Education and Recreation (Ed.D., Ph.D.)--See description for Health Education for this area of specialty.

See description for Professional Physical Education for specialty areas of: curriculum and instruction, exercise science, and sports administration.

Multicultural Teacher and Childhood Education (Ed.D., Ph.D.)--

See description for Bilingual/TESOL education.

See descriptions for Elementary Education and Secondary Education which include descriptions for the following specialty areas:

Language, Literacy Education

Mathematics and Science Education

Teacher Education

Special Education (Ed.D., Ph.D.)--See description for Special Education.

Organizational Learning and Instructional Technologies (Ed.D., Ph.D.)--See description for Organizational Learning and Instructional Technologies.

Ph.D. candidates pursue a minor of 24 semester hours outside their major concentration and in many cases outside of the College; Ed.D. candidates must earn 18 semester hours outside their major area chosen according to their programmatic needs and interests. Both 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 concentrations 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 conducted 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 24 semester hours of graduate study beyond the Master's level must be completed at UNM of which at least 18 hours must be taken after admission to the doctoral program (exclusive of dissertation hours). The Education Specialist certificate is not an entry point for doctoral pro-

grams 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.

NOTE: At the time of this writing, some doctoral programs have imposed a moratorium on admission of new students. Contact an Associate Dean in the College for current status.

Education Specialist Certificate Programs*

The Education Specialist Certificate (or Sixth Year Program) is available in Counselor Education, Curriculum and Instruction (elementary and secondary teaching fields), Educational Administration, Health Education, Physical Education, Recreation, Special Education, and Training and Learning Technologies. Persons interested in the certificate program should contact the appropriate program division for specific requirements.

This graduate program 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. This certificate program is designed for the individual who does not wish to pursue the doctorate but is interested in continued graduate work in a specific area. Also, advanced licensure eligibility, such as educational administration, 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 Educational Specialist Certificate. Students must submit a Program of Studies and a letter of intent to graduate to the Office of Graduate Studies within the five-year period allotted.

* Not a degree.

Professional Development

The College offers professional development courses at the graduate level. Such work may not be 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.

Education Graduate Committee

Specific policies, curriculum approval, faculty and student matters are addressed through the College of Education graduate committee. The committee consists of nine faculty representatives and one graduate student representative from the College of Education Graduate and Professional Student Association.

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).

Alphabetical Listing and description of areas of study follow (beginning with Art Education and ending with Special Education.

ART EDUCATION

Ginger Blalock, Division Director
The University of New Mexico
Art Education Program - Masley Hall
Albuquerque, New Mexico 87131-1231
(505) 277-4112 FAX (505) 277-8472

Professors

Peter Smith, Ed.D., Arizona State University
James Srubek, Ph.D., Pennsylvania State University

Associate Professor

Carolyn Wix, M.Ed., Lesley College

Professor Emeritus

Howard McConeghey, Ed.D., Michigan State University

Adjunct Faculty

Charles Bleiker, Ph.D., Stanford University
Gregory Cajete, Ph.D., William Lyon University
Mary Colton, M.A.T., Harvard College
Linda Johnson, M.A., University of New Mexico
Inoue Manji, National Living Treasure, Japan
Evey Jones, M.A., University of New Mexico
H. Lark Lucas, Ph.D., Columbia Pacific University
Gustav Ntforo, Ph.D., University of New Mexico
Walter Pinto, M.A., University of New Mexico

Program Coordinator

Peter Smith

The Art Education Program offers course work leading to a B.A. in Art Education for K-12 New Mexico Art Teaching Licensure, and an M.A. in Art Education.

Teacher Preparation Program

The following program leads to a Bachelor of Arts in Education with a major in Art Education - 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. 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 - 54 hours

1. Fine Arts - 6 hours including Art Hi 251 (3) *Artistic Traditions of the Southwest* and Art Hi 250 (3) *Modern Art*
2. English - 12 hours including Engl 101 (3) *Composition I: Exposition and Engl 102 (3) Composition II: Analysis & Argument.*
3. History - 12 hours including a course in American History (3) and one in Western Civilization (3).
4. Science - 12 hours.
5. Math - 6 hours.

6. Phil 367 (3) *Philosophy of Art and Aesthetics* and one course (3) in Political Science, Economics, Psychology, or Anthropology.

II. Professional Education and Art Education - 30 hours.

Educ 313	Develop, Psych and Soc Iss-Educ	6
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

III. Teaching Area - 36 hours.

1. Basic Art courses (12 hours.)
 - Art St 121 (3) 2-Dimensional Design
 - Art St 122 (3) 3-Dimensional Design
 - Art St 106 (3) Drawing I
 - Art St 205 (3) Drawing II
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 (15 hours.) A concentration of 15 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 - 8 hours.

Total 128 hours

Minor Study in Art Education for Elementary Majors Only (24 Hours)

Art St 121, Art St 122, Art Hi 101 (9 hours)
Art Elective (200 level, 3 hrs)
Art Ed 214, Art Ed 310 and Art Ed electives (400 level, 6 hrs)

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 hours to be determined with an art education advisor.

Undergraduate Program

Undergraduate Advisor

Jim Srubek (E-MAIL: jsrubek @unm.edu)

Graduate Program

Graduate Advisor

Jim Srubek (E-mail: jsrubek@unm.edu)

Student Information Contact

Karen Olmsted, Masley Hall Room 107, (505) 277-4112
(E-mail: kolms@unm.edu)

Application Deadlines

Fall Semester - July 1
Spring Semester - November 1
Summer Session - April 15

Degree Offered

M.A. in Art Education

The graduate program offers course work and experiences leading to a Master of Arts degree in Art Education under Plan I (with a thesis) or Plan II (without a thesis). The M.A. program is oriented toward the development of a professional who has 1) an understanding of the core profession of art education as a humanistic discipline, and 2) a developing

emphasis 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 comprehensive 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 an **application to candidacy**; 3) completion of the planned program of studies with at least a "B" average; 3a) *Plan 1 candidates only*: completion and acceptance of a **master's thesis**; 4) passing a written and oral **comprehensive exam** taken in the last semester of studies; 5) exhibition of at least one art work done during the master's program in our annual **graduating students' exhibition**; 6) other miscellaneous requirements unique to each student's program of studies. (See the appropriate section of the UNM *General Catalogue* — "MASTER'S DEGREES" — for general and specific requirements for a Master's degree

Programs of Study (Emphases) for the M.A.

The master's degree program is offered under two optional plans. Plan I includes a minimum of 24 semester hours of graduate course work and the writing of a thesis. Plan II requires a minimum of 33 hours of graduate course work and no thesis. In both plans, 9 hours of the minimum semester hours of course work required include the M.A. core courses — Art Ed 500 - *Seminar in Art Education*; Art Ed 585 - *Research Applications to Art Education and Art Therapy*; and Art Ed 590 - *Current Trends and Issues in Art Education and Art Therapy*. These courses are taken by all M.A. candidates.

There is a great deal of flexibility in developing an individual program of studies of particular interest to each student. In consultation with a faculty adviser-chairperson and a committee on studies, a student plans an individualized program by selecting relevant course work within and (if desired) outside art education. Along with the required core M.A. courses mentioned above, the student selects other course work which develops an individual specialization or **emphasis** related to art education. For example, some emphases might include: art education and multicultural studies; art education and interdisciplinary studies; art education in early childhood, elementary school, middle school, or high school; art education and art teaching licensure, K-12; art education in museums; art education and art therapy; art education and porcelain ceramics expression and education. These programs of study are designed individually according to each student's interests.

In addition to the above individual possibilities, the graduate program in art education has three formal emphases, which have specific course requirements as follows:

I. Course work for an M.A. in Art Education with an Emphasis in New Mexico K-12 Art Teaching Licensure.

This emphasis allows the student to earn a master's degree in art education with an emphasis in art teaching, which includes coursework to qualify for a public school art teaching license, grades K-12, from the State of New Mexico.

For specific requirements for this emphasis, contact the Art Education Program.

II. Course work for an M.A. in Art Education with an Emphasis in Porcelain Ceramics and Education.

This emphasis includes instruction and creative expression in the traditional Japanese method of porcelain ceramics, which is nearly 400 years old in Japan. A student may use this method as a departure point for the development of a personal method of expression in porcelain ceramics and for teaching porcelain ceramics. Course work in this emphasis may include studio and history courses (in conjunction with the Department of Art and Art History in the College of Fine Arts) centering around Chinese, Korean, and Japanese porcelain traditions and methods as they apply to contemporary Western ceramic education and artistic expression in porcelain. This is the only place in the nation where this method of Japanese porcelain is taught.

This emphasis is also affiliated with Inoue Manji Sensei, master porcelain artist and a "National Living Treasure", from Arita, Japan, which is the center of porcelain ceramics in Japan. Professor Jim Srubek also maintains contact with the Saga Ceramics Research Laboratory and the Arita College of Ceramics also in Arita, Japan. For specific details about this emphasis, contact Professor Jim Srubek. A pamphlet describing this unique program is available on request.

III. Course work for an M.A. in Art Education with an Emphasis in Art Therapy.

The emphasis in art therapy is a special program developed to train individuals who can use the art process in a therapeutic manner. It is also the beginning step in the process of becoming a registered art therapist (A.T.R.) according to the guidelines of the American Art Therapy Association and prepares students for art therapy licensure in the state of New Mexico.

Temporarily we are not accepting applications for the M.A. in Art Education with an art therapy emphasis. For details, contact Professor Linney Wix. When the program is accepting applications for this emphasis, it accepts them only once a year for the fall semester and the deadline date for application materials is March 31.

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 below address:

Art Education Program
Graduate Application
Masley Hall - College of Education
University of New Mexico
Albuquerque, NM 87131-1231

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 coursework with at least a "B" average (3.0 Grade Point Average - GPA); and b) a 3.0 overall GPA in the applicant's last two years of undergrad-

ate work. Application to the K-12 ART TEACHING LICENSURE EMPHASIS and the ART THERAPY EMPHASIS require additional pre-requisites. Also see the appropriate sections of this *University Catalogue* for general prerequisites and application procedures for graduate study at the University of New Mexico.

Application Process

Applying to master's degree program is a joint application 1) to the Art Education Program and 2) to the UNM Office of Graduate Studies. Two sets of application materials are required, one set is sent directly to the UNM 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, if you request it. 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 whom you request a recommendation for graduate study in art education; 6) a return address post card; and an 8-1/2 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 requests 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, position held, institution, location, dates of teaching, brief description of responsibilities); e. art exhibitions and/or published research or writing; f. scholarships, awards, honors; g. any other information you feel is important.
2. A selection of ten 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 media, 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.

291. Problems in Art Education. (1-3)

Independent study in art education to be designed by the student in conjunction with the supervising professor.

293. Topics. (1-3) Δ

Courses on a variety of topics are offered according to need and interest. Different section numbers indicate different topics

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 on Saturday mornings in the Department's Community Art for Children Program. 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) Srubek.

(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. 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) 1

Directed and supervised student teaching in art at the elementary level (grades 1-6) in a school plus a seminar on campus dealing with theory and practice relevant to art in the elementary school.

Prerequisites: 310, 320, and approval of the Department's Director of Elementary Student Teaching.

401. Seminar in Ceramic Education. (3)

Prerequisite: permission of instructor.

414. Art Education in Elementary School Teaching. (3)

Direct experience with the art process set in a theoretical context for elementary school teaching oriented toward curriculum development in art, integration of art with the rest of the curriculum, art as non-verbal communication and the multicultural aspects of art. Special fee required.

420. Art Education in Early Childhood. (3)

Theory, methods, curriculum for teaching art with children ages 4-7 emphasizing the teachers response to the creative needs of young children as a part of their total growth and learning. Special fee required.

430. Studio Art in the School: _____ (1-3)

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 School: 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.

460. Student Teaching in the Middle/Junior High School. (3, 6, 9) 1

Directed and supervised student teaching in art at the middle/junior high level (grades 6-9) in a school plus a seminar on campus dealing with theory and practice relevant to art in the middle/junior high school.

Prerequisites: 310, 320, 400, and approval of the Department's Director of Secondary Student Teaching.

461. Student Teaching in the Senior High School. (6) 1

Directed and supervised student teaching in art at the senior high level (grades 9-12) 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, 460, and approval of the Department's Director of Secondary Student Teaching.

465. 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.

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. 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.

492. Workshop. (1-4) Δ

Different workshops are offered about various aspects of art education and art therapy according to interest and need. Different sections indicate different workshops. Prerequisite: varies with workshop content.

493. 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. Prerequisite: varies with course topic.

495. Field Experience. (3-6, to a maximum of 12)

Planned and supervised professional laboratory or field experiences in agency or institutional setting. Prerequisite: permission of instructor.

500. Seminar in Art Education. (1-3) Δ

An introduction to major historical beliefs, values, and practices that have influenced contemporary art and art education programs and practices at all levels of instruction, with implications for art therapy and museum education.

501. Seminar in Ceramic Education. (3)

Exploration of the connections between artistic ideas and traditions in pottery forms and learning and teaching. Prerequisite: permission of instructor.

510. Curriculum Development in Art Education. (3)

Historical, philosophical, and psychological bases for theories and models of curriculum development as they apply to teaching art in a comprehensive and planned manner. Students will develop a curriculum for art education.

514. Art Education in Elementary School Teaching. (3)

Curriculum development in art, integration of art with total curriculum, art as nonverbal communication, multicultural aspects of art. Direct experience in art set in a theoretical context for elementary school teaching. Lab fee.

520. Art Education in Early Childhood. (3)

Theory, methods, curriculum for teaching art with children ages 4-7, emphasizing the teachers response to the creative needs of young children as a part of their total growth and learning. Lab fee.

530. Studio Art in the School: _____ (1-3) Δ

Studio art for school situations. Different offerings indicate different studio areas, e.g., Studio Art in the Schools: Porcelain vessels. May be repeated 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. Lab fee.

560. Survey of Art Therapy. (3)

Survey deals with origins, historical development and major theoretical trends in art therapy. Introduction to dynamically

oriented depth psychology as basis of art therapy and to archetypal psychology applied to process of art therapy.

562. Group and Family Art Therapy. (3)

Theory and techniques of group and family art therapies will be defined through readings and lecture and explored through group art therapy experience and role play of family art therapy sessions. Lab fee.

563. Child Art Therapy. (3)

Theory and techniques of work with children in art therapy. Readings, lecture and experimental coursework will explore basics of the therapeutic relationship and differing child populations. Field work component required. Lab fee.

564. Adolescent Art Therapy. (3)

Class designed to introduce student to issues and life stages of adolescence as well as to therapeutic inventions using art therapy. Dynamics of these stages and interventions are explored through lectures, readings, movies and experimental art therapy exercises. Field component required. Lab fee.

565. 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.

567. Theory and Technique in Art Therapy I. (3)

Introduction to various theories and techniques used in the practice of art therapy including psychological, as well as art therapy theory. Diagnostic interviews, methodology and evaluation; and role of the art therapist in the therapeutic process. Lab fee.

Prerequisite: permission of instructor.

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. Lab fee. (Offered upon demand.)

577. Theory and Technique in Art Therapy II. (3)

Continued exploration of various theories and techniques used in application of art therapy. Investigations into therapeutic relationships and issues; art therapy with specific populations, group and family art therapy, and prepracticum experience. Lab fee.

Prerequisite: permission of instructor.

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. Problems. (1-3, to a maximum of 6)

Individual research into an area in art education proposed by the student and conducted under the direction of a professor.

592. Workshop. (1-3) Δ

Workshop directed toward a particular aspect of art education. A wide variety of workshops is offered according to demand. Different sections indicate different workshop content.

593. 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.

595. Advanced Field Experiences. (3-6, to a maximum of 12)

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)

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

Many courses listed above are offered on demand or in an alternating sequence to meet the current programmatic needs of students. For specific semester course offerings or for more detailed information about the graduate program, write the program advisor.

¹ A maximum of 15 hours of student teaching combined (all levels) is allowed.

Athletic Training

The University of New Mexico
Athletic Training, Johnson Center 1155
Albuquerque, NM 87131-1231
(505) 277-8173

See Professional Physical Education in this alphabetical listing of areas of study in the College.

BILINGUAL/TESOL EDUCATION

Leroy Ortiz, Division Director
The University of New Mexico
Division of Language, Literacy and Sociocultural
Studies
Bilingual Education
Hokona Hall, Room 142
Albuquerque, NM 87121-1231
(505) 277-0437

Associate Professors

Leroy Ortiz, Ph.D., University of New Mexico
Anita Pfeiffer, M.A., University of Arizona

Assistant Professors

Rebecca Benjamin, Ph.D., University of California
Federico Carrillo, Ph.D., University of New Mexico
Luisa Duran, Ph.D., University of New Mexico
Elizabeth Saavedra, Ph.D., University of Arizona

Offerings in Bilingual Education, English as a Second Language (ESL), and Teaching English to Speakers of Other Languages (TESOL) include initial and advanced study. These offerings are intended to enhance the languages and cultures of the Southwest in a variety of educational settings. The program draws students from many backgrounds across the United States and other countries.

Undergraduate Program

Undergraduate Advisor Contact and Student Information Contact

Paula Pascetti, Hokona Hall, Room 142, 277-0437

Majors and Degrees

Bilingual Education (K-12 grades): B.A.Ed., Secondary Education
Teaching English as a Second Language (TESOL/ESL)(K-12 grades): B.A.Ed., Secondary Education

Minors (Teaching Field Endorsement for Teacher Preparation Licensure)

Bilingual Education (K-12 grades), Elementary Education Teaching English as a Second Language (TESOL/ESL)

Bilingual Education. The teaching field endorsement includes a twenty-seven (27) hour planned program. It includes the following five (5) fields: Non-English Language (Spanish or Navajo); Bilingual Pedagogy/Methods; Second Language Methods; Ethnic Experience; and Culture, Fine Arts and Folklore. A field experience is also required.

TESOL. The teaching field endorsement includes a twenty-seven (27) hour planned program in: Linguistics, English, Language Acquisition, and TESOL/ESL Methods. A field experience is also required.

Graduate Program

Graduate Advisor Contact and Student Information Contact

Paula Pascetti, Hokona Hall, Room 142, 277-0437

Contact this office for program information and application.

Application Deadlines

M.A.

Summer session and Fall semester: March 31

Spring semester: October 15

Ed.D. and/or Ph.D.

Summer session and Fall semester: March 31

Spring semester: October 15

Degrees Offered

M.A.: Elementary Education

M.A.: Secondary Education

Ed.D.: Multicultural Teacher and Childhood Education
Concentration

Ph.D. in Education: Multicultural Teacher and Childhood
Education Concentration

Certificate: Education Specialist (Ed.S.), Curriculum and
Instruction

The programs of studies for these degrees and certificate meet the general guidelines of graduate study described in other sections of the University Catalog (also see Graduate Study in the College of Education section).

Bilingual/TESOL (Bil Ed)

192. Workshop. (1-6)

292. Workshop. (1-6)

Prerequisite: 192

293. Topics. (1-3)

296. Internship. (3-6, to a maximum of 12)

300. Bilingual Teaching Methods-Materials and Techniques. (3-9)

Involves theory and practice in bilingual education emphasizing the Spanish language and culture dimension of the bilingual program.

Prerequisite: admission to Elementary Education, Bilingual Minor Program.

391. Problems. (1-3)

Prerequisite: permission of instructor.

***446. Games and Songs of New Mexico (Juegos Y Canciones de Nuevo Mexico). (3)**

Course to cover theory and content of the games and songs of the culture in which course is offered. Title will vary dependent on language the course is taught in.
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.

***453. Bilingual Education: History and Theory. (3)**

Survey of multilingual education throughout the world; principles and practices.
Prerequisite: an introductory linguistics course.

***480. [CIMTE 480.] Second Language Pedagogy. (3)**
(Also offered as M Lang 480.)

***481. [Ed Fdn 481.] Education Across Cultures in the Southwest. (3)**

***482. Teaching English as a Second Language. (3)**
Prerequisites: Ling 292L or Introductory Linguistics course (may be taken concurrently), and permission of instructor.

484. Teaching Writing in English as a Second Language. (3)

Current research and practice in teaching writing to non-native speakers of English, elementary through adult levels.
Prerequisite: 482.

485. Teaching Grammar in English as a Second Language. (3)

Current theory and practice in teaching English grammar to speakers of other languages.
Prerequisite: 482. (Summer, Fall)

493. Topics. (1-3) Δ

495. Field Experience. (3-6, to a maximum of 12)

Planned and supervised professional laboratory or field experiences in agency or institutional setting.
Prerequisite: permission of instructor.

563. Seminar in Language Acquisition. (3)
(Also offered as Ling 563.)

581. Seminar in the Education of the Bilingual Student. (3)

An overview course which focuses on philosophy, research, theory, and practice in bilingual education. (Summer, Fall, Spring)

582. Curriculum Development in Multicultural Education. (3)

Course focuses on the study and development of curriculum in multicultural settings. (Summer, Fall, Spring)

584. Teaching Writing in English as a Second Language. (3)

Prerequisite: 482.

585. Teaching Grammar in English as a Second Language. (3)

Prerequisite: 482. (Summer, Fall)

591. Problems. (1-3, to a maximum of 6)

592. Workshop. (1-4)

593. Topics. (1-3)

595. Advanced Field Experiences. (3-6, to a maximum of 12)

596. Internship. (3-6, to a maximum of 12)

COUNSELOR EDUCATION

Victor Delclos, Division Director
The University of New Mexico
Division of Individual, Family and Community
Education
Albuquerque, NM 87131-1231
(505) 277-4535

Professors

William R. Fishburn, Ed.D., University of Arizona
Vonda Long, Ph.D., Washington State University

Associate Professors

Deborah Rifkenbary, Ed.D., University of Virginia
John Rinaldi, Ed.D., Texas Tech University

Assistant Professor

Susan Cameron, Ph.D., Purdue University
David Scherer, Ph.D., University of Virginia

Graduate Program

Counselor Education does not offer a baccalaureate degree.

Counselor Education offers a Master of Arts Degree with three emphases: Community/Agency Counseling, Elementary School Counseling, and Secondary School Counseling. These programs are accredited by the Council for Accreditation of Counseling and Related Educational Programs. Counselor Education offers a doctoral degree with a concentration in counseling.

Graduate Advisor Contact and Student Information Contact

Sheri Lesanssee or Trish Stevens, Simpson Hall, 277-4535

Application Deadlines

Fall semester: January 20 (Doctorate in Counseling)
Fall semester: March 15 (Masters in Counseling)
Spring semester: September 30 (Masters in Counseling)

Degrees Offered

M.A.: Counseling
Ed.D.: Counseling concentration
Ph.D.: in Education: Counseling concentration

The Mission

The Graduate Counselor Preparation Program is committed to the scientist-practitioner model of education and training, integrating scholarship, research, practice, and service. The Program is likewise dedicated to the preparation of professional counselors who are informed and sensitive to the diversity and uniqueness of individuals and communities and who promote the dignity, worth, potential, and well-being of

all people. Recognizing the pluralism of our society, the Program gives special consideration to the personal, social, and therapeutic significance of the particular background of ones clients whether cultural, ethnic, racial, gender-role, religious/spiritual, socioeconomic, ability/disability, educational, or familial. It prepares professional counselors to respond to the challenges of a world that urgently confronts us with difficult cross-cultural questions and pressing social problems, including prejudice and intolerance, teenage pregnancy, sexuality including STD's and AIDS, violence, drug and alcohol use and abuse, alienation, and family disintegration.

By integrating theory, research, practice, and service, and promoting interdisciplinary collaboration, the Program encourages holistic theoretical, pragmatic, and innovative psychoeducational and therapeutic approaches. In such a dynamic learning environment, counselors-in training are better equipped to respond to the differential developmental, prevention, and remediation needs of clients. They are then able to assist individuals, couples, families, groups, and organizations to maximize their personal resources and to access other human and support services.

The educational/therapeutic enterprise to which this Program is committed recognizes that it is necessary to bridge the education with the social realities experienced by the people served by students and graduates. To create a context for the most effective professional development, classroom education is combined with on-site experiential training from the beginning of the graduate course of study, preparing counselor trainees to work in and with various educational settings, community agencies and clinics, hospitals, homes, and in businesses and industries.

The Program is dedicated to the enhancement of human development and psychological health across the life span and reflects a belief that in promoting the optimal potential in all individuals, we thereby promote their maximum participation and contribution to the prospects of a better society.

The Master's Degree in Counseling

The Counselor Education Program offers the master's Degree in Counseling with specialties in elementary school counseling, secondary school counseling, or community and agency counseling. The Master's Degree program and specialties are accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Applicants to the counseling program are expected to have completed 18 hours of upper division behavioral science courses (psychology, family studies, sociology, anthropology) prior to admission. Additional information and application forms are available from the Counselor Education office. Acceptance 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, a personal statement, and multicultural background. Admission is very competitive, with more applicants each semester than it is possible to admit. Finalists in the admissions process are interviewed by the faculty to make final selections. Prospective students must first apply for admission to the Office of Graduate Studies. Two copies of all transcripts of past academic work are to be sent to the Office of Graduate Studies. Contact the graduate unit for additional information.

The Doctorate in Counseling

The Doctor of Philosophy Degree Program in Counseling is designed for those who have completed a Master's Degree in Counseling or an allied field, who are licensed or are eligible for professional licensure in counseling or a closely related profession, and who wish to pursue the doctoral degree. The program requires that students develop competency in teaching, research, mental health supervision, and mental health consultation. These competencies, added to the professional expertise in counseling already demonstrated at point of admission into the doctoral program, enable the doc-

toral graduate to successfully carry out a wide range of supervisory, consultative, teaching, research, and counseling activities in a variety of professional settings. For example, 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.

Admission to the program is based on scholarship, academic background, work experience, letters of reference, a sample of writing, 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 specific information on the program and on application procedures and deadlines, contact the Counselor Education Program.

Counseling (Couns)

492. Workshop in Counseling. (1-4)
{Offered upon demand}

493. Topics. (1-3)

510. Techniques of Parent-Teacher Counseling. (1-3)
(Also offered as Spc Ed 508.) Designed to help teachers and counselors with techniques and strategies in behavioral management and change. Explores ways that the counselor may function as a consultant-change agent.

512. Assessment of Intelligence. (3)
Designed to teach a comprehensive understanding of the Wechsler Intelligence scales. Students must demonstrate mastery of administration, scoring, and interpretation of the scales. Prerequisite: permission of instructor.

513. Socio-Economic Information in Counseling. (3)

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: permission of instructor.

515. Using Tests 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.

516. Clinical Case Study. (3)

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.

518. Group Counseling. (3)
An introductory course in group counseling. Topics include group organization, types of groups, states of group development, communication, group roles, feedback, diagnosing and problems in the group process.
Prerequisites: 520, 530.

519. Practicum in Group Counseling. (3) ΔΔ
An experience in working directly with clients in a group setting with supervision provided by program faculty. May be repeated once for credit.
Prerequisites: 518 and permission of instructor. {Fall}
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, agency visitations, and audio or video tapes.

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.

525. Wilderness Counseling. (3)
 Designed to teach counseling skills using experiential activity as a counseling tool. This course presents an approach which includes a unique combination of academic cognitive skills, group counseling skills, and experiential skill-learning. It incorporates cognitive behavioral, group and humanistic counseling models with experiential educational learning. Prerequisite: permission of instructor.

530. Dynamics of Human Behavior. (3)
 Designed to provide students with basic information with respect to the many and varied explanations of behavior and personality, from Freud through Adler and Jung to humanistic and existential views.

531. Mental Health and Adjustment. (3)
 Designed to help students who wish to expand their self-awareness and explore the choices available to them. Aimed at enhancing student capacities and potential for meaningful interactional skills.

540. Counseling in the Elementary School. (3)
 Counseling, consultation, classroom guidance, and coordination of counseling and guidance services in the elementary school. How to work with children, parents, teachers, and the school organization also receives emphasis. Prerequisites: 517, 520, 530.

541. Counseling Children and Adolescents. (3)
 Prerequisites: 517, 520, 530, FS 503 or Ed Fdn 503

542. Counseling in Secondary Schools. (3)
 Includes development and counseling theory, role components, and program development as they apply to the secondary school counselor. Focuses on practical experience as it reflects theory, including observation and interviews, program development and school activities. Prerequisites: 517, 520, and 530.

560. Family Counseling. (3)
 (Also offered as FS 560.) An introduction to history and practice of counseling with families. A number of leading experts in the field will be studied with respect to their theoretical approach to the subject as well as their techniques. Prerequisites: 517, 520, 530, F S 517, and a course in the study of the family.

561. Counseling Issues in Death and Dying. (3)

562. Gender Issues in Counseling. (3)
 Prerequisite: 520, 530.

576. Medical Aspects in Counseling. (3)
 Prerequisite: 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 professionals own values, attitudes, and knowledge in working with clients with sexual concerns and problems. Prerequisite: permission of instructor.

582. Treatment Approaches in Human Sexuality. (3)
 Provides basic information in sex therapy integrating psychobiological experiences in a phenomenological field as

related to the sexual concerns presented by clients who seek treatment. Prerequisite: 581 or equivalent and permission of instructor.

590. Practicum in Counseling. (1-6)
 An experience in working directly with clients in a setting where supervision is provided by program faculty. May be taken either on campus at the Manzanita Center or off campus on a field trip. May be taken more than once. Prerequisites: 517, 518, 520, 522, 530, and permission of instructor. Offered on a CR/NC basis only.

591. Problems. (1-3, to a maximum of 6)
 Prerequisite: permission of instructor.

592. Workshop in Counseling. (1-4)
 For degree restrictions, consult the *Graduate Programs* section of this catalog.

593. Topics. (1-3)
 Various current topics in counseling and counseling psychology are offered. Contact the department office for information about topics courses planned for the near future.

595. Field Practicum. (2-6)
 Will be completed in counseling setting similar to setting in which the student intends to work. Students must participate 40 hours each week for 16 weeks or 20 hours each week for 32 weeks. Supervision is provided by experienced counselors in the field setting with coordination by a campus instructor. Attendance at a weekly seminar on campus is required. Prerequisites: 590, and permission of instructor. Offered on a CR/NC basis only.

596. Internship in Rehabilitation. (1-12)
 Prerequisites: 517, 518, 590.

599. Master's Thesis. (1-6 hrs. per semester)
 Offered on a CR/NC basis only.

610. Professional Issues and Ethics. (3)
 Contemporary issues, trends and ethical considerations in counseling and counseling psychology are reviewed and critiqued. Limited to majors at the specialist and doctoral levels.

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, psychodrama, sexuality counseling, etc. are offered for advanced graduate students. Contact the graduate unit office for additional information. 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)
 Prerequisite: permission of instructor.

630. Advanced Practicum in Counseling. [Advanced Practicum in Counseling, Counselor Education, and Supervision.] (3-6)
 Prerequisite: permission of instructor. Offered on CR/NC basis only.

650. History and Systems of Counseling Psychology. (3)

670. Research in Counseling Psychology. (3)

Designed to provide an understanding of research topics and issues in counseling psychology. Primary focus is on the content of available research with a secondary emphasis on research methods.

696. Internship. (3-6, to a maximum of 12)
Offered on CR/NC basis only.

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

CURRICULUM AND INSTRUCTION IN MULTICULTURAL TEACHER EDUCATION

NOTE: Curriculum and Instruction in Multicultural Teacher Education (CIMTE) is a curriculum area integrated throughout undergraduate and graduate study across the College. In undergraduate study, most teacher preparation licensure programs (Elementary, Middle Level, Secondary, and Special Education) use some or most of the courses listed in this curriculum area. Also, some teaching field endorsements (minors) use some courses from this listing. Currently, the directors of Teacher Education, Educational Specialties, and Language, Literacy and Sociocultural Studies coordinate the course offerings requested across the College. In order to meet the demands of a changing profession where performance standards (competencies) are identified with teaching field endorsements (see introduction of the College of Education section in this Catalog), it is likely that these offerings will be revised and that the CIMTE heading and prefix may change. In the next year, students can seek current information from the Division of Teacher Education office.

Curriculum and Instruction in Multicultural Teacher Education (CIMTE)

192. Workshop. (1-6) ¹

262. Life Science. (4)
(See NS 262.) Prerequisite: permission of instructor.

263. Environmental Science. (4)
(See NS 263.)

291. Problems. (1-3)
Prerequisite: permission of instructor.

292. Workshop. (1-6)

296. Internship. (3-6, to a maximum of 12)

298. Music for the Elementary Teacher. (3)
(See Mus Ed 298.)

305. Teaching Young Children in Multicultural Settings. (3)
Strategies and materials of effective learning experiences and classroom organization for young children.

319. Physical Education in the Elementary School. (3)
(Also offered as P E-P 319.) Introduction to all methods of teaching elementary physical education. 4 class meetings a week.

321L. Teaching of Social Studies in the Elementary School. (1-3)

Development of conceptual framework for study of community-based curriculum with emphasis on the diverse cultures of the southwest and value clarification. Supervised work with children allows for in-depth analysis of both content and process. 3 lectures, 1 hr. lab. Offered on a CR/NC basis only.

331L. Teaching of Reading in the Elementary School. (1-3)

Establishing a theoretical framework for exploring various approaches to reading/language development, instruction and evaluation in multicultural classroom settings. 3 lectures, 1 hr. lab. Offered on a CR/NC basis only.

333L. Teaching Oral and Written Language in the Elementary School. (1-3)

Study of oral and written forms of language. Background theory in language development and use in teacher-child interactions is presented and followed by carefully designed experiences with children. 3 lectures, 1 hr. lab. Offered on a CR/NC basis only.

353L. Teaching of Science in the Elementary School. (1-3)

Methods, processes, content and management of children's science observation, exploration, discovery, and invention; attitudes of inquiry, and wonderment. Science integrated with math and other areas of life. 3 lectures, 1 hr. lab. Offered on a CR/NC basis only.

361L. Teaching of Mathematics in the Elementary School. (1-3)

Strategies and materials appropriate for traditional and innovative instructional programs in elementary school mathematics. Supervised work with children allows for in-depth analysis of both content and process. Prerequisite: see Department of Mathematics. 3 lectures, 1 hr. lab. Offered on a CR/NC basis only.

362. Pre-Student Teaching Experience I. (3) ²
3 hrs. seminar, 6 hrs. field work weekly.

365. Microcomputers in Schools. (3)

An introduction to the use of LOGO, word processing, simple data base management and computer assisted instruction in schools.

391. Problems. (1-3)
Prerequisite: permission of instructor.

400. Student Teaching in the Elementary School. (3-6-9-12-15)

Pre- or corequisites: 321L, 331L, 333L, 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.

404. Integrating Early Childhood Learning. (3) To be taken with senior block. Design of learning activities in early childhood classrooms to incorporate all curriculum areas and achieve multiple learning outcomes. Corequisite: 400.

*421. 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.

*429. Teaching of Secondary Mathematics. (3)

Prerequisites: To be taken concurrently with 362 and permission of instructor.

430. Teaching of Writing. (3)
Theory and practice of teaching writing in elementary and secondary schools.

431. Teaching of Sciences. (3)
Prerequisites: To be taken concurrently with 362 and permission of instructor.

432. Teaching of Social Studies. (3)
Prerequisites: To be taken concurrently with 362 and permission of instructor.

***433. Oral and Written Language Program in the Elementary School. (Lenguaje Oral y Escrito en la Escuela Primaria.) (2-3)**
The development extension/elaboration and analysis of the language arts in both home language and English language. Creative methods and materials.

***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. 3 lectures, 1 hr. lab.

436. Teaching of English. (3)
Prerequisites: Ling 292L; to be taken concurrently with 362 and permission of instructor.

***438. Teaching Reading and Writing in the Content Field. (3)**
Prerequisite: classroom teaching experience or permission of the department.

***440. Teaching of French. (3)**
(Also offered as French 440.)
Prerequisites: To be taken concurrently with 362 and permission of instructor.

***441. Teaching of Spanish. (3)**
(Also offered as Span 441.) 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.

***442. Teaching of Reading. (3)**
Includes two hours supervised lab each week.
Prerequisites: to be taken concurrently with 362 and permission of instructor.

***443. 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.

444. Teaching PE I. (3)
(Also offered as P E-P 444.)
Prerequisite: P E-P 245, 288, 319.

***445. Teaching of German. (3)**
(Also offered as German 445.) Includes practice teaching in UNM elementary courses. Intended for prospective German teachers but may also be taken by others who are interested in a teaching experience.
Prerequisites: To be taken concurrently with 362 and permission of instructor.

***453. The Science Program in the Elementary School. (3)**
Prerequisite: 353L.

***461. The Mathematics Program in the Elementary School. (3)**

462. Student Teaching. (3-6-9-12, to a maximum of 15)
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. Student Teaching Seminar. (3)
A second student teaching experience.
Prerequisite: seminar to be taken concurrently with 462.

***490. Reading in the Content Area—Music. (3)**
(Also offered as Mus Ed 493.) Discovering the ways music education can be employed as a positive influence in teaching of verbal reading. The similarities which exist in note and verbal reading are covered. The necessity of a workable means of integrating the teaching of reading with other content areas (e.g., music) will be given attention.

492. Workshop. (Taller Pedagógico.) (1-4)
Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions consult the *Graduate Programs* section of this catalog.

493. Topics. (1-3) Δ

495. Field Experience. (3-6, to a maximum of 12)
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)
Prerequisites: for degree restrictions, see the section in Education entitled *Requirements for Graduation*.

- 1 Open to students in the A.A. in Education (Elementary) program only.
- 2 Students in 362 must enroll concurrently in the appropriate section of Ed Fdn 303 and 310.

500. Advanced Instructional Strategies. (3)
Prerequisite: permission of instructor.

501. High School Curriculum. (3)

506. The Middle School. (3)

507. Developing Curriculum for Middle Schools. (3)

508. Instructional Strategies for Middle Schools. (3)

510. Curriculum Appraisal and Improvement of School Programs. (3)

511. Curriculum in the Elementary School. (3-12)

512. Arranging Learning Environments. (3)

513. The Process of Teaching and Learning. (3)
Prerequisite: permission of instructor.

514. Young Children Moving Into Literacy. (3)
Prerequisites: 331L and 333L.

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)
Pre- or corequisites: 500, 542 or equivalent.

517. *Reading Informational Books, an Instructional Strategy.* (3)
Prerequisites: 500, 542 or equivalent.

520. *Instructional Trends in the Communication Arts.* (3)

521. *Seminar in the Social Studies.* (3-12)
Prerequisite: 421.

522. *Seminar in English Curriculum and Instruction.* (3)

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.

527. *Studies in Rhetoric for Teachers.* (3) Δ

528. *Studies in Reading and Literature for Teachers.* (3)
(Also offered as Engl 528.)

530. *Seminar in Science Teaching.* (3)

531. *The Reading Program in the Elementary School. (El Programa de Lectura en la Escuela Primaria.)* (2-3)
A problems course, CIMTE 591, is an acceptable substitute for CIMTE 500 for all students in a teaching field endorsement program. Prerequisite: 331L.

532. *The Reading Process.* (3)
Prerequisites: 531 and permission of instructor.

533. *Seminar in the Language Arts.* (3-12)
Prerequisite: 433.

534. *Seminar in Teaching Reading.* (3-12)
Prerequisite: 531.

537. *Practicum in Learning Disabilities (Reading).* (3)
Includes 3 hrs. supervised laboratory each week.
Prerequisites: 435 and 534 or 520. 3 lectures, 1 hr. lab.

538. *Teaching Reading through the Content Field.* (3)
Prerequisite: classroom teaching experience or permission of the department.

540. *Instructional Trends in the Social Studies.* (3)

541. *Seminar in Children's Literature.* (3-12)

542. *Principles of Curriculum Development.* (3)

544. *Children's Literature.* (3)
Prerequisite: 331L.

549. *History Education.* (3)³

550. *Seminar in History Education.* (3)
Prerequisite: 549.

553. *Seminar in Teaching Elementary Science.* (3-12)
Prerequisite: 453.

560. *Supervision of Instruction (Elementary).* (3)
(Also offered as Ed Adm 560.)

561. *Seminar in Teaching Mathematics.* (3-12)
Prerequisite: 461.

562. *Practicum in the Supervision of Instruction.* (3)
May be repeated for a maximum of 12 hrs.

565. *Diagnostic and Corrective Techniques in Mathematics Teaching.* (3)
Prerequisite: 461.

566. *Logo in the Classroom.* (3)

574. *Curriculum for Early Childhood.* (3)
Prerequisite: FS 403.

575. *Early Childhood Language Development /Curriculum.* (3)

576. *Early Childhood Visual/Motor Development & Curriculum.* (3)
(Also offered as Spc Ed 576.)

579. *Seminar in Early Childhood Education.* (3-12)
Prerequisites: 501 and permission of instructor.

583. *Education Across Cultures in the Southwest.* (3)

590. *Seminar.* (3)

591. *Problems.* (1-3, to a maximum of 6)

592. *Workshop.* (1-4)

593. *Topics.* (1-3)

595. *Advanced Field Experiences.* (3-6, to a maximum of 12)

596. *Internship.* (3-6, to a maximum of 12)

597. *Directed Readings in Secondary and Adult Teacher Education.* (3-6, to a maximum of 6)

598. *Directed Reading in Elementary Education.* (3-6, to a maximum of 6)

599. *Master's Thesis.* (1-6 hrs. per semester)
Offered on a CR/NC basis only.

611. *Curriculum Appraisal and Improvement of School Program.* (3)

643. *Curriculum Theory Seminar.* (3)
Prerequisite: permission of instructor.

681. *Seminar in Multicultural Teacher Education.* (3)
Prerequisite: Admission to Doctoral Study

690. *Dissertation Seminar.* (3)

694. *Practicum in the Supervision of Instruction.* (3)
May be repeated to a maximum of 12 hours.

696. *Internship.* (3-6, to a maximum of 12)

698. *Directed Readings in Elementary/Secondary Teacher Education.* (3-6, to a maximum of 12)

699. *Dissertation.* (3-12 hrs. per semester)
Offered on a CR/NC basis only.

701. *Post Doctoral Study.* (1)

³ Available for graduate credit except for graduate majors in Economics or History.

EARLY CHILDHOOD MULTICULTURAL EDUCATION

Ginger Blalock, Division Director
The University of New Mexico
Division of Educational Specialties
Hokona Hall, Room 103
Albuquerque, NM 87131-1231
(505) 277-1499

Professors

Guillermina Engelbrecht, Ph.D., Arizona State University
Virginia Shipman, Ph.D., University of Pittsburgh
Pauline Turner, Ph.D., University of Texas

Assistant Professors

Charles Bleiker, Ph.D., Stanford University
Eric Erwin, Ph.D., Purdue University

Faculty from other disciplines across the College of Education participate in the early childhood program.

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 is interdisciplinary, drawing on content from curriculum and instruction, family studies, special education, nutrition, physical education, and health education. The 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 54 hours in general education, 42 hours of professional early childhood education, and 18 hours of practical and student teaching.

Admission to the Early Childhood Multicultural Education program requires a cumulative GPA of 2.75 and basic computer skills.

In addition, students are required to obtain acceptable scores on a test of basic skills prior to admission. Upon completion of the program and satisfactory performance on state-approved competencies and other exit requirements, students may apply to the State Department of Education for a Level 1 license.

Student Information Contact

Guillermina Engelbrecht, Hokona Hall, Room 157, 277-3910.

Graduate Program

Student Information Contact

Guillermina Engelbrecht, Hokona Hall, Room 157, 277-3910.
Application Deadlines

M.A.

Fall Semester: March 31
Summer Session: March 31
Spring Semester: October 10

Contact Division Administrator, Division Office of Educational Specialties, for application materials.

Degrees Offered

M.A.: Elementary Education

The Master of Arts in Elementary Education may be taken with an emphasis in Early Childhood Education. Graduate courses in Early Childhood Education include:

- CIMTE 515 Young Children Moving into Literacy
- CIMTE 574 Curriculum for Early Childhood
- CIMTE 575 Early Childhood Language Development/Curriculum
- CIMTE 576 Early Childhood Visual/Motor Development/Curriculum
- CIMTE 579 Seminar in Early Childhood Education
- CIMTE 593 Topics

Application for admission to the Master of Arts Program in Elementary Education needs to specify Early Childhood Emphasis.

Graduate Study in Early Childhood Multicultural Education (ECME) is being developed. The faculty offer some graduate courses in early childhood through Elementary Education (CIMTE prefix) and/or Family Studies (FS prefix) which may address certain aspects of early childhood education. Likewise, the doctoral program in Family Studies or in Multicultural Teacher and Childhood Education may provide an emphasis 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.

305. Working with Diverse Children in Educational & Child Care Settings. (7)

A course focusing on diversity of both families and children, development as it pertains to learning, teaching, and the role of 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.

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.

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.

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, and 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, and 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, and advisor approval. Offered on a CR/NC basis only.

level competencies for teachers. Considers the critical and controversial issues in human development, learning and social problems in education. {Fall, Spring}

493. Topics in Education. (1-6) Δ

Various topics related to education from an interdisciplinary perspective.

500. Research Applications to Education. (3)

593. Topics in Education. (1-3) Δ

EDUCATIONAL ADMINISTRATION

Breda Bova, Division Director
The University of New Mexico
Division of Educational Leadership and Organizational Learning
Education Office Building, 2nd floor West
Albuquerque, NM 87131-1231
(505) 277-0441

Professors

S. Gregory Bowes, Ed.D., Northern Illinois University
David L. Colton, Ph.D., University of Chicago
Ignacio R. Cordova, Ed.D., University of New Mexico
Mike Milstein, Ph.D., University of California-Berkeley
Carolyn J. Wood, Ph.D., Washington University

Associate Professors

Breda M. Bova, Ph.D., University of New Mexico
Steve Preskill, Ph.D., University of Illinois

Visiting Professor

Michael M. Morris, Ed.D., University of Massachusetts

Lecturers

Jo Ann Krueger, Ph.D., University of New Mexico
John Mondragon, Ed.D., University of New Mexico

Graduate Study

Graduate Advisor

Breda M. Bova, Ph.D., University of New Mexico

Student Information Contact

Mercy Garcia, Education Office Building, 277-0441

Application Deadlines

Ed.D. Summer session, 1999 November 1, 1998

NOTE: The program admits a maximum of 20 students every two years in a cohort. The faculty will select a cohort to begin study in the Summer of 1999 during the next admission process (after the application deadline of November 1, 1998).

Ph.D. At this time, the program is not admitting students to the Ph.D. program. Current information can be obtained from the Student Information Contact (see above).

M.A. and Ed.S.

Fall semester February 15
Summer session February 15

Degrees Offered

M.A.: Educational Administration
Ed.D.: Administration and Supervision concentration

EDUCATION

Educ is a special prefix utilized by the college to facilitate the development of interdisciplinary courses through the use of 293, 493, and 593 Topics numbers. These are courses that cross program/discipline lines, are applicable to more than one degree program, and often involve faculty teams from different program areas. As the offerings are refined they may be developed as regular course listings under the Educ description. The Educ section of the bulletin is also used to list courses that are in transition with the new college structure.

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.

293. Topics in Education. (1-3) Δ

Various topics related to education from an interdisciplinary perspective.

313. Developmental, Psychological and Social Issues in Education. (6)

Designed to meet the NM State Board of Education entry-

Ph.D. in Education: Administration and Supervision concentration
 Certificate: Education Specialist (Ed.S.), Educational Administration

The degree programs are designed to prepare individuals to assume leadership positions in complex educational organizations at successively higher levels of responsibility. All rely heavily upon concepts and research drawn from the social sciences, e.g., sociology, economics, political science, and social psychology, for insight into administrative behavior.

The M.A. in Educational Administration may be completed under either Plan I (with thesis) or Plan II (without thesis) as described elsewhere in this Catalog. However, individuals planning a career in public school administration in New Mexico are advised to select Plan II.

The Ph.D. and the Ed.D. are significantly different conceptually and programmatically. The Ed.D. is designed as a professional degree program for those who are, or intend to be, high level administrators in educational or other service agencies. The Ph.D. is designed for those whose career lines lead to research and academic positions. Documents detailing these and other programs are available upon request.

The Education Specialist certificate program is properly regarded as a terminal, professional certification program. Application to that program for reasons other than those just described should occur only after consultation with the graduate advisor.

Admission for the M.A. and the Ed.S. either for Fall semester or Summer session is made one time per year.

Advisement documents specifying admissions and related processes are available upon request. All applicants should avail themselves of these documents prior to initiating the admissions process.

Educational Administration (Ed Adm)

- 501. Foundations of Educational Administration. (3)
Pohland
- 503. Problem Solving in Educational Organizations. (4)
- 504. The Two-Year College Curriculum. (3)
- 509. Organizational Analysis. (3)
- 510. School-Community Relations. (3)
Prerequisite: 509.
- 512. Public Education in New Mexico. (3)
- 520. The School Principalship. (3)
Prerequisite: 509.
- 521. Public School Finance. (3)
- 522. School Business Management. (3)
- 526. Educational Planning and the School Plant. (3)
Prerequisite: a course in curriculum.
- 529. The Adult Learner. (3)
- 530. Administration of Adult Education. (3)
- 531. Administration of Staff Personnel. (3)
Prerequisites: 509, 520.

- 532. Current Educational Problems. (3)
- 560. Supervision of Instruction (Elementary and Secondary). (3)
(Also offered as CIMTE 560.)
Prerequisites: 509, 520 for administration majors.
- 561. School Law. (3)
Prerequisite: 509.
- 564. School and Community Surveys. (3)
Prerequisite: 510.
- 571. State and Federal Educational Administration. (3)
Prerequisites: 509, 510.
- 581. Seminar in Educational Administration. (3) Δ
Prerequisite: permission of instructor.
- 591. Problems. (1-3, to a maximum of 6)
Prerequisite: permission of instructor.
- 592. Workshop in Educational Administration. (1-4)
- 593. Topics. (1-4)
- 595. Advanced Field Experiences. (3-6, to a maximum of 12)
Prerequisite: permission of instructor.
- 596. Internship. (3-6, to a maximum of 12)
- 598. Directed Readings in Educational Administration. (3-6, to a maximum of 6)
Prerequisite: permission of instructor.
- 599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.
- 605. Qualitative Research In Education. (3)
(Also offered as ETSCS 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: ETSCS 502, or 522, or PsyFdn 501 or equivalent, or permission of instructor.
- 610. Organizational Change: Theory and Processes. (3)
Prerequisites: advanced graduate standing, 509 and permission of instructor.
- 629. Seminar for Practicing School Administrators. (1-3)
- 630. Administration in Higher Education. (3)
Prerequisite: permission of instructor.
- 695. Field Experiences in Educational Administration. (1-6, to a maximum of 6)
Prerequisite: permission of instructor.
- 696. Internship. (3-6, to a maximum of 12)
Doctoral Students only.
Prerequisite: permission of instructor.
- 698. Directed Readings in Educational Administration. (3-6, to a maximum of 12)
Prerequisite: permission of instructor.
- 699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

EDUCATIONAL FOUNDATIONS

NOTE: Educational Foundations is a curriculum area integrated throughout undergraduate and graduate study across the College. In undergraduate study, most courses are listed with program identity for pre-education teacher preparation licensure, such as Education (Educ) or Psychological Foundations (PsyFdn). In graduate study, most courses are listed in Psychological Foundations (PsyFdn) or Educational Thought and Sociocultural Studies (ETSCS). One course, *Research Applications to Education*, is listed in Education (Educ).

Educational Foundations

(Ed Fdn)

374. Principles of Educational and Psychological Measurement. (3)

An analysis of the educational and psychological tests used in a school testing program.

Educational Linguistics

(Formerly administered by the Department of Educational Foundations)

Leroy Ortiz, Division Director

The University of New Mexico

Division of Language, Literacy and Sociocultural Studies

Hokona Hall, Room 142

Albuquerque, NM 87131-1231

(505)277-0437

Professors

Guillermina Engelbrecht, Ph.D., Arizona State University

Vera John-Steiner, Ph.D., University of Chicago

Richard D. van Dongen, Ed.D., University of New Mexico

Associate Professors

Leroy Ortiz, Ph.D., University of New Mexico

Donald A. Zancanella, Ph.D., University of Missouri

Assistant Professors

Rebecca Benjamin, Ph.D., University of California

Jan Näslund, Ph.D., University of Chicago

Elizabeth Saavedra, Ph.D., University of New Mexico

NOTE: Additional interdisciplinary Educational Linguistics faculty are listed in departments in Arts and Sciences. See Linguistics in this catalog.

Graduate Program

Graduate Advisor Contact and Student Information Contact

Paula Pascetti, Hokona Hall, Room 142, 277-0437

Contact this office for application materials and degree program information.

Degree Offered

Ph.D. in Education: Educational Linguistics concentration

Application Deadlines

Fall semester: March 31

Spring semester
Summer session

October 15
October 15

Educational Linguistics is an interdisciplinary doctoral program in the Division of Language, Literacy and Sociocultural Studies, College of Education, and in the College of Arts and Sciences. No baccalaureate or Master's program is offered. Descriptions of most courses required in this program may be found in the sections of Education, Elementary Education, Educational Thought and Sociocultural Studies, Psychological Foundations of Education, as well as in the Departments of Linguistics, Anthropology, and English.

EDUCATIONAL MEDIA/LIBRARY SCIENCE

Leroy Ortiz, Division Director

The University of New Mexico

Division of Language, Literacy and Sociocultural

Studies, Educational Media/Library Science

Hokona Hall 142

Albuquerque, New Mexico 87131-1231

(505) 277-0437

Instructor

Patricia Snell, M.S., University of Southern California

Minor (Teaching Field Endorsement)

Currently, the College offers a twenty-four (24) hour planned program as an undergraduate minor or as a teaching field endorsement for those students who hold a bachelor's degree and a New Mexico teaching license. Completion of the twenty-four (24) hours provides the student eligibility to apply to the State Department of Education (SDE) for this endorsement to a teaching license.

Student Information Contact

Contact College Advisement Center, Hokona Hall, or the Division Office of Language, Literacy and Sociocultural Studies for information.

At the time of this writing, a Master of Arts degree with an emphasis in EMLS is available; however, students are not currently being accepted into this program. Consult a College of Education advisor for current information.

Educational Media/Library Science (EM/LS)

391. Problems. (1-3)

Prerequisite: permission of instructor.

424. 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. 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. Classification and Cataloging. (3)

Study of the purpose, history, theory, and principles of classification, cataloging, and general arrangement of books and other media. Practical application of the Dewey Decimal classification and Sears List of Subject Headings to both book and nonbook materials.

437. 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. 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. Government Documents. (1-3)

Introduction to U.S. federal, state, and international government publications, the acquisition, organization, and reference service of government publications, and the field of government document librarianship.

460. The 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. 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.

492. Workshop. (1-4)

Carries graduate credit when specifically approved by the Office of Graduate Studies. Consult the catalog and the *Graduate Programs* section of this catalog for restrictions.

524. 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. 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. Classification and Cataloging. (3)

Principles of classification and cataloging on standard systems including automation applications.

537. 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. 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. Government Documents. (1-3)

Introduction to U.S. Federal, State and International government publications, the acquisition, organization, and reference service of government publications, and the field of government document librarianship.

560. 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. Automation in Libraries. (3)

Survey of current information technologies and application of automation technology in library settings.

592. Workshop. (1-4)

EDUCATIONAL THOUGHT AND SOCIOCULTURAL STUDIES

(Formerly part of Educational Foundations)
 Leroy Ortiz, Division Director
 The University of New Mexico
 Division of Language, Literacy and Sociocultural Studies
 Educational Thought and Sociocultural Studies
 Hokona Hall, Room 142
 Albuquerque, NM 87131-1231
 (505) 277-0437

Professor
 Vera John-Steiner, Ph.D., University of Chicago

Associate Professors
 Gary Anderson, Ph.D., Ohio State University
 Ann Nihlen, Ph.D., University of New Mexico

Assistant Professors
 Mary Belgarde, Ph.D., Stanford University
 Greg Cajete, Ph.D., International College, William Lyon University
 Jaime Grinberg, Ph.D., Michigan State University
 Kathryn Herr, Ph.D., Ohio State University
 Shaime Okunor, Ph.D., University of New Mexico

Adjunct
 Edward DeSantis, Ph.D., Brown University

NOTE: Additional faculty listings may be found in Psychological Foundations of Education, and Educational Linguistics. These faculty also teach courses in the Educational Thought and Sociocultural Studies program.

Undergraduate Program

Educational Thought and Sociocultural Studies offers some courses for undergraduate students interested in the social and cultural study of education. Some College undergraduate programs use these courses as pre-education experiences to assist students in choosing careers in education.

Graduate Program

Graduate Advisor
 Ann Nihlen, Hokona Hall, Room 207, 277-5979

Student Information Contact
 Paula Pasetti, Hokona Hall, Room 142, 277-0437

For program information and application materials, please contact this office.

Application Deadline
 M.A.:
 Summer session and Fall semester: March 30
 Spring Semester: October 15
 Ph.D.:
 Summer session and Fall semester: March 30
 Spring Semester: October 15

EDUCATION

Ed.D.:

Summer session and Fall semester: March 30
Spring semester: October 15

Degrees Offered

M.A. in Education Foundations, Educational Thought and Sociocultural Studies

Ed.D.: Educational Thought and Sociocultural Studies concentration

Ph.D. in Education: Educational Thought and Sociocultural Studies concentration

Introduction

Educational Thought and Sociocultural Studies offers programs leading to the doctorate (Ph.D. and Ed.D.) and the Master's degree (M.A.) in education. Program faculty are part of a larger network of College of Education faculty offering graduate courses and programs focused on the social and cultural study of educational institutions and practices. The program offers a rigorous, but flexible course of studies which can be tailored to meet a wide range of professional interests and needs. All students are expected to develop programs of studies combining coursework in the College of Education with coursework in related disciplines in other colleges. The doctorate in Educational Thought and Sociocultural Studies concentration is intended primarily for people interested in careers in college teaching and research, and/or leadership positions in education, social services, and allied professions. In the doctoral program, a student may specialize in one of the foundational disciplines (anthropology, history, philosophy, or sociology) or may decide to pursue an interdisciplinary program of studies. The program places special emphasis on helping students develop research and inquiry skills needed for advanced study and analysis of education in its many social, cultural, economic, and political contexts. While studying teaching and learning in schools and classrooms is an important aspect of this program, how a whole array of institutions educates both children and adults is a continuing concern for program faculty and students. In addition, the breadth of the program affords students an opportunity to investigate the role that social service programs, new technologies, popular culture, and the media may be playing in constructing alternative educational environments for adults and children.

Candidates for the doctorate are expected to 1) already hold an M.A. degree or the equivalent in an academic area or in education with substantial preparation in an academic area, or 2) complete the M.A. degree or equivalent before being admitted to the program.

Admissions to the M.A. program are *reviewed* year-round. (Applicants for the Master's degree should specify LLSS/Educational Foundations/ETSCS on the application form.) Doctoral applications are reviewed twice yearly. Documents describing the program and guidelines for application are available upon request from the program. Applicants should review these documents before applying for admission to the program.

Most ETSCS courses are open to students enrolled in graduate programs throughout the College of Education.

Educational Thought and Sociocultural Studies (ETSCS)

181. [Ed Fdn 181.] **Seminar for Returning Women Students. (3)**

(Also offered as Wm St 181.) 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.

193. **Topics. (1-3)**

290. [Ed Fdn 290.] **Foundations of Education. (3)**

An introduction to the philosophical, social, historical, and comparative foundations of education.

*362. [Ed Fdn 362.] **Language Testing. (3)**

(Also offered as Ling 362.) Survey of language testing procedures with special application in multilingual and bilingual education programs.

Prerequisite: an introductory linguistics course; some knowledge of statistics recommended.

391. **Problems. (1-3)**

383. [Ed Fdn 383.] **Education of the Mexican-American: Trends, Issues, Problems. (3)**

(Also offered as Spc Ed 383.) Educational trends, issues and problems of the Mexican-American and the solutions necessary to alleviate these problems.

393. **Topics. (1-6)**

415. [Ed Fdn 415.] **Philosophies of Education. (3)**

A survey of philosophical systems and their application to education.

Prerequisite: 290 or equivalent.

424. [Ed Fdn 424.] **Culture and Education. (3)**

(Also offered as Afro A 399.) Analysis of the different child-rearing practices and their effects on the academic performances of children. Analyzes the role of culture in education.

493. **Topics. (1-3) Δ**

502. [Ed Fdn 502.] **Naturalistic Inquiry. (3)**

511. [Ed Fdn 511.] **History of American Education. (3)**

Prerequisite: a course in American history.

512. [Ed Fdn 512.] **History of Education. (3)**

Prerequisite: a course in world history.

515. [Ed Fdn 515.] **Philosophies of Education. (3)**

Graduate students taking this course for certification only should enroll in 415.

516. [Ed Fdn 516.] **Educational Classics. (3)**

Prerequisite: 415.

517. [Ed Fdn 517.] **Educational Ideas in Literature. (3)**

518. [Ed Fdn 518.] **Comparative Education. (1-3) Δ**

521. [Ed Fdn 521.] **Sociology of Education. (3)**

(Also offered as Soc 421; however, it does not carry graduate credit.)

522. [Ed Fdn 522.] **Education and Anthropology. (3)**

555. [Ed Fdn 555.] **Seminar in Educational Linguistics. (1-3) Δ**

(Also offered as C & J, Ling 555.)

562. [Ed Fdn 562.] **Seminar in Language Testing. [Seminar.] (3) Δ**

(Also offered as Ling 562.)

581. [Ed Fdn 581.] **Seminar: Sociology of Education. (3)**

(Also offered as Soc 521.)

587. [Ed Fdn 587.] **Perspectives on Sex and Gender in Education.** (3)

(Also offered as Wm St 487; however, it does *not* carry graduate credit.)

Prerequisites: 290, Wm St 200.

591. [Ed Fdn 591.] **Problems.** (1-3 hrs. each semester)

592. [Ed Fdn 592.] **Workshop.** (1-4) Δ

593. [Ed Fdn 593.] **Topics.** (1-3) Δ

595. [Ed Fdn 595.] **Advanced Field Experiences.** (3-6, to a maximum of 12)

Prerequisites: acceptance into a graduate program and permission of instructor.

598. [Ed Fdn 598.] **Directed Readings.** [Directed Readings in Educational Foundations.] (3-6, to a maximum of 6)

599. [Ed Fdn 599.] **Master's Thesis.** (1-6 hrs. per semester)

Offered on a CR/NC basis only.

605. [Ed Fdn 605.] **Qualitative Research in Education.** (3)

(Also offered as Ed Adm 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: ETSCS 502, or 522, or PsyFdn 501 or equivalent, or permission of instructor.

615. [Ed Fdn 615.] **Contemporary Philosophies of Education.** (3)

623. [Ed Fdn 623.] **Ethnographic Research In the Classroom.** (3)

Prerequisites: 522 or permission of instructor.

650. [Ed Fdn 645.] **Dissertation Seminar.** (1-3)

Corequisite: 699. Offered on a CR/NC basis only.

696. [Ed Fdn 696.] **Internship.** (3-6, to a maximum of 12)

Offered on a CR/NC basis only.

698. [Ed Fdn 698.] **Directed Readings.** [Directed Readings in Educational Thought and Sociocultural Studies.] (3-6, to a maximum of 12)

699. [Ed Fdn 699.] **Dissertation.** (3-12 hrs. per semester)

Offered on a CR/NC basis only.

Elementary Education

(Formerly part of CIMTE)

Peter N. Winograd, Division Director

The University of New Mexico

Division of Teacher Education

Hokona Hall, Room 123

Albuquerque, NM 87131-1231

(505) 277-4533

Ginger Blalock, Division Director

Division of Educational Specialties

Hokona Hall, Room 103

Albuquerque, NM 87131-1231

(505) 277-1499

Leroy Ortiz, Division Director

Division of Language, Literacy, and Sociocultural Studies

Hokona Hall, Room 142

Albuquerque, NM 87131-1231

(505) 277-4037

Division of Educational Specialties (ES) Mathematics, Science/Environmental, Social Studies (Elementary), Technology, and Teacher Education Specialty Areas

Professors

Craig W. Kelsey, Ph.D., University of New Mexico

Joseph G.R. Martinez, Ph.D., University of New Mexico

Patrick (Rick) Scott, Ed.D., Columbia University

Associate Professors

Anne L. Madsen, Ph.D., Michigan State University

Paul Miko, Ph.D., University of Maryland

Priscilla Norton, Ed.D., U.S. International University

Joseph H. Suina, Ed.D., University of New Mexico

Assistant Professors

Jaime Grinberg, Ph.D., Michigan State University

Leslie D. Hall, Ph.D., Ohio State University

Teresa M. Kokoski, Ph.D., University of Georgia

Kathryn M. Powell, Ph.D., Texas A&M University

Steve Rubio, Ph.D., University of Utah

Quincy Spurlin, Ph.D., University of Texas-Austin

Division of Language, Literacy, and Sociocultural Studies (LLSS) Bilingual, Communication Arts, Language Arts, Middle Level, Multicultural, Social Studies (Secondary), TESOL/ESL, and Teacher Education Specialty Areas

Professors

William A. Kline, Ph.D., Stanford University

Peter N. Winograd, Ph.D., University of Illinois

Associate Professors

Leroy I. Ortiz, Ph.D., University of New Mexico

Anita Bradley Pfeiffer, M.A., University of Arizona

Donald Zancanella, Ph.D., University of Missouri

Assistant Professors

Mary Jiron Belgarde, Ph.D., Stanford University

Rebecca Benjamin, Ph.D., University of California

Greg Cajete, Ph.D., International College, William Lyon University

Federico Carrillo, Ph.D., University of New Mexico

Luisa Duran, Ph.D., University of New Mexico

Kathryn G. Herr, Ph.D., Ohio State University

Rosalita D. Mitchell, Ph.D., University of New Mexico

Elizabeth Noll, Ph.D., University of Arizona

Lynnette K. Oshima, Ed.D., Indiana University

Elizabeth R. Saavedra, Ph.D., University of Arizona

Dan P. Young, Ph.D., University of Washington

Faculty from disciplines, professional programs, and specialty areas across all divisions 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

Including Post Baccalaureate Initial Teacher Preparation

Undergraduate Advisor Contact and Student Information Contact

College of Education Advisement Center
Hokona Hall, room 134, 277-3190, fax 277-4166

Information on program requirements, advisement, and application materials are available from the College Advisement Center in Hokona Hall or the Division of Teacher Education Office in Hokona Hall, Room 123.

Major and Degree

Elementary Education (K-8th grade): B.S. Ed.

The program strives to prepare the very best beginning 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 set by the State of New Mexico which include:

1. Demonstration of Professionalism
2. Demonstration of Communication Skills
3. Facilitation of Cognitive Development
4. Facilitation of Social and Emotional Development
5. Facilitation of Physical Development
6. Conduct of Assessments
7. Lesson Planning
8. Implementation of Lesson Plans
9. Management and Organization
10. Integration of Multiculturalism Into All Aspects of Teaching
11. Work with Families and Communities

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 application 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 Teacher Preparation Licensure. 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.

Programs of study for Elementary Education Major and licensure must include:

General Education	57 hours
Communication Arts	12
Engl 101	3
Engl 102	3
Ling 101	3
C & J 270	3

Mathematics	9
Math 111	3
Math 112	3
Math 215	3

Science	12
NS 261	4
NS 262	4
NS 263	4

History	12
Hist 101 or 102	3
Hist 161 or 162	3
Hist 260 or 380	3
Elective	3

Social Science	6
Select from Soc, Psych, Pol Sc, Anth, Econ, or Geog	

Fine Arts	6
Art Hi 101 or 151	3
Mus Ed 293 or 298	3

Pre-Professional Education 9

Educ 313	6
-or-	
PsyFdn 303 & 310	6
CIMTE 365	3

NOTE: The College is revising Pre-Professional Education to meet state articulation agreements between two year and four year institutions in New Mexico.

Teaching Field Endorsement (Minor) 24-36

See information on teaching field endorsements in this section and in preceding parts of the College section in this catalog. Teaching field endorsements include: Bilingual Education, Fine Arts, Language Arts, Mathematics, Science, Social Studies, and Teaching English to Speakers of Other Languages (TESOL/ESL). Information on these endorsements is 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 twenty-four (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 32

CIMTE 321	3
CIMTE 331	3
CIMTE 333	3
CIMTE 353	3
CIMTE 361	3
CIMTE 400	12
CIMTE 443	3
Spc Ed 493	2

NOTE: Professional Education courses may be integrated with a specific student teaching assignment in order to provide the breadth and depth of practice required to meet the demands of a changing profession. It is essential to plan a program of studies initially with the College Advisement Center at Hokona Hall, and then with a faculty advisor as early as possible. (See preceding parts on Academic Advisement, Application and Admissions, and Programs of Study for Teacher Preparation in the College section of this catalog.)

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 in general education: 6 hours of English (including Engl 102 or equivalent), 6 hours of Mathematics, and 3 hours of Psychology (220 or 260). Also, prior to application, applicants must have completed in pre-professional education: 3 hours in PsyFdn, or 6 hours in Educ/PsyFdn and Spc Ed 201 and 204 with grades of B or higher. 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).

Students enrolled in professional courses and student teaching are assigned grades of CR (credit is awarded) or NC (no credit is awarded). The hours for these courses are not computed in the grade-point average (GPA). Students should, therefore, exercise caution in selecting pass/fail (CR/NCR) grading options in nonprofessional aspects of the undergraduate program. Currently a fee of \$10.00 is charged for each enrollment in student teaching. This is to help cover the cost of materials and supplies during the student teaching semester(s).

Endorsements

Bilingual Education (see Bilingual/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 (8) 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 an endorsement 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 an endorsement 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 in the mathematics, science, and technology specialty area contact: Julie McConnell, Hokona Hall, room 103, 277-1499

For program information and application materials in the teacher education specialty area (at this time including professional teaching development, such as in school partnership resident programs), contact: Suzanne Lewis, Hokona Hall, room 128, 277-3849

For program information in language, literacy, and multicultural education (including bilingual education, TESOL/ESL, and language arts and reading), contact: Paula Pascetti, Hokona Hall, room 140, 277-0437

Application Deadlines

Summer Session and Fall Semester	March 31
Spring Semester	October 10

Degrees Offered

M.A. in Elementary Education

Ed.D.: Multicultural Teacher and Childhood Education concentration

Ph.D. in Education: Multicultural Teacher and Childhood Education concentration

Certificate: Education Specialist (Ed.S.), Curriculum and Instruction

Professional Prerequisites for Graduate Study

In most instances, applicants for the M.A. must have received an elementary teaching license from some state either at time of entrance, or as part of graduate study, or as part of the advanced degree completion requirements. Students applying for the master's degree who hold a bachelor's degree with no education background should consult with the Director of Teacher Education about licensure and a master's degree. Only a six-hour overlap between licensure and graduate degree study is permitted. In cases where licensure is clearly not a professional goal of the student, the student should submit a letter of intent as part of the application, so stating. The program faculty will then make recommendations on admissions and an approved program of study. In addition to licensure, applicants for the doctorate should have completed at least three years of successful teaching in the elementary grades. Again, exceptions to these guidelines for licensure and experience should be detailed in a letter of intent.

Any student who wishes to work toward teacher preparation licensure must complete the application process for admission and be formally admitted by the program faculty far in advance of the projected time to begin professional education. See sections on initial teacher licensure for undergraduate and post-baccalaureate students in preceding parts of the College section in this catalog.

M.A. in Elementary Education

All M.A. 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 faculty advisor approval. Courses taken without such approval may not be accepted toward completion of the M.A. degree.

The master's degree is offered under Plan I (with thesis) and Plan II (without thesis). In addition to general elementary education, emphases in bilingual education, computer education, early childhood education, mathematics education, multicultural education, reading, and TESOL/ESL can be planned. Contact the division office in the specialty area listed above for specific requirements.

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 six hours credit).
3. PsyFdn 501 or other approved research course (excluding Educ 500).
4. One curriculum course: CIMTE 507, CIMTE 511, CIMTE 542, CIMTE 574, or Bil Ed 582.
5. At least six hours of 500-level courses in the major and minor fields combined (exclusive of thesis.)
6. A minimum of seven hours in a minor content field.
7. Not more than five hours of workshop credit.
8. Oral final 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 three-hour problems course (CIMTE 591).
3. Educ 500 or PsyFdn 501.
4. One curriculum course: CIMTE 507, CIMTE 511, CIMTE 542, CIMTE 574, or Bil Ed 582.
5. CIMTE 583.
6. CIMTE 590.
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 eight hours of workshop credit.
10. Written comprehensive examination.

Multicultural Teacher and Childhood Education Doctoral Concentration

The Ed.D. or the Ph.D. in Education are offered in the Multicultural Teacher and Childhood Education concentration. The faculty are all associated with teacher education and are organized around specialty areas of study. These are listed at the beginning of this section on Graduate Study by Division contact office, where specific information and application materials may be obtained. Persons interested in application for admission should contact the office that corresponds to areas of interest. All materials required for application must be submitted before an applicant will be considered for admission. Other sections of the catalog provide information about doctoral study at the University and in the College.

The concentration provides for the study of teaching and curriculum and instruction in the multicultural settings of the Southwest United States. Both the Ed.D. and the Ph.D. require a core of Foundational Studies: Curriculum Theory; Pedagogy in Teacher Education; Technology and Education; and Multicultural Education. Both the Ed.D. and the Ph.D. provide a variety of experiences through supportive fields of study, practice and internships in multicultural classroom settings, and intensive study of teaching.

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 division office for information about admission requirements, processes, and program requirements.

Exercise Science

The University of New Mexico
Division of Physical Performance and Development
Exercise Science, Johnson Center 1155
Albuquerque, NM 87131-1231
(505) 277-8173

See Professional Physical Education in this alphabetical listing of areas of study in the college.

FAMILY STUDIES

Victor Delclos, Division Director
The University of New Mexico
Division of Individual Family and Community
Education
Family Studies, Simpson Hall
Albuquerque, NM 87131-1231
(505) 277-4535

Professors

Virginia Shipman, Ph.D., University of Pittsburgh
Mary M. Smith, Ph.D., Colorado State University
Pauline Turner, Ph.D., University of Texas

Associate Professor

Richard M. Smith, Ed.D., Oklahoma State University

Assistant Professors

Sandra Bailey, Ph.D., Oregon State University
Katia Goldfarb, Ph.D., Michigan State University
Estella Martinez, Ph.D., Michigan State University
Pamela Olson, Ph.D., Oregon State University

Family Studies offers initial and advanced programs that enhance individual and family strengths following interdisciplinary and ecological approaches. Programs emphasize individual development, interpersonal relationships, and family functioning through the components of education, research, and service. The programs are designed to prepare students for a variety of career options where work is directed toward education, prevention, intervention, and research with individuals and families. Family Studies offers courses that may be of interest to students for careers in other fields in the College and the University. For example, course work in human growth and development, parent child interactions, family relations, and family resource management may be helpful to a wide variety of teachers, administrators, and human service professionals. Both undergraduate and graduate minors are available to students with majors in other programs within the University.

Undergraduate Program

Undergraduate Advisor Contact and Student Information Contact

Pamela Olson, Simpson Hall, 277-5550

For program information and application for admissions contact the Family Studies Program, Simpson Hall, 277-4535

Majors and Degrees

Family Studies, Child Development and Family Relations,
B.S. F.S.
Family Studies, General Family Studies, Human Services
B.S.

Minors

Child Development and Family Relations
 General Family Studies
 Human Services

Contact the Family Studies Program, Simpson Hall, for more information about specific requirements.

Curriculum for Family Studies Major in Child Development and Family Relations Specialty Area

1. Core (15)			
FS 281	Intro to Fam Studies		3
FS 213	Marriage & Family Relationships		3
FS 312	Parent/Child Interactions		3
FS 343	Family Management Theories		3
FS 481	Families and Public Policy		3

2. Required Courses (21)			
(A minimum of 9 units in the Family Relations area to include:)			
FS 313	Contemp Family Lifestyles		3
FS 494	Practicum or 495 Field Experience		3

A minimum of 12 units from the following (or an approved future course).

FS 202	Infant Growth & Development		3
FS 304	Growth/Devel Mid Child		3
FS 310	Friends and Intimate Relations		3
FS 315	Adolescent Dev in Family		3
FS 403	Growth/Develop Preschl Child		3
FS 415	Aging & Family		3
FS 484	Ethnic Minority Families		3

3. Choose a minimum of 9 units from the following:			
(or an approved future course)			
FS 244	Consumer Decisions		3
FS 341	Ecol Aspects of Housing		3
FS 342	Computer Appl in the Home		3
FS 409	Org/Mgt Early Childhd Prog		3
FS 411	Marr & Family Life Education		3
FS 443	Appl of Family Mgt Theories		3
FS 444	Family Finance		3

4. General Education (42)			
(In addition, the student must complete 42 hours for the general education requirements. Consult the program for specific courses.)			

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

6. Unrestricted Electives (11)	
Total	128

Curriculum for Family Studies Minor in Child Development and Family Relations Specialty Area

A minor in CDFR consists of 21 hours. FS 213 and FS 312 are required. An additional 15 hours, with at least 9 hours numbered above 300, are to be selected with a program advisor. Grades of C or better are required in all FS courses used to meet minor requirements. This minor has only been approved for College of Education students.

Curriculum for Students Preparing for General Family Studies

The curriculum for a major in General Family Studies requires 27 hours of Family Studies courses in addition to the 15-hour core. A student may select either a 54-hour concentration or a minor. Students wishing to be admitted into this concentration must have a 2.50 GPA and have successfully completed FS 281 and 213 with grades of C or better. Students should seek advisement with faculty for program planning and selection of a minor.

This particular curriculum will allow students to prepare themselves as generalists in Family Studies. This academic background can lead to careers in social service agencies, business and cooperative extension.

Curriculum for Family Studies Major in General Family Studies Specialty Area

1. Core (15)			
FS 281	Intro to Fam Studies		3
FS 213	Marriage & Family Relationships		3
FS 312	Parent/Child Interactions		3
FS 343	Family Management Theories		3
FS 481	Families & Public Policy		3

2. Required Courses (27)			
a. Choose 6 credits from Child Development and Family Relations among the following or other approved course:			
FS 202	Infant Growth & Development		3
FS 304	Growth/Devel Mid Child		3
FS 310	Friends and Intimate Relations		3
FS 313	Contemp Family Lifestyles		3
FS 315	Adolescent Develop in Family		3
FS 403	Growth/Develop Preschl Child		3
FS 411	Marr & Family Life Education		3
FS 415	Aging & Family		3
FS 484	Ethnic Minority Families		3
b. Choose 9 credits from Family Resource Management to include:			
FS 443	Appl of Family Mgt Theories		3
-and- 6 credits from among the following or other approved courses:			
FS 244	Consumer Decisions		3
FS 341	Ecol Aspects of Housing		3
FS 342	Computer Appl in the Home		3
FS 444	Family Finance		3
c. Choose 12 credits from additional FS courses to include:			
FS 495	Field Experience		3

The student must have 40 hours above 300.

In addition, the student must complete 48 hours for the general education requirements. Consult the program for specific courses.

Suggested minors are: Anthropology, Economics, English, Communication and Journalism, Human Services, Management, Psychology, Sociology.

Curriculum for General Family Studies Minor

A minor in General Family Studies consists of a total of 21 hours; nine of which are required by all program majors. These comprise FS 213 (3), FS 312 (3), and FS 343 (3). A minimum of an additional twelve hours distributed among the following areas is required:

EDUCATION

1. Family Relations/Child Development (6-9):
For example: FS 202, 313, 403/407L
2. Family Resource Management (6-9):
For example: FS 244, 341, 443, 444

Nine hours must be numbered above 300. Grades of C or better are required in all FS courses used to meet minor requirements. This is a non-teaching minor. If the same course(s) are required in both the major and the minor, an equivalent number of approved hours shall be added to the total hour requirement.

Family Studies: Human Services

Human Services in Family Studies is an undergraduate program offered in the Division of Individual, Family and Community Education in the college of Education, to prepare students to work in the human services field. Two options are available: a 54 hour-major in Family Studies and a minor in the same field.

The programs are appropriate for students considering careers in the helping professions. Courses focus on the knowledge and skills necessary to work effectively as an entry-level professional with individuals, families and groups experiencing a broad range of personal, interpersonal and environmental difficulties.

Students interested in either the Human services major or minor must apply for admission. In addition to meeting regular UNM entrance requirements, individuals must:

1. Complete the application form provided by the College of Education.
2. Provide three letters of recommendation.
3. Have a 2.5 GPA and have successfully completed (C or better) FS 281 and FS 213 (majors only).
4. Be interviewed by a faculty member of the FS/HS program.

Curriculum for Students Preparing for the Human Services Major in Family Studies

1. Core (15 credits)

- FS 281 Intro to Family Studies
- FS 213 Marriage and Family Relationships
- FS 312 Parent/Child Interaction
- FS 343 Family Management Theories
- FS 481 Families and Public Policy

2. Required Courses (39 credits)

- a. Six credits from the Human development and Family Relations area: (6 credits)
 - FS 202 Infant Growth and Development
 - FS 304 Friends and Intimate Relations
 - FS 313 Contemporary Family Lifestyles
 - FS 315 Adolescent Development in the Family
 - FS 403 Growth /Development of Preschool Child
 - FS 411 Family Life Education
 - FS 415 Aging and Family
 - FS 484 Ethnic Minority Families or other approved course.
- b. Six credits from the Family Resource Management area (6 credits)
 - FS 244 Consumer Decisions
 - FS 341 Ecological Aspects of Housing
 - FS 342 Computer Application in the Home
 - FS 443 Application of Family Management
 - FS 444 Family Finance or other approved course.
- c. The student must complete the following courses in the Human Services area: (13 credits)
 - FS 252 Principles of Interviewing
 - FS 352 Contemporary Issues in Family Studies

- FS 355 Experiential Groups
- FS 359 Human Services Methods

- d. Field Experience (8 credits)
 - FS 395 Field Experience I
 - FS 495 Field Experience II

3. Required General Education (45 credits)

- Biol 136, or Biol 123/123L
- Engl 101
- Engl 102
- Psych 105
- Soc 101
- Econ 105, or 106, or 204
- Math 145
- Multicultural elective
- Psych 230
- Psych 332
- Soc 200
- Nutr 120, or approved H ED course

Plus nine hours from fields other than the social sciences, such as fine arts, history, or language.

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 281, 252, 352, 355, 359, 395, and 495.

Graduate Program

Graduate Advisor

All students are assigned an initial advisor. Later, students may select a new advisor in collaboration with faculty.

Student Information Contact

Sheri Lesanssee or Trish Stevens, Simpson Hall, 277-4535. Contact this office for application materials and information about the application process.

Application Deadlines

Masters and doctoral applicants in Family Studies

- | | |
|------------------|------------|
| Fall semester: | March 15 |
| Spring semester: | October 15 |
| Summer session: | March 15 |

Degrees Offered

M.A. in Family Studies

Ph.D. in Education: Family Studies concentration

Graduate programs are designed to prepare students for a variety of career options including early interventionist, family specialist, and others concerned with facilitating families as educators and learners. Job opportunities can be found in schools, universities, community agencies, business and industry, and many other settings where work is directed toward education, prevention, intervention, 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 concentration in Family Studies. All Masters students must fulfill the general admission requirements and the Plan I or Plan II requirements set forth earlier in this Catalog. Masters 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 in the past five years. The Masters in Family Studies may be pursued in one of the two following specialties: human development and

family relations; or family studies composite. Contact the graduate unit office for more information about specific requirements for all programs.

Master's Degree and Degree Specialties*

All masters 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 in this catalogue and in the sections on graduate studies at the University of New Mexico. The Masters in Family Studies may be pursued in one of the two following specialties: human development and family relations; or family studies composite. Contact the office listed for more specific information.

The Masters in Family Studies offers flexibility in developing a program of studies of interest to the student with specialization in human development and family relations or a family studies composite. Applicants are expected to have completed 18 hours of behavioral science courses (e.g., psychology, family studies, sociology, anthropology) 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 on ratings of several factors including scholarship, academic background (especially in the behavioral sciences), work experience, letters of recommendation, a personal statement, and multicultural. Prospective students must first apply for admission to the Office of Graduate Studies.

* The requirements for the M.A. in Family Studies consist of 42 semester hours.

Family Studies (Ph.D.)

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 the family. The current interdisciplinary perspective assumes that family dynamics can best be understood within the contexts in which they occur.

With the exception of a 12-hour doctoral core, students with their Committee on Studies plan an individualized program 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 ethical, legal and policy issues in family studies plus an internship), students will be expected to have had graduate courses or their equivalents in human growth and development, family interaction, managing family resources, multicultural issues in working with families and children and introducing statistics. In addition, students must have a 24-hour minor and complete 15 hours to meet the inquiry skills requirement.

Acceptance into the Doctoral Program is based on rating of several factors including scholarship, academic background, work experience, letters of recommendation and a sample of written work, and performance on the Graduate Record Examination within the past five years.

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 Child Development and Family Relations (CDFR) students; may be elected by 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. [H S 102.] Principles of Interviewing. (3)
Provides basic knowledge of the interviewing process with emphasis on developing interviewing skills. Developing an awareness of ways in which the student's background, and behavior influence the interview. Videotaped class interviews will provide material for discussion and critique.

281. [181.] Introduction to Family Studies. (3)
An introduction to the profession of Family Studies including content areas, community agencies and career opportunities. (Fall)

293. Topics. (1-3) Δ

304. Growth and Development in Middle Childhood. (3)
Principles of growth and development for 6-11-year-olds in language, cognitive, physical, motor, and social, and emotional areas. Influences on development included. Prerequisite: 3 hrs. in child development in FS or Psych 105 or PsyFdn 303. (Spring)

310. Friends & Intimate Relationships. (3)
Survey of the research concerning friends and intimate relationships. The focus of the course will be the dynamic characteristics of friendship and other intimate relationships. (Fall, Spring)

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 Fdn 303.

313. Contemporary Family Lifestyles. (3)
Analysis of current lifestyles of families including single parent, remarried, same sex, cohabitants. Prerequisite: FS 213 for majors; Psych 105 or Soc 101 for others.

315. Adolescent Development in the Family. (3)
Development and communication patterns of adolescents within the family setting. Prerequisite: 3 hrs. in child development FS or Psych 105 or Ed Fdn 303.

341. Ecological Aspects of Housing. (3)
Variations in housing structures and the impact of housing on family functioning.

342. Computer Applications in the Home. (3)
A survey of computer applications for family use to include managerial and educational activities; impact of current technology on family relationships and attitudes concerning computer usage. Prerequisite: Educ 124.

343. Family Management Theories. (3)
Comparison of current theories of family management. Prerequisite: FS 213 for majors; Soc 101 or permission of instructor for others.

352. [H S 302.] 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. Prerequisites: H S 109, or equivalent.

355. [H S 305.] 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. [H S 309.] Human Service Methods: Theory and Practice. (3)

Introduces student to concepts and applications of multi-dimensional assessments and problem-solving models of intervention used with diverse populations.
Prerequisite: 252.

391. Problems. (1-3)

395. Field Experience I. (1-6)

Practical experience in agency or institutional setting. Students apply and integrate knowledge and skills for working effectively with or on behalf of individuals and/or families.
Prerequisite: major in program or minor in FSHS, upper division standing, and permission of instructor.

***403. Growth and Development of the Preschool Child. (2)**

Developmental principles and recent research on language, cognitive, physical-motor and social-emotional development of the preschool child.
Prerequisites: 202 or permission of instructor; junior standing; corequisite: 407L. **Offered on a CR/NC basis only.**

***407L. Preschool Child Laboratory. (1-2)**

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.

***409. Organization and Management of Early Childhood Programs. (3)**

Prerequisite: 403 or the equivalent.

***411. Marriage and Family Life Education. (3)**

Philosophies and processes of family life education programs (FLE).
Prerequisite: 3 hrs. in FS or human development. {Fall, Spring}

***415. Aging and the Family. (3)**

Course examines 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. {Fall}

443. Application of Family Management Theories. (3)

Working with adult family members to identify and help meet family demands with an emphasis on family resource use.
Prerequisite: 343.

***444. Family Finance. (3)**

Financial decisions of the family 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)**

Surveys 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. {Fall, Spring}

492. Workshop in Family Studies. (1-3) Δ

Various topics related to Family Studies will be offered with accompanying "hands on" experience.

493. Topics. (1-3) Δ

***494. Practicum. (3-6)**

Designed to give the student practical experience on campus working

Prerequisites: major in program, upper division standing, and permission of instructor. {Fall, Spring, Summer}

495. Field Experience II. (1-6)

Continuation of 395 with increased responsibilities/expectations for student.

Prerequisites: major in program or minor in FSHS, upper division standing, and 395 or permission of instructor.

501. Parent Education. (3)

Focuses 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.

503. Seminar in Human Growth and Development. (3)

Theories and research relevant to human growth and development across the life span are discussed, including implications for education, child rearing, and counseling. {Fall, Spring}

506. Young Child at Home and School. (3)

Recent research on influences of home and school variables and their interaction on child development are discussed from family systems and ecological perspectives.
Prerequisite: a course in child development or developmental psychology.

512. Working with Children and Families. [Working with Parents and Children.] (3)

Discussion focuses on similarities and differences in working with families depending upon differences in client, practitioner, problem and setting characteristics.
Prerequisite: permission of instructor. {Summer}

513. Seminar-Current Issues in Family Studies. (3)

Prerequisite: A course in Family Studies.

517. Family Interaction. (3)

Review of salient theories and dynamics involved in understanding interaction patterns within contemporary families. The ability to analyze relationships will be emphasized.
Prerequisite: permission of instructor. {Fall}

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. {Spring}

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 ecosystematic 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 will be studied with respect to both their theoretical approach to the subject and their techniques.
Prerequisites: 517, and a course in the study of the family, Couns 517, 520, 530.

570. Family Studies Research. (3)

Research design and methods used in research with families. Includes individual projects.

Prerequisite: required of FS graduate majors.

591. Problems. (1-3 hrs. each semester)**592. Workshop. (1-4) Δ**

Directed toward a particular aspect of family studies. Different sections indicate different content. (Summer)

593. 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.

595. Advanced Field Experiences. (3-6)

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. (Summer, Fall, Spring)

598. Directed Readings in Family Studies. (3-6, to a maximum of 6)

Independent readings to be arranged with individual faculty. (Summer, Fall, Spring)

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

See Graduate Programs for total credit requirements.

Offered on a CR/NC basis only. (Summer, Fall, Spring)

670. Advanced Seminar in Theory and Research in Family Studies I. [Advanced Seminar in Theory and Research in Family Studies.] (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: Masters level core courses; admission to FS doctoral program. (Alternate Falls)

671. Advanced Seminar in Theory and Research in Family Studies II. [Advanced Seminar in Theory and Research in Family Studies.] (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. (Alternate Springs)

681. 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: Masters level course work or admission to the doctoral program in FS. (Every other year, check with program)

696. Internship. (3-6, to a maximum of 12)

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. (Summer, Fall, Spring)

699. Doctoral Dissertation. (3-12 hrs. per semester)

Offered on a CR/NC basis only.

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

Victor Delclos, Division Director

The University of New Mexico

Division of Individual, Family and Community Education

Health Education, Educational Office Building 110

Albuquerque, NM 87131-1231

(505) 277-0337

Professors

Elias Duryea, Ph.D., University of Nebraska

William Kane, Ph.D., University of Oregon

Associate Professor

Michael J. Hammes, Ph.D., University of Utah

Assistant Professors

Magdalena Avila, Dr.P.H., University of California (Berkeley)

Liza Nagel, Ph.D., Washington State University

Adjunct Faculty

William Carlyon, Ph.D., Southern Illinois

Terrence Jones, Ph.D., University of New Mexico

Elaime Stone, Ph.D., University of New Mexico

Tim Taylor, Dr.P.H., University of Oklahoma

Undergraduate Program**Undergraduate Advisor Contact**

Mike Hammes, Education Office 108, 277-8176

Student Information Contact and Application for Admissions

Angie Rudy, Education Office 110, 277-0337

Major and Degree

Health Education: Bachelor of Science in Health Education (B.S.H.E.)

Minor

School Health Education

Two tracks are available to students majoring in Health Education; both lead to a Bachelor of Science in Health Education. Track One is School Health Education, which leads to eligibility to apply for teacher licensure and prepares the student to teach health in elementary, middle, and secondary schools. Track Two, Community Health Education, is a non-teaching track, which provides students with a broad-based introduction to community and public health and prepares them for professional service in community health agencies, clinical settings, and the work place. The Community Health emphasis also prepares students for graduate studies in Community Health Education at UNM 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 track.

Note: Student's course work must include at least 40 hours of upper division (300-level and above) credits.

School Health Education - Track 1

State Board of Education licensure regulations are subject to periodic change. Please contact the College Advancement 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). At this time, the National Teachers Examination (NTE) is part of the application.

First Year

H Ed 164L	Standard First Aid/Lab	3
H Ed 171	Personal Health Mgt	3
Engl 101	Comp I: Exposition	3
Approved Psychology course		3
Math 145	Intro to Statistics	3
Science Elective		4
Engl 102	Comp II: Anlys & Arg	3
Hist 101 -or- 161		3
Hist 102 -or- 162		3
Fine Arts Electives		6
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Second Year

H Ed 260	Fds of Health Prom	3
Biol 136	Hum Anat & Phys N-Maj	3
Nutr 225	Human Nutrition	3
Approved Science Course		4
Approved Sociology Course		3
Approved English course		6
Math Elective		3
H Ed 212	Fund Human Sexuality	3
H Ed 247	Consumer Health	1
H Ed 209	Ed for Aids Prevent	1
Elective		3
History Elective		3
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Third Year

PsyFdn 303	Human Growth and Development	3
H Ed 345	Prof Applications H Ed	3
H Ed 333	Emotional Health/Interpersonal Rel	3
OLIT 421	Prod & Util Instr Mtls	3
PsyFdn 310	Learn and Classroom	3
H Ed 306	Conflict Mediation	1
H Ed 310	Injury Prevention	1
H Ed 321	Violence Prevention	1
H Ed 362	Theory & Skills Add Dev	2
H Ed 482	Multicultural	3
H Ed Elective		5
Hist Elective		3
Science Elective		3
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Fourth Year

H Ed 445	Strats for Prev of Substance	1
H Ed 451	Teach Strat & Cur Dev H Ed	2
H Ed 471	Intro to Community Health	3
H Ed 479	Comprehensive Sch Hlth Ed	1
H Ed 481	Pre-student Teaching	2
H Ed 489	Student Teaching in Sec Sch	8
H Ed Electives		3
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Community Health Education - Track 2

First Year

H Ed 164L	Standard First Aid/Lab	3
H Ed 171	Personal Health Mgt	3
Nutr 244	Human Nutrition	3
Biol 121L	Principles of Biol/Lab	4
Biol 122L	Principles of Biol/Lab	4
Chem 111L	Elem Gen Chem/Lab	4
Engl 219 T	Technical Writing	1
-or- Engl 220 Expository Writing		3
Psych 105	General Psychology	3
Soc 101	Intro Sociology or Appr Alternate	3
Electives		3
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Second Year

H Ed 260	Fds of Health Prom	3
H Ed 247	Consumer Health	1
Approv Cult Anth or Cult Geog		3
Biol 136	Hum Anat & Phys N-Maj	3
Biol 221 Intro Genetics		3

-or- 239L Microbio/Hlth Sci	3-4	
Approv Intro to Statistics	3	
Econ 335	Health Economics	3
-or- Soc 321 Soc of Medical Pract		3
Approved C & J Course		3
PsyFdn 303	Human Growth and Dev	3
Electives		6-7
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		33

Third Year

H Ed 345	Prof Applications H E	3
H Ed 471	Intro to Comm Hlth	3
Approv C & J (Upper Division)		3
Psych 210	Educational Psych	3
Psych 230	Adjust & Interpersonal Rela	3
-or- Psych 260 Psych Learnng & Memory		3
Approved Psych Elective		3
Computer Course - General Ed		3
OLIT 421	Prod & Util Instr Mtls	3
Approved H Ed Electives		6
Electives		3
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Fourth Year

H Ed 451	Tchnng Strats & Curr for Hlth	2
H Ed 495	Field Experience	6
Multicultural Elective		3
Approv H Ed Electives		9
Electives		9
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General Education for Community Health Education Majors

Students must develop a written plan of study for general education in consultation with a Health Education faculty advisor. The plan will consist of a minimum of 48 hours, including courses and electives designated by the (-) on the student's major program advisement sheet.

Students whose career objectives suggest choices other than those listed above should contact the department about the possibility of exception.

Minor Study Requirements

A minor in School Health Education consists of 26 of the following credit hours and must be approved with a faculty advisor in the School Health Education program.

The acceptable science, sociology, and psychology electives are:

Science	
Biol 121L	Principles of Biology
Biol 123L	Biology for Health Related Sciences
Biol 200L	Principles of Ecology
Biol 221	Introductory Genetics
Chem 111L	Elements of General Chemistry
Chem 121L	General Chemistry
Sociology	
Soc 101	Introduction to Sociology
Soc 211	Social Problems
Soc 213	Deviant Behavior
Soc 305	Man, Nature and Society
Psychology	
Psych 105	General Psychology
Psych 220	Child Psychology
Psych 271	Social Psychology

Students whose career objectives suggest choices other than those listed above, should contact the department about the possibility of exceptions.

Minor Study Requirements

A minor in school health consists of 24 of the following credit-hours and must be approved with a faculty advisor in the school health education program.

The School Health Education Minor is as follows:

H Ed 164L	Standard First Aid	3
H Ed 171	Personal Health Mgt	3
H Ed 260	Fds Health Prom	3
H Ed 212	Fund Human Sexuality	3
H Ed 333	Emotional Health/Interpersonal Relations	3
H Ed 345	Prof Applications H Ed	3
H Ed 362	Theory and Skills Dev of Adol	2
H Ed 445	Str Pre of Subs Use	1
H Ed 451	Teach Str & Cur Dev H E	2
H Ed 482	Health Promotion in Multicultural Setting	3

Graduate Programs

Graduate Advisor
William Kane

Student Information Contact
Angie Rudy, Education Office Building 110, 277-0337.

Contact this office for Student Information and Application Materials for Graduate Study.

Review of Applications Begins
Fall semester: May 1
Spring semester: November 1
Summer session: April 1

Early application is recommended. These dates also apply for financial aid.

Degrees Offered

M.S. in Health Education
Ph.D. in Education: Health, Physical Education and Recreation concentration
Certificate: Education Specialist (Ed.S.) Health Education

Students without prior preparation in health education may be accepted into a graduate program on the condition that they fulfill certain prerequisites.

The graduate student has several options at the post-baccalaureate level, including the Master of Science in Health Education 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 catalogue and other sections pertaining to graduate study. The specific options include:

School Health Education. This option 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 option 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 option includes a core of courses. The support courses are selected to meet the career goals and needs of each individual student.

School and Community Health Education. This option is a combination program of concentration in both community and school health education. Students choosing the combination program will need to fulfill course requirements of both the community and school health master's program, which will require taking additional hours above the minimum 36 required for the community or school health option.

Health Promotion. This option is designed to prepare graduate students as health promotion specialists combining coursework in the areas of Health Education, Nutrition, Communication and related areas. Students taking this option are prepared for career opportunities in various public health and private settings where they design, implement and evaluate health promotion campaigns.

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.

Doctor of Philosophy in Education (Ph.D.): Health, Physical Education, and Recreation Concentration
Doctor of Education (Ed.D.): Health, Physical Education, and Recreation Concentration

The graduate student in Health Education also has flexibility at the doctoral level for a Doctor of Philosophy in Education or Doctor of Education degree. The program is designed to prepare graduates for positions of leadership in research, teaching and practice: in colleges and universities; in communities; hospital settings; and private and government agencies. An interdisciplinary approach drawing upon a wide range of courses in related programs and colleges is used to meet each candidates special research directions and academic interests, and practical applications in school health education, community health education and health promotion. An individualized plan of study is developed for each student in conference with the major advisor and a committee on studies. For university requirements for doctoral programs, refer to appropriate sections in this Catalog. In addition, doctoral programs in health education follow common program procedures. Details for all graduate programs are available from the Health Education program faculty.

Health Education (H Ed)

164L. Standard First Aid. (1-3)
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.

EDUCATION

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.

292. Workshop. (1-6) [1-4]**293. Topics. (1-3)****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)

Primary focus is on a frame work that enables an individual to manage the stresses of life and make them beneficial. Students will also discuss how the frame work provides direction for their life, provides goals and assists in minimizing and preventing conflict. In addition, students will apply the frame work to developing and maintaining healthy interpersonal relationships.

Prerequisites: 171, 260, ETSCS 290, 303, 310 or permission of instructor.

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: Health 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. Problems. (1-3)

Prerequisite: permission of health education faculty member.

445. Strategies for Prevention of Substance Use. (1)

Examines basic principles for the development of effective strategies for substance use prevention programs for youth. Evidence of principles used in successful programs from research literature will be provided.

451. Teaching Strategies & 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. 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.

479. Comprehensive School Health. (1)

Students will learn the components of comprehensive school health education programs, and understand the process for the development of a comprehensive school health program.

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.

482. 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. 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)**492. Workshop. (1-4)**

Carries graduate credit when specifically approved by the Office of Graduate Studies. For degree restrictions see the section in Education entitled "Requirements for Graduation" of this catalog or consult the *Graduate Programs* section of this catalog.

493. Topics. (1-3)**495. Field Experience. (3-6, to a maximum of 12)**

Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Prerequisites: permission of field experience supervisor, 345. Limited to health education majors.

497. Readings and Research in Honors. (3-6)

Prerequisite: see College of Education departmental honors section.

501. Contemporary Health Issues. (3)**506. Health Behavior. (3)****507. Research Design in HPER. (3)**

(Also offered as P E-P, Recrea, 507.) Prerequisite: PsyFdn 501, senior standing.

509. Public Relations for Health, Physical Education, Recreation and Sports Administration. (3)
(Also offered as P E-P, Recrea 509.) Introduction to principles of public relations and publicity for use 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. Strategies for Prevention of Substance Abuse. (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. Teaching Strategies & 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)
Multi-dimensional 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)

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. 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.

579. Comprehensive School Health. (1)
Students will learn the components of comprehensive school health education programs, and understand the process for the development of a comprehensive school health program.

582. Health Promotion in Multicultural Settings. (3)

591. Problems. (1-3, to a maximum of 6)
Prerequisite: permission of Health Education faculty member.

592. Workshop. (1-4)

593. 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 hrs. per semester)
Offered on a CR/NC basis only.

604. Research Seminar. (1)
(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.

698. Directed Readings in Health Education. (3-6, to a maximum of 12)
Prerequisite: permission of instructor.

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

Language Arts/Communication Arts

The teacher education faculty with interests in language and literacy education are identified in this section in the programs of Bilingual/TESOL Education, Elementary Education, and Secondary Education. Teaching field endorsements and degree offerings are described in those programs. These faculty are part of the multi programmatic Division of Language, Literacy, and Sociocultural Studies.

Mathematics and Science Education

The teacher education faculty with interests in mathematics and science education, including environmental and technology education interests, are identified in this section in the programs of Elementary Education, Recreation, and Secondary Education. Teaching field endorsements, emphases, and degree offerings are described in those programs. These faculty are part of the multi programmatic Division of Educational Specialties.

NUTRITION/DIETETICS

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The University of New Mexico
Division of Individual, Family, and Community Education
Nutrition/Dietetics - Education Office Bldg., 2-East
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Associate Professors
Karen Heller, Ph.D., Colorado State University
Kathleen M. Koehler, Ph.D., University of Illinois
(Champaign/Urbana)
Wendy M. Sandoval, Ph.D., Oklahoma State University

Lecturer
Joy Vanderhoof, M.S., Lecturer II, University of New Mexico

Undergraduate Program

Undergraduate Advisor Contact and Student Information Contact
Karen Heller, 277-8183

For student program information and application for admissions:
Contact Program Office at Education Building, Room 215

Major and Degree

Nutrition/Dietetics: Bachelor of Science in Nutrition/Dietetics

Minor

Nutrition

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 approved by the American Dietetic Association (ADA) as meeting the 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 or an Approved Pre-Professional Practice Program, (AP4). This leads to eligibility to take the National Registration Exam.

The Dietetic Internship is currently granted developmental accreditation by the Commission on Accreditation/Approval for Dietetics Education of the American Dietetic Association. A total of 18 hours of graduate credit is earned by completing the supervised practice and didactic component of the internship. Contact the Nutrition program faculty for more information.

To be admitted to the Nutrition/Dietetics Program, students must have a minimum GPA of 2.75. For other admission requirements contact program faculty.

Nutrition-Dietetics

First Year

C & J 130	Public Speaking	3
Biol 123L	Hlth Rel Sci Lab	4
Chem 121L	General Chemistry/Lab	4
Math 121	College Algebra	3
Math 145	Intro to Statistics	3
Psych 105	Gen Psychology	3
Engr 101	Comp I: Exposition	3
Engr 102	Comp II: Anlys & Arg	3
Anth 130	Cultures of World	3
Elective		3
		32

Second Year

Nutr 211	Prof Dev Seminar	1
Nutr 244	Human Nutrition	3
Biol 237	Hum Anat/Physiol I	3
Biol 247L	Hum Anat/Physiol Lab I	1
Biol 238	Hum Anat/Physiol II	3
Biol 248L	Hum Anat/Physiol Lab II	1
Chem 122L	General Chemistry/Lab	4
Chem 212	Integ Org and Biochem	
-or- Chem 301-303L	Organic I	4
Econ 105	Intro to Macroeconomics	3
Engr 219	Technical Writing	3
C S 150L	Computers for Business Students	
-or- OLIT 483	Inst Appl: Computer Technology	3
Humanities Elective		3
		32

Third Year

Nutr 286L	Quant Food Production	3
Nutr 287	Food Service Management	4
Nutr 344	Energy Nutr in Human Nutr	3
Nutr 345	Vitamins & Min in Human Nutr	3
Nurs 239	Pathophysiology I	2
Nurs 240	Pathophysiology II	2
Biol 239L	Microbiol/Health Sci	4
PsyFdn 303	Human Grwth & Devel	
-or- Psych 220	Child Psychology	3
H Ed 471	Intro Comm Health	3
Humanities Elective		3
Electives		3
		33

Fourth Year

Nutr 320	Meth in Nutr Educ	3
Nutr 330L	Principles of Food Science	4
Nutr 406	Community Nutrition	3
Nutr 424	Nutrition Life Cycle	3
Nutr 428	Clinical Nutrition	3
Nutr 429L	Applied Clinical Nutrition Lab	1
Nutr 445	Applied Nutrition and Exercise	3
Biol 429	Molec Cell Biology I	4
P E-P 326L	Fund of Ex Physiology	3
Elective		4
		31

Minor Study in Nutrition

A minor in nutrition consists of Nutr 244, 344, 345, and 424 plus a minimum of nine hours selected from the following: Nutr 320, 330L, 406, 428, 429L, 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

Karen Heller

Student Information

Karen Heller, Education Office, Building 216

Review of Applications Begins

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

Early application is recommended. These dates also apply for financial aid.

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 have 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. 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, health promotion 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 424 Nutrition the Life Cycle
- Nutr 526 Nutrition Assessment
- Nutr 528 Advanced Clinical Nutrition

Required Nutrition electives selected from:

- Nutr 535 Seminar in Nutrition
- Nutr 591 Problem (1-6 credits)
- Nutr 595 Field Experience (3-6 credits)
- Nutr 593 Topics

Research Methods (6 hours required)

Required for Plan I and Plan II

- H Ed 507 Research Design in HPER
- PsyFdn 501 Fundamental Statistics in Education

Required for Plan I

- Nutr 599 Thesis
- PsyFdn 504 Mainframe Computer Software Use in Education
- or- PsyFdn 603 Statistical Design and Analysis in Education

Biological Sciences (3 hours required)

- Biol/Chem 423 Introductory Biochemistry
- Biol 430 Vertebrate Physiology
- Biol 439L Molecular Cell Biology Lab
- Biol 549 Molecular Cell Biology II
- Biol 520 Energy and Metabolism

Elective Courses (3 hours in Plan I; 12 hours in Plan II)

Selected after consultation with Nutrition program faculty.

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.) {Fall, Spring}

211. Professional Development Seminar. (1)

Description of career options and opportunities in nutrition/dietetics. Conceptual framework for knowledge and skills needed for professional practice. {Fall}

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 121L or 123L, or Chem 111L or 121L, or the equivalent. {Fall, Spring}

286L. [427L.] Quantity Food Production. [Large Quantity Food Production.] (3)

Standard methods of food production in quantity; food cost control; standardization of formulas, menu planning, and food service.

Prerequisites: 211, 244. Space restrictions limit enrollment to admitted Nutrition majors only or by permission of instructor. {Spring}

287. [321.] Food Service Management. (4)

Principles of organization and management applied to food service establishments. Prerequisites: 286L. {Fall}

292. Workshop. (1-4)

293. Topics. (1-3)

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. Prerequisite or corequisite: 344.

330L. Principles of Food Science. (4)

Scientific aspects of food properties, requiring some knowledge of nutrition and organic chemistry. Food processing and preparation in the context of chemical and physical; properties of food. Prerequisites: 211, 244, 286L, Chem 212 or 301. Corequisite: Biol 239L. 3 lectures, 3 hrs lab. Space restrictions limit enrollment to admitted Nutrition majors only or by permission of instructor. {Spring}

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. {Fall}

345. Vitamins and Minerals in Human Nutrition. (3)

Water and fat-soluble vitamins, macrominerals and trace minerals in human nutrition. Emphasis includes absorption, metabolism, nutrient interactions, food sources, deficiencies and dietary recommendations. Implications for health promotion and disease prevention. Prerequisites: 244, Chem 212 or equivalent. {Spring}

391. Problems. (1-3)

406. Community Nutrition. [Seminar, 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, 320, 344, and H Ed 471. Pre- and/or corequisite: 345. Space restrictions limit enrollment to admitted Nutrition majors only or by permission of instructor. {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, a course in anatomy and physiology, and junior standing or higher. {Fall}

428. Clinical Nutrition. (3)

The application of diets in the treatment of impaired digestive and metabolic conditions. Prerequisites: 244, 344; 345, and Chem 212. Corequisite: 429L. Space restrictions limit enrollment to admitted Nutrition majors only or by permission of instructor. {Spring}

429L. Applied Clinical Nutrition Laboratory. (1)

Application of principles of nutrition care using a case study approach. Calculation of nutrient composition of modified diets. Topics correlated with 428. Corequisite: 428. 2hrs. lab.

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: 344, Chem 212, and P E-P 326L, or permission of instructor. {Spring}

492. Workshop. (1-4)

Carries graduate credit when specifically approved by the

Office of Graduate Studies. For degree restriction, see college graduation requirements.

493. Topics. (1-3)

495. Field Experience. (3-6, 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 Clinical Nutrition. (3)
Application of nutritional sciences, energetics, physiology, biochemistry and metabolism to current topics in clinical nutrition. Evaluation of nutritional assessment of critically ill patients and modifications of diets to meet individual needs.
Prerequisite: 428, 429L, or permission of instructor. {Fall}

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. Course may be repeated for credit.
Prerequisite: admission to the Dietetic Internship program. {Fall, Spring}

591. Problems. (1-3)

592. Workshop. (1-4)

593. Topics. (1-3)

595. Advanced Field Experience. (3, to a maximum of 6)
Prerequisites: acceptance into a graduate program and permission of instructor.

599. Master's Thesis. (1-6 hrs. per semester.)
Offered on a CR/NC basis only.

ORGANIZATIONAL LEARNING AND INSTRUCTIONAL TECHNOLOGIES

Breda Bova, Division Director
The University of New Mexico
Division of Educational Leadership and Organizational Learning
Training and Learning Technologies
College of Education Office Building
Albuquerque, NM 87131-1231
(505) 277-4131

Professors

Peggy J. Blackwell, Ph.D., Texas Tech University
Frank R. Field, Ed.D., Ball State University

Associate Professors

Patricia Boverie, Ph.D., University of Texas (Austin)
William Bramble, Ph.D., University of Chicago
Jan Gamradt, Ph.D., University of Minnesota
Charlotte N. Gunawardena, Ph.D., University of Kansas
Hallie S. Preskill, Ph.D., University of Illinois (Champaign-Urbana)
Charles O. Taylor, Ed.D., Temple University

Assistant Professors

Jan L. Plass, Ph.D., Erfurt University
Mark Salisbury, Ph.D., University of Oregon

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 ten 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.

Curriculum for Technology and Training

General Education (48 hours)

1. Behavioral Science (6 hours)	
Psych 105	3
PsyFdn 310	3
2. Communicative Arts (9 hours)	
C & J Elective	3
Engl 102	3
Engl 219	3
3. Multicultural Studies (3 hours)	
Elective w/advisor approval	3
4. Fine Arts (6 hours)	
Comp Sci Elect	3
Art Elect	3
5. Humanities and Social Sci (9 hours)	
Econ 105 or 106	3
Soc 101	3
Elective	3
6. Mathematics	6
7. Natural Science	6
8. Arts & Sci Elective	3

Management/Communication Skills (21 hours)

1. Management (9 hours)	
Mgt 113	3
Mgt 222	3
Mgt 361	3
2. Communication and Journalism (12 hours)	
Select 12 hours from the following:	
C & J 321	3
C & J 325	3
C & J 327	3
C & J 425	3
C & J 441	3
C & J 442	3
C & J 453	3

Technical Core (39 hours)

1. Consult advisor for specific courses in training concentration	30
2. Technical support (9 hours)	
OLIT 481	3
OLIT 483	3
OLIT 495	3-6

Training Skills

OLIT 420	3
OLIT 421	3
OLIT 466	3
OLIT 470	3
OLIT 471	3
OLIT 472	3
OLIT 473	3
OLIT 493	3

Graduate Programs

Student contact information
Loretta Brown, Education Office Building, Room 101,
277-4131.

Application Deadlines

Fall semester:	June 15
Spring semester:	October 15
Summer session:	March 15

NOTE: Early application is recommended. These dates also apply for financial aid.

* Doctoral admissions are made for Fall Semester only. Application materials for the doctoral programs must be in the unit office and complete by March 15 for the annual admission process to be initiated.

Degrees Offered

- M.A.: Organizational Learning and Instructional Technologies
- Ed.D.: Organizational Learning and Instructional Technologies concentration
- Ph.D. in Education: Organizational Learning and Instructional Technologies concentration
- Certificate: Education Specialist, Training and Learning Technologies

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- Facilitate individual, group and organizational learning and change
- Understand and address the multicultural issues that affect the design, delivery and evaluation of instruction
- Think critically and be effective problem-solvers
- Model ethical practice



To ensure that these objectives are met, the content of the programs 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.

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Organizational Learning and Training

The fields of training and organization development are based on the concepts that an organization's greatest potential for growth and productivity is its people. Training and organization development as a field of study attracts people from diverse backgrounds: those who are working in the schools, who wish to move into staff development or who want to move from education into the corporate sector; persons with training and consulting experience, who are interested in expanding their skills; individuals with undergraduate training in education, business, communications, psychology, social work and the like, who want to specialize in training and organization development.

Courses provide both the structure and framework within which the student can increase or develop skills appropriate to a future role as a facilitator of learning in education, business, non-profit, government or military settings. Through multi-disciplinary courses, students acquire a common group of competencies that enhance individual expertise that, when applied, contributes to individual, team and organizational learning.

The program is also in a unique position to assist in responding to training and development demands created by evolving technologies. It maintains and is developing community linkages through internships and consultancies with both national laboratories, state and local government, two-year colleges, technical-vocational institutions, K-12 schools and private sector corporations. Los Alamos National Laboratory, Sandia National Laboratory, Intel, the Department of Energy-Central Training Academy, the Eight Northern Pueblos Indian Council, and the State Department of Education are but a few of the agencies with which the Program is working.

Multimedia Technologies

Learning how to use instructional technologies to design effective educational and training experiences and materials, and how to plan and implement the use of these technologies within educational and training settings, represent crucial challenges for educators and trainers. In order to meet the challenges posed by technology, and in order to implement programs which will have a direct impact on the learning process, students will be prepared to develop effective strategies for making these technologies integral elements in the educational process of schools, corporations and government agencies. As more and more organizations incorporate educational technologies into their training and development activities, the career opportunities for educators and trainers in this field will continue to expand. An exciting aspect of selecting multimedia technologies as a career choice is that individuals in this emphasis can be at the cutting edge of a fast-developing field.

The Multimedia Technologies courses focus on the development of applications based on communication and delivery technologies, as well as emphasizing the criteria for selecting appropriate media. Courses develop conceptual understanding and design skills for integrating instructional technologies, taking into account learner characteristics, distance delivery systems and current research.

Distance Education

Recent developments in telecommunications technologies have given a new impetus to distance education and training in many sectors: K-12 education, post-secondary education, government, continuing professional education and training in the corporate sector. Recent emphasis on the Information Superhighway and networked services have escalated the growth and use of distance education. The State of New Mexico and the Commission of Higher Education have recognized the role that distance education can play in the education and training needs of this rural and geographically isolated state.

In response to this statewide need, the University of New Mexico has affirmed the importance of distance education in the UNM 2000 plan in the statement that the "University will design and assess various learning environments, approaches and technologies that are most effective for individual cultures and for the specific educational needs of a wide variety of students." The Organizational Learning and Instructional Technologies Program in the College of Education in acknowledgment of this emerging need for personnel trained in distance education and training, has established an emphasis area called "Distance Education" in its graduate program to train students in the design, delivery, management and evaluation of distance education. Research and development of distance learning environments are an integral component of this graduate program.

Admission

To enter a certificate program or degree program at the masters or doctoral level in the program, 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, the College, and/or the University Graduate Studies Office. Both the Ed.D. and Ph.D. degrees are offered at the doctoral level. 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.

Organizational Learning and Instructional Technologies (42 credits)

Core Requirements (All students are required to take the following courses):

OLIT 540	Intro Org Lrng & Inst Tech
OLIT 561	The Adult Learner
OLIT 501	Instructional Design & Development
OLIT 508	Program Evaluation
OLIT 546	Cross-Cultural Issues in Adult Learning
	-or- other approved cross-cultural course
Educ 500	Research Applications
	-or- approved course

OLIT 596 Internship (6 cr)
 -or- OLIT 599 Master's Thesis (6 cr)
 24 credits

Students will take additional courses in one of the following emphasis areas:

Organizational Learning and Training

Required courses: (12 credits)

- OLIT 521 Presentation Technologies
- A 3 credit course in OLIT that is Technology related
- A 3 credit course in OLIT that is Training-related course
- A 3 credit course in OLIT that is Organization Development related

Plus one additional training or organization develop course. The following are some possibilities:

Training

- OLIT 503 Instruc Tech & Applications
- OLIT 543 Delivering Effective Presentations
- OLIT 563 Adult Career Development & Change
- OLIT 545 Admin of Training & Dev Programs
- OLIT 531 Tech & Appl of Educ Tele Comp.
- OLIT 560 Adult Group Processes in Learn Envir
- OLIT 593 Topics in OLIT
- PsyFdn 593 Topics in Psychological Foundations

Organization Development

- OLIT 541 Organ Consulting Theory & Practice
- OLIT 560 Adult Group Processes in Lrng Environ
- OLIT 562 Team Development
- Ed Adm 581 Seminar in Ed. Admin: Organ. Develop.

Plus one 3 credit course outside of OLIT

Multimedia Technologies

Required courses: (9 credits)

- OLIT 521 Presentation Technologies
- OLIT 522 Video Tech: Use in Ed & Trng
- OLIT 532 Hypertext/Hypermedia

Plus two of the following OLIT courses:

- OLIT 523 Comp Authoring Lang & Syst
- OLIT 524 Computer/Video Graphics
- OLIT 525 Interactive Multimedia
- OLIT 526 Artificial Intell & Learning Syst.
- OLIT 527 Practicum - Instruc Technology
- OLIT 531 Tech & Appl of Educ Tele Comp
- OLIT 535 Theory & Practice of Dist Lrng
- OLIT 536 Instruc Telev: Prin & Appl
- OLIT 533 Instruc Use of Comp Simulations
- OLIT 505 Contemp Instruc Tech: Survey
- OLIT 539 Advanced Instruc Tech: Seminar

Plus one 3 credit course outside of OLIT

Distance Education

Required courses: (12 credits)

- OLIT 535 Theory & Prac of Dist Lrng
- OLIT 538 Distance Ed Course Design
- OLIT 528 Management of Dist Ed
- OLIT 536 Instruct elev: Prin & Appl

Plus one of the following OLIT courses:

- OLIT 521 Presentation Technologies
- OLIT 522 Video Tech: Use in Ed. & Trng.
- OLIT 531 Tech & Appl of Educ Tele Comp
- OLIT 533 Instruc. Use of Comp Simulations
- OLIT 562 Team Development
- OLIT 532 Hypertext/Hypermedia

Plus one 3 credit course outside of OLIT

Electives in the emphasis areas can be chosen from any approved graduate level courses in the university. For example, students may wish to consider taking courses in

the College of Education, Public Administration, Management, Nursing, Engineering, Computer Science, Sociology, Communication and Journalism, Psychology or Anthropology programs.

Organizational Learning and Instructional Technologies (OLIT)

293. Topics. (1-3)

296. Internship. (3-6, to a maximum of 12)
Offered on a CR/NC basis only.

391. 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. 2 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: admitted 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. Workshop. (1-4)

493. Topics. (1-3)**495. Field Experience. (3-6, to a maximum of 12)**

Planned and supervised professional laboratory or field experiences in agency or institutional setting.

Prerequisite: permission of instructor. Offered on a CR/NC basis only.

497. Field Experience & Internship Seminar. (1)**500. 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 their possible effects on society and the proposition that technology is a primary determinant of social change.

501. Instructional Design and Development: A Systems Approach. (3)

Application of instructional design and development principles to the production of mediated units of instruction. Includes a systematic approach to specifications of content and objectives, assessment of entering behavior, determination of strategy, organization of groups, allocation of time and space requirements, selection of appropriate media resources, and evaluation of performance. Students will be required to produce one packaged unit of instruction.

503. Instructional Techniques & Applications. (3)

Designed to provide a systematic exploration of the interaction between educational purposes, pedagogical strategies and methods, curricular designs and materials, and learning theory. Designs, models and alternative patterns of teaching/training will be explored and practiced, via microteaching techniques.

505. Contemporary Instructional Technologies: Survey. (3)

An overview of how instructional technology is being used and can be used to increase the effectiveness and efficiency of instruction. Looks at instructional technology as instructional aid and as a manager of instruction. Some specific topics are projection media, computer based instruction, computer managed instruction, and criteria for selecting and using instructional technology. Special Fee.

Prerequisite: 521 recommended as introductory course.

508. Program Evaluation. [Measurement, Evaluation, and Performance Monitoring.] (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.

521. Presentation Technologies. [Production & Utilization of Instructional Materials.] (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. Video Techniques: Use in Education & Training. (3)

Research into instructional uses of TV, operation of portable video equipment; graphic, audio, lighting lab, and editing lab; reproduction skills, production skills, and post production analysis. Each student will plan, budget, script, shoot, and edit an instructional, informational, or documentary video tape. Special Fee.

Prerequisite: 521 recommended as introductory course.

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.

524. Computer/Videographics. (3)

Teaches the skills necessary to design computer graphics, animation, titles and digital effects for transfer to video. Students will learn and use several computer graphic programs, high resolution graphic computers, digitizing cameras, gen-lock devices and 1/2" industrial video equipment. The course will emphasize the use of computer graphics to enhance learning from both computer and video software. Competence with portable video cameras and editors is required.

Prerequisite: 522.

525. Interactive Multimedia. [Interactive Video.] (3)

Provides the student the opportunity to design, develop and produce educational and training multimedia programs. Includes applications, strategies, selection criteria, multimedia design procedures, authoring languages and specific multimedia production skills. Prerequisite: permission of instructor.

526. Artificial Intelligence and Learning Systems. (3)

Students will explore components of artificial intelligence and survey recent AI literature. Focusing on AI's practical application in performance support systems (PSS), students will review existing systems and build their own successively complex multimedia PSS's.

527. Practicum-Instructional Technology. (3)

Prerequisites: 501, 523.

528. Management of Distance Education. (3)

Focuses on the strategies and key elements for planning, implementing, and evaluating successful programs to provide education and training at a distance. Reviews alternative technologies for program delivery. (Spring)

531. Techniques and Applications of Educational Telecomputing. (3)

Students will become proficient in the use of typical telecomputing workstation: microcomputer, modem, and communications software. They will then explore the use of telecomputing (1) as a tool for accessing relevant information systems, and (2) as a basic communications tool within the educational process. A review of current research in this area will be accomplished.

532. Hypertext/Hypermedia. (3)

A rapidly growing application of computer technology which is having an impact on education and training is hypertext/hypermedia. Hypertext/hypermedia programs facilitate the production of computer-based educational packages which are characterized by two common aspects: (a) they combine multiple symbol systems (e.g., text, graphics, sound, video) into one database which is accessed by the student or user, and (b) the information contained in such a database can be linked using a lattice or matrix structure as opposed to a more traditional linear or fixed-path access model. This hyper flexibility in personalizing a path through the represented information.

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.

535. Theory and Practice of Distance Learning. (3)

The purpose of this course is to analyze theoretical approaches to distance education and their practical consequences. Participants will examine the concept and theories of distance education, the characteristics and needs of the adult distance learner, student support systems, telecommunications-based delivery systems, evaluation and research, and the organization and administration of distance education. Participants will use audio conferencing, audio graphics and computer mediated communications for class projects.

536. Instructional Television: Principles and Applications. (3)

This course will provide the necessary rationale, background and procedures for educators and trainers who want to use instructional television to meet the needs of distance learners. Three major types of instructional TV formats and technical delivery systems will be analyzed in terms of access, control, interaction, instructional design, the role of the instructor, student support systems, and the planning step necessary to produce effective instruction. Developing techniques for training instructors who teach on television will be an important component of this course. UNM's Instructional television system will be used for student presentations. This is not an instructional television production course.

538. Distance Education Course Design. (3)

This advanced instructional design course will focus on designing instruction for interactive distance education systems such as audio, audiographics, video and computer conferencing. The central theme is designing for converging or integrated technologies.

Prerequisites: 501, 535, or permission of instructor. (Spring)

539. Advanced Instructional Technology and Seminar. (3)

540. Introduction to Organizational Learning & Instructional Technologies. [Training and Development.] (3)

Introduces the student to the field of Human Resource Development (training, and career and organizational development), and its role in fostering individual, group and organizational learning. Overview of instructional technologies will be covered. (Fall, Spring)

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. Delivering Effective Presentations. [Delivering Workplace Learning.] (3)

Introduces or reintroduces the trainer/educator in business and industry to strategies and competencies needed to deliver an organizations training program. Key focus on developing competencies to support the trainer as a learning specialist and consultant.

545. Administration of Training & Development Programs. (3)

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.

560. Adult Group Processes in Learning Environments. (3)

Covers group therapy related to adult learning situations. Students who are preparing for the role of adult educator will learn the basics of group dynamics as applied to training and higher education. (Alternate Falls)

561. The Adult Learner. (3)

Examines the Teaching/learning transaction with adults. Specific attention will be placed upon life stage development in adulthood, self-directed and non-traditional learning and motivational orientation research. 562. Facilitating Adult Learning. (3) Provides learners with information and skill development with various methods and techniques in adult education settings. Emphasis will be placed on developing instructional materials appropriate for adult learners.

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. (Fall 1997 and alternate years)

563. Adult Career Development & Change. (3)

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 students 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. Problems. (1-3, to a maximum of 6)

Individual Performance Contract required between student and professor.

592. Workshop. (1-4)

Special offerings given on demand for terms less than a semester.

593. Topics. (1-3)

Used to test new Courses.

595. Field Experiences. (3-6, to a maximum of 12)

Offered on a CR/NC basis only.

596. Internship. (3-6, to a maximum of 12)

Offered on a CR/NC basis only.

597. Field Experience & Internship Seminar. (1)

598. Directed Readings in Organizational Learning and Instructional Technologies. (3-6, to a maximum of 6)

Offered on a CR/NC basis only.

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only.

690. Dissertation Proposal Seminar. (3-6)

If the proposal is not completed by the end of the first semester enrolled, students are required to enroll for a second semester; OLIT 690 seminar hours earned in excess of three (3) shall be counted as electives beyond program requirements. The 690 Seminar and Comprehensive exam are usually taken in the same semester. (May be repeated once.) Offered on a CR/NC basis only.

696. Internship. (3-6, to a maximum of 12)

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 hrs. per semester)

Individual Performance Contract required between student and professor, following formal approval of dissertation committee. Offered on a CR/NC basis only.

PARKS AND RECREATION

Ginger Blalock, Division Director
The University of New Mexico
Division of Educational Specialties
Parks and Recreation, Hokona Hall
Albuquerque, NM 87131-1231
(505) 277-1499

Professor
Craig Kelsey, Ph.D., University of New Mexico

Associate Professor

Paul Miko, Ph.D., University of Maryland

Assistant Professor

Steve Rubio, Ph.D., University of Utah

Undergraduate Program

Major and Degree

Recreation: Bachelor of Arts in Recreation (B.A.)

NOTE: The Undergraduate program in Parks and Recreation is currently not admitting students.

The curriculum for the degree of Bachelor of Arts in Parks and Recreation is designed to prepare students for professional careers in parks, recreation, and leisure services. Students should contact program faculty for information regarding recreation program options, such as Therapeutic, Recreation.

Graduate Program

Graduate Advisor

Paul Miko, Johnson Center, 277-6092; e-mail pmiko@unm.edu

Student Information Contact and application materials

Sally Renfro, Division of Physical Performance and Development, Johnson Center, 277-8173

Application Deadlines

Spring Semester:	November 17
Summer Session:	April 17
Fall Semester:	June 17

Degrees Offered

M.A.: Recreation

Ed.D.: Health, Physical Education, Recreation concentration

Ph.D. in Education: Health, Physical Education, Recreation concentration

Certificate: Education Specialist (Ed.S.), Recreation

Master of Arts in Recreation

The Master of Arts in Parks and Recreation is offered under both Plan I (with thesis) and Plan II (without thesis), according to the regulations within this Catalog. This degree work may be chosen from a number of areas according to the interests and goals of the student. Prerequisites may be required in each of the following areas of specialization:

Parks and Recreation Administration. Students in this emphasis study executive competencies found in various administrative and organizational systems. Such focus areas as personnel and fiscal management, program development, supervision, leadership, legal aspects, grant writing and administration, and public relations are available.

Environmental Education. Students in this emphasis study the environment in both its natural aspects and in those which are built or altered by humans. Special areas of focus include multicultural environmental awareness and interpretation, sustainable parks, recreation and tourism development, environmental education for elementary and secondary school teachers, and innovative research and problem solving methodologies.

Therapeutic Recreation. Students in this emphasis study habilitation and rehabilitation processes in which recreation education is used to improve physical, cognitive, and/or psychosocial functioning. The dynamic interactions between recreation education theory and practice are studied in

school, community, and clinical settings in cooperation with nationally certified therapeutic recreation specialists.

Students may elect one of the listed specializations while completing the common core requirements of Recreation 507, 516, 524, 555, 591, or 595.

Doctoral Degrees

For university requirements for doctoral programs, refer to preceding parts in the College section of this catalog and to other sections pertaining to graduate study. Doctoral programs in the Health, Physical Education, and Recreation (HPER) concentration with specialization in Parks and Recreation follow common program procedures. For details, contact the Graduate Advisor.

Parks and Recreation (Recrea)

175. Foundations of Parks and Recreation. (3)

History, concepts and trends of Parks, recreation and leisure.

180. Camping Experiences. (2)

(Also offered as P E-NP 180.) Instruction and field experiences designed to develop skills in shelter, food, warmth, and safety.

183. Wilderness Experience. (2)

(Also offered as P E-NP 183.) Creation of stressful situations in the wilderness environment to help students learn more about themselves.

221. Leadership in Parks and Recreation. (3)

Theory, principles and practice of leadership in parks, recreation and leisure services. Field Trips.

245. Field Work in Parks and Recreation. (3)

Practical experiences in a variety of parks, recreation and leisure service agencies.

292. Workshop. (1-4)**293. Topics. (1-3)****301. Recreational Sports Programming. (3)**

Foundations, programming, and operation of recreational sports in diversified settings.

302. Recreational Sports. (3)

Expansion of 301 to include development of campus recreation. Field trips.

304. Adapted Aquatics. (2)

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.

311. Leisure in Society. (3)

Study of leisure issues as they impact social, political, cultural and economic features of today's society.

386. Tourism and Parks and Recreation. (3)

Concepts, theories and research of tourism and its relationship to parks, recreation and leisure services.

391. Problems. (1-3)

Prerequisite: permission of instructor.

452. Organization of Sports Programs. (3)

(Also offered as P E-P 452.) Organization and administration of games and sports in intramural, interschool, and community recreation programs.

Prerequisite: permission of instructor.

***454. Parks and Recreation Programming. (3)**
The programming of parks, recreation and leisure programs including: promotion, resources, management and evaluation.
Prerequisites: 221, 245.

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. Physical Disabilities and Causes.** [Survey of Physical Defects and Pathology.] (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.
Prerequisites: Spc Ed 201 or permission of instructor. (Fall)

***477. Therapeutic Recreation Program Design. (3)**
An in-depth study of the principles and procedures of therapeutic recreation program design including assessment, planning, implementation and evaluation.

***480. Parks and Recreation Administration. (3)**
Principles of organization; administration and management of program, fiscal and personnel features of parks, recreation and leisure services.

***485. Interpretive Services.** [Interpretive Services of Outdoor Recreation Resources.] (3)
Principles of interpretive process including public information, relations and marketing.

486. Introduction to Therapeutic Recreation. (3)
(Also offered as P E-P 486.) An introduction to the field of therapeutic recreation with emphasis on the delivery of appropriate services to individuals with special needs in clinical, transitional and community settings.

***487. 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.

492. Workshop. (1-4)
Carries graduate credit when specifically approved by the Office of Graduate Studies. For degree restrictions see appropriate sections of this catalog, or consult the *Graduate Programs* section of this catalog.

493. Topics. (1-3)

495. Practicum. (3-6)
Prerequisites: 245, majors/minors only.

497. Reading and Research in Honors. (3-6)
Prerequisite: see honors requirements in this catalog.

504. Research Seminar. (1)
(See P E-P 604.)

505. Foundations for a Philosophy in HPER. (3)
(Also offered as PE-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.)
Prerequisite: PsyFdn 501 or equivalent

508. Organization and Administration of Parks and Recreation. (3)

509. Public Relations for Health, Physical Education, Recreation and Sports Administration. (3)
(Also offered as H Ed, PE-P 509.) Introduction to principles of public relations and publicity for use in HPER and sports administration.

514. Kinesiotherapy. (3)
(Also offered as P E-P 514.) Investigation into and application of kinesiological principles in programming activities for individuals with disabilities, who are situated in schools and recreational settings. (Alternate Springs)

515. Teaching Environmental Education. (3)
(Also offered as CIMTE 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)

520. Multicultural Environmental Education. (3)
(Also offered as CIMTE 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. [Motor Learning of the Handicapped.] (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. (Spring)

522. Motor Learning of the Handicapped. (3)
(Also offered as P E-P, Spc Ed 522.)

524. Evaluation of Parks and Recreation. (3)

526. Motor Assessment of the Handicapped. (3) Lange
(Also offered as P E-P, Spc Ed 526.)
Prerequisite: undergraduate major or minor in physical education, recreation, special education 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. (Spring)

555. Contemporary Issues in Parks and Recreation. (3)

586. Principles of Therapeutic Recreation. (3)
(Also offered as P E-P 586.)

591. Problems. (1-3, to a maximum of 6)
Prerequisites: majors only and permission of the recreation coordinator.

592. Workshop. (1-4)
Carries graduate credit when specifically approved by the Office of Graduate Studies. Consult the *Graduate Program* section of this catalog for restrictions.

593. Topics. (1-3)

595. Advanced Field Experiences. (3-6, to a maximum of 12)
Prerequisites: acceptance into a graduate program and permission of instructor.

598. Directed Readings in Recreation. (3-6, to a maximum of 6)
Prerequisite: permission of instructor.

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

604. Research Seminar. (1)

(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.

696. Internship. (3-6, to a maximum of 12)

Prerequisite: permission of instructor.

698. Directed Readings in Recreation. (3-6, to a maximum of 12)

Prerequisite: permission of instructor.

699. Dissertation. (3-12 hrs. per semester)

Offered on a CR/NC basis only.

**PROFESSIONAL
PHYSICAL EDUCATION**

Mary Jo Campbell, Division Director
The University of New Mexico
Division of Physical Performance and Development
Professional Physical Education
Johnson Center 1155
Albuquerque, NM 87131-1231
(505) 277-5151

Professors

Hemming Atterbom, Ph.D., University of Oregon
Leon E. Griffin, Ed.D., University of Utah
Vivian Heywood, Ph.D., University of Illinois

Associate Professors

Mary J. Campbell, Ph.D., Ohio State University
Ernest K. Lange, Ed.D., University of New Mexico
Robert G. Ness, Ph.D., Stanford University
Robert Robergs, Ph.D., Ball State University

Assistant Professors

Linda Estes, M.S., University of New Mexico
Joy Griffin, Ph.D., Brigham Young University
Russell Mitchell, M.S., Southern Illinois University
Gloria Napper-Owen, Ed.D., University of Northern Colorado

Lecturers

David Binder, Lecturer II, University of Texas-EI Paso (UTEP)
Pam Cox, Lecturer II, University of New Mexico
Erick Kozlowski, Lecturer II, 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. To be certified, applicants must pass the NTE Core Battery.

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).

First Year

Engl 101	Composition I: Exposition	3
Psych 105	General Psychology	3
Math 120	Intermediate Algebra	3
Nutr 120	Nutrition for Health	3
Biol 237	Human Anatomy and Physiology I	3
Biol 247L	Human Anatomy and Physiology I Lab	1
H Ed 164L	Standard First Aid/Lab	3
Educ 124	Intro to Computers for Educators	1
Engl 102	Comp II: Analysis & Arg	3
Math 145	Intro to Statistics	3
P E-NP 118	Individual Tumbling	1
P E-P 231	Flickerball, Flag Football, Volleyball, Basketball	1
P E-P 232	Golf, Aerobic Dance	1
P E-P 233	Soccer, Speedaway, Racquetball	1
P E-P 234	Track and Field	1
P E-P 235	Tennis, Aerobics	1
P E-P 273	Intro to Athletic Training	2
P E-NP 158 -or- 159		1
		35

Second Year

P E-P 319	Physical Ed in Elementary Schools	3
P E-P 236	Personal Defense, Archery	1
P E-P 237	Softball, Team Handball, Badminton	1
P E-P 238	Wrestling and Weight Training	1
P E-P 239	Dance	1
P E-P 245	Professional Lab Exp in Phys Ed	2
P E-P 277	Kinesiology	3
P E-P 288	Motor Learning and Performance	3
Hist 101 -or- 102		3
Hist 161 -or- 162		3
General Education - C & J 130L Pub Speak		3
General Education - Gov t, Econ, Soc, or Psych		3
General Education - Fine Arts Elective		3
General Education - Science Electives		5
		35

Third Year

PsyFdn 310	Learning and the Classroom	3
PsyFdn 303	Human Growth and Development	3
P E-P 444	Teaching Physical Education I	3
P E-P 301	Teaching Team Sports	2
P E-P 310	Teaching of Dance in Schools	2
P E-P 445	Motor Development in Children	3
P E-P 289	Test and Measurements in PE	3
P E-P 493	T/Teaching of Fitness Concepts	2
P E-P 326L	Fund of Exercise Physiology	3
General Education - Fine Arts Elective		3
General Education - History Elective		3
Elective		3
		33

Fourth Year

P E-P 479	Organization and Administration of PE	3
P E-P 378	Principles of Physical Education	3

P E-P 466	Special Physical Education	3
P E-P 461	Student Teaching-Secondary	9
P E-P 400	Student Teaching-Elementary	3
General Education - C & J 325	Intercultural Comm	3
General Education - Science	Elective	3
General Education - History	Elective	3
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Special Requirements for Physical Education Student Teaching

The student must have:

- Submitted recommendations from three faculty members, including the student's advisor, indicating that the student is believed ready for student teaching.
- Successfully completed a major portion of the theory course work as determined by the advisor in consultation with the student teaching personnel.
- Completed all of the prerequisites.
- Attained a C or above in all major courses.
- Attained at least a 2.50 grade point average in the major field and at least a 2.50 grade point average overall.
- Students enrolled in physical education student teaching may be required to comply with a modified academic calendar 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

The major leads to the degree of Bachelor of Science in Athletic Training and national certification in athletic training.

Admission

To be accepted as a major in athletic training, a student must successfully complete the COE application and admission process. The student must successfully complete the following procedure:

- An interview with athletic training faculty.
- Receive a grade of B or better in PE-P 273, 284, and H Ed 164L.

General Education

Fifty-five hours required; 3 hours must be upper division. The 55 hours include as indicated below:

*35 designated hours

*20 elective hours selected from any of the following nine categories:

1. Humanities and Social Sciences (6 hours minimum)	6
2. Behavior Sciences (6 hours minimum)	
Psych 105 General Psychology	3
Psych 220 Child Psychology	3
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	6
3. Natural and/or Physical Sciences (4 hours minimum)	
Biol 121L Principles of Biology Lab	4
4. Communication and Journalism (9 hours minimum)	
Engl 101 Comp I: Exposition	3
Engl 102 Comp II: Analysis & Arg	3
C & J 130L Public Speaking	3
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	9
5. Mathematics (7 hours minimum)	
Math 120 Intermediate Algebra	3
Math 145 Intro to Statistics	3
Educ 124 Intro to Computer for Educ	1
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6. Multicultural Studies (3 hours minimum)	3

- Fine Arts, Health Ed, Parks and Recreation, and Foreign Language. There are no minimum or maximum hours required for the 20 elective hours from these categories. Students are eligible to pick and choose from these in addition to the other listed categories to obtain the required 20 elective hours.

Athletic Training Major Requirements

P E-P 273	Intro Athletic Training	2
P E-P 284	Clin-Corr Thrpy Ath	3
P E-P 277	Kinesiology	3
P E-P 288	Motor Learning and Performance	3
P E-P 289	Tests and Measurements in PE	3
P E-P 300	Level or Above	3
P E-P 326L	Fund of Exercise Physiology	3
P E-P 373	Adv Athl Trng	3
P E-P 470	Designs for Fitness	3
P E-P 472	Eval of Athl Injuries	3
P E-P 473	Rehab of Athl Injuries	3
P E-P 474	Org & Adm of Athl Trng	3
P E-P 484	Clin-Corr Thrpy Ath	1-3-6-9-12
Biol 237	Hum Anat & Physio I	3
Biol 238	Hum Anat & Physio II	3
Biol 247L	Hum Anat & Physio Lab I	1
Biol 248L	Human Anat & Physio Lab II	1
H Ed 164L	Standard First Aid/Lab	3
H Ed 171	Personal Health Management	3
H Ed 292	W/Emergency Medical Training	6
Nutr 244	Human Nutrition	3
Phy Th 306L	Therapeutics Procedures	3
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Following are requirements for certification by the National Athletic Trainers Association:

- Human Anatomy & Physiology I and Lab (Biol 237, 247L)
- Human Anatomy & Physiology II and Lab (Biol 238, 248L)
- Fundamentals of Exercise Physiology (P E-P 326L)
- Kinesiology (P E-P 277)
- Psychology (2 courses) (Psych 105 and 220)
- Standard First Aid (H Ed 164L)
- Human Nutrition (Nutr 244)
- Rehabilitation of Athletic Injuries (P E-P 473)
- Personal Health Management (H Ed 171)
- Introduction to Athletic Training (P E-P 273)
- Advanced Athletic Training (P E-P 373)
- Lab Pract/Clin Prog for Corr Thrpy or Athl Trng (800 clock hours) (P E-P 484)
- Evaluation of Athletic Injuries (P E-P 472)
- Org & Adm of Athletic Training (P E-P 474)

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. This degree leads to eligibility to take the American Sports Medicine Health/Fitness Instructor Certificate Examination.

First Year

Engl 101	Comp I: Exposition	3
Engl 102	Comp II: Analysis & Arg	3
Psych 105	Gen Psychology	3
Math 121	College Algebra	3
Nutr 244	Human Nutrition	3
Biol 123L	Biol for Hlth Related Sciences	4
Chem 111L	Elem of Gen Chem/Lab	4
Chem 212L	Integ Organic Chem & Biochem/Lab	4
P E-NP 102	Intermed Swim	1
P E-P 273	Intro Athletic Training	2
P E-P 288	Motor Lrn & Perf	3
		<hr/>
		33

Second Year

C & J 130L	Public Speaking	3
Math 145	Intro to Statistics	3
H Ed 164L	Standard First Aid/Lab	3
Biol 237-247L	Human Anat & Physiol I/Lab	4
Biol 238-248L	Human Anat & Physiol II/Lab	4
Engl 219	Technical Writing	3
Psych 230	Adjust & Interperson Relations	3
P E-NP 152	Racquetball	1
P E-NP 158	Aerobic Dance I	1
P E-NP 160	Beginning Weight Training	1
P E-NP 165	Yoga	1
P E-P 277	Kinesiology	3
P E-P 289	Test & Measurements in PE	3
		33

Third Year

Nurs 239	Nurs Pathophysiology I	2
Nurs 240	Nurs Pathophysiology II	2
Nutr 344	Energy Nutrients in Human Nutr	3
Nutr 345	Vitamins & Minerals in Human Nutr	3
P E-NP 163	Intermed Weight Training	1
P E-P 473	Rehab Athl Injuries	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 Stress Testing	3
P E-P 495	Practicum	3
Electives - General Education		3
		32

Fourth Year

Nutr 445	Applied Nutrition & Exercise	3
P E-NP 162	Jogging Fitness	1
P E-P 391	Prob Ex Sci Sem	1
P E-P 426	Intermed Exercise Physiology	3
P E-P 467	Survey Phys Defects and Pathology	3
P E-P 468	Worksite Wellness Programs	3
P E-P 469	Manag Compts Sport & Ftn Set	3
P E-P 487	Phys Activity & Aging	3
P E-P 495	Practicum	6
OLIT 483	Inst Appl: Comp Tech	3
Electives - General Education		3
		32

Students must have American Red Cross or American Heart Association CPR certification prior to graduation.

Athletic Coaching Minor

P E-P 301	Teaching Team Sports	2
P E-P 273	Athletic Training	2
P E-P 209	Fdn Human Performance	3
P E-P 479	Org & Admin of PE	3
P E-P 495	Field Experience	3
P E-P 288	Motor Learning	3
P E-P 378	Prin of PE	3

Choose seven hours from the following group:

P E-P 493	T/Teach Fitness Concepts	2
P E-P 231	BB/VB/FB	1
P E-P 232	Golf/Aerobic Dance	1
P E-P 233	Soccer/RB	1
P E-P 234	Track & Field	1
P E-P 235	Tennis/Aerobics	1
P E-P 238	Wrestling/Wt. Training	1
P E-P 464	Theory of Football	3
P E-P 465	Theory of Basketball	3
P E-P 245	Professional Lab Exper	2
P E-P 466	Special PE	3
		26

Additional Information

Students who, for any reason, interrupt their progress in the physical education program at UNM for more than two con-

secutive semesters must reapply. Physical education majors will not be allowed to graduate with a grade of C- or lower in a course in their major field.

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
- Ed.D.: Health, Physical Education and Recreation concentration
- Ph.D. in Education: Health, Physical Education and Recreation concentration
- Certificate: Education Specialist (Ed.S.) - Physical Education

Contact for Graduate Advisor and Student Information

Sally Renfro, Johnson Center, Room 1155, 277-8173

Deadlines for Application

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

Early application is recommended. These dates also apply for financial aid.

Master of Science in Physical Education

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, four focused areas of study 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.

Special Physical Education. Focus is on special physical education which prepares a student to work with atypical persons, e.g., mentally retarded, physically handicapped.

Exercise Science. Students in the exercise science program may specialize in one of four areas: 1) adult/corporate fitness, 2) cardiac rehabilitation, 3) sport physiology, or 4) basic exercise science. Each student should consult with his or her advisor before selecting an area of specialization.

Sports Administration. An area of emphasis designed to meet the needs of students who desire to seek positions in sports administration or administrative positions in physical education or athletics. Course work emphasizes the development of the knowledge and competencies required for administrators with an emphasis in leadership styles and theory.

Course work and experiences are developed with an advisor within the structure of each area. Details about each area can be obtained from the Director of Graduate Studies. Individuals who do not have an undergraduate degree in physical education should consult the Physical Education Director.

Doctoral Concentration in Health, Physical Education and Recreation (HPER)

Within the HPER doctoral concentration, it is possible to design a program of studies in general physical education selecting courses from several specialty areas in physical education. It is also possible to design a program of studies that emphasizes a specialty area. Faculty availability and expertise, as well as course offerings, may allow students to specialize in sports administration, curriculum and instruction, or exercise science.

For the University requirements for doctoral (Ph.D. and Ed.D.) programs, refer to appropriate sections of this Catalog. For details, contact the Program Director of Graduate Studies.

Sports Administration Specialty Area. This specialty area is mainly for those interested in careers in higher education. One of the criteria for admission is a master's degree in physical education, exercise science, business administration, or recreation. Application with a master's degree in fields other than physical education will be evaluated by the program faculty to determine which prerequisite courses will be required.

Curriculum and Instruction Specialty Area. The emphasis 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 would be 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 Specialty Area. This specialty area 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.

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.

202. Theory and Practice of Baseball. (2)
The professional course in the coaching of baseball. 4 class meetings per week.

203. Theory and Practice of Wrestling. (2)
The professional course in wrestling. 4 class meetings per week.

204. Theory and Practice of Track and Field. (2)
The professional course in the coaching of track and field.

205. Fundamentals of Basketball. (2)
The professional coaching course in the fundamentals of basketball. 4 class meetings per week.

206. Fundamentals of Football. (2)
The professional coaching course in the fundamentals of football. 4 class meetings per week.

209. Foundations of Human Performance. (3)
Physiological, kinesiological, and psychological variables which affect human performance in exercise and sport skills.

211. Competency in Sports and Dance I. (1-4)
Offered on a CR/NC basis only.

219. Practicum in Elementary School Physical Education. (2)
Designed to provide beginning teacher experiences in the elementary school level under the direct supervision and

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.

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.

233. Soccer, Speedaway, Racquetball. (1)
Instruction and practice of advanced game skills, tactics and strategy of soccer, speedaway, and racquetball. Prerequisite: physical education major or minor.

234. Track and Field. (1)
Comprehensive skill and knowledge of track and field. Prerequisite: physical education major or minor.

235. Tennis, Aerobics. (1)
Comprehensive skill and knowledge of tennis. Knowledge of factors involved in designing an aerobics program and participation in a variety of aerobic programs. Prerequisite: physical education major or minor.

236. Personal Defense, Archery. (1)
Comprehensive skill and knowledge of personal defense and archery. Prerequisite: physical education major or minor.

237. Softball, Team Handball, Badminton. (1)
Instruction and practice of advanced game skills, tactics and strategy of softball, team handball, and badminton. Prerequisite: physical education major or minor.

238. Wrestling/Weight Training. (1)
Comprehensive skill and knowledge of wrestling and weight training. Prerequisite: physical education major or minor.

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) Δ
Designed to provide an introduction to the teaching of physical education. For physical education majors only. May be repeated to a maximum of 8 semester hours.

273. Introduction to Athletic Training. (2)
An introduction to the prevention and treatment of athletic injuries.

277. Kinesiology. (3)

Anatomical and biomechanical bases of human movement and exercise.

Prerequisites: Biol 237, 247L.

284. Clinical Program for Athletic Training. [Clinical Program for Corrective Therapy or Athletic Training.] (1-2-3-6) [1-2-3-6-9-12]

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: Math 145.

292. Workshop. (1-4)**293. Topics. (1-3)****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. 4 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.

310. Teaching of Dance in Schools. (2)

Organization and methods in teaching social, folk, and square dance.

Prerequisite: 239. 4 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)

(Also offered as CIMTE 319.) Introduction to all methods of teaching elementary physical education. 4 hrs. per week.

320. Teaching Alternatives in Elementary Physical Education. (2)

Programming for extra curricular activities, developing management skills and managing equipment and materials when teaching elementary physical education.

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, 238 and 247L, 248L.

373. Advanced Course in Athletic Training. (3)

Expansion of the knowledge and techniques of training room procedures, principles and ethics of medical aspects of athletic training, organization and administration of athletic training programs, athletic therapy, emergency care.

Prerequisites: 273, 277, and H Ed 164L.

378. Principles of Physical Education. (3)

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. Problems. (1-3)

Prerequisite: permission of Physical Education Coordinator.

400. Student Teaching in the Elementary School. (maximum of 15 hours)

Prerequisites: 245, 277, 288, 289, 301, 310, 319, 326L, 444, 445, 493, PsyFdn 303, 310.

***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.

444. Teaching of Physical Education I. (3)

(Also offered as CIMTE 444.) 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.

452. Organization of Sports Programs.] (3)

(Also offered as Recrea 452.) Organization and administration of games and sports in intramural, interschool, and community recreation programs.

Prerequisite: permission of instructor.

461. Student Teaching in the Secondary Schools. (maximum of 15 hours)

Prerequisites: 245, 277, 288, 289, 301, 310, 319, 326L, 444, 445, 493, PsyFdn 303, 310.

462. Student Teaching in the Secondary Schools. (maximum of 15 hours)

Prerequisites: 245, 277, 288, 289, 301, 310, 319, 326L, 444, 445, 493, PsyFdn 303, 310.

464. Theory of Football. (3)

To review and enlarge the student's knowledge of the basic techniques of football and to acquaint him with the principles, techniques, and strategy of coaching football at the junior high, high school, and college levels.

Prerequisites: 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: 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. Physical Disabilities and Causes. [Survey of Physical Defects and Pathology.] (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. (Fall)

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 work-site wellness programs. (Alternate Springs)

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. (Fall)

***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, and 326L or equivalents.

472. Evaluation of Athletic Injuries. (3)

Provides the student with the evaluative techniques and skills necessary in the recognition of athletic injuries, and an understanding of the mechanism of various athletic injuries. Prerequisites: 277, 284, Biol 237, 238, 247L, 248L.

473. Rehabilitation of Athletic Injuries. (3)

Designed to provide the student with the basic components of a comprehensive rehabilitation program—therapeutic goals, modalities and exercise, progression criteria, and methods of evaluating and recording rehabilitation progress. Prerequisites: 284, 277, 472, Biol 237, 238, 247L, 248L.

474. Organization and Administration of Athletic Training. (3)

The student will learn to plan, coordinate, and supervise all administrative components of an athletic training program for a high school, college, or professional athletic organization. Prerequisites: 277, 284, 472.

***475. EKG Interpretation. (3)**

Anatomical and physiological approach to the interpretation of resting 12-lead electrocardiograms.

***476. Exercise Testing and Interpretation. (3)**

Practical and theoretical skills necessary to safely conduct graded exercise tests on treadmills and ergometers.

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.

***482. History of Physical Education. (3)**

***484. Clinical Program for Athletic Training. [Clinical Program for Corrective Therapy or Athletic Training.] (1-3-6-9-12)**

Lecture and actual clinical experience in athletic training. The course involves three hours per week in a lecture plus a minimum of 200 hours in a clinical setting. Prerequisite: 273, 284-002, and permission of instructor.

***486. Introduction to Therapeutic Recreation. (3)**

(Also offered as Recrea 486.) Philosophy, principles, relationships, and contributions of therapeutic recreation as background for the recreation leader, physical educator, hospital administrator, and other personnel.

***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.

***489. Fitness Program Leadership. (3)**

Focus on management and applied exercise prescription.

Collect lab data and assist UNM Adult Fitness Program participants. Preparation for ACSM certification as Exercise Program Director.

Prerequisites: 426 and 470 or equivalents and permission of instructor.

492. Workshop. (1-4)

Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions see the section in Education entitled "Requirements for Graduation" of this catalog or consult the *Graduate Programs* section of this catalog.

493. Topics. (1-3)

495. Practicum. (3-6, to a maximum of 12)

Planned and supervised professional laboratory or field experiences in agency or institutional setting. Prerequisite: permission of instructor.

497. Reading and Research in Honors. (3-6-9)

Prerequisite: see college section on degree requirements.

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.

505. Foundations for a Philosophy in HPER. (3)

(Also offered as 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. Fitness Assessment in the Workplace. (3)

Covers theory and principles of assessment with special emphasis on field tests used for evaluation of health/physical fitness in the workplace. Prerequisites: 289 or equivalent; PsyFdn 501 or equivalent.

507. Research Design in HPER. (3)

(Also offered as Ed Fdn, H Ed, Recrea, 507.) Prerequisite: PsyFdn 501 or equivalent

509. Public Relations for Health, Physical Education, Recreation and Sports Administration. (3)

(Also offered as H Ed, Recrea 509.) Introduction to principles of public relations and publicity for use 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.

514. Kinesiotherapy. (3)

(Also offered as Recrea 514.) Investigation into and application of kinesiological principles in programming activities for individuals with disabilities, who are situated in schools and recreational settings. (Alternate Springs)

516. Seminar in Physical Education. (3)

521. Motor Learning of People with Disabilities. [Motor Learning of the Handicapped.] (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. (Spring)

522. Motor Learning of the Handicapped. (3)

(Also offered as Recrea, Spc Ed 522.)

523. Biomechanics. (3)

Analysis of human motion through the application of the laws of physics.

EDUCATION

526. Motor Assessment of the Handicapped. (3) Lange
(Also offered as Recrea, Spc Ed 526.)
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.

530. Laboratory Procedures and Instrumentation in Applied Physiology. (3)
Use of all routine testing procedures and instrumentation in the Human Performance 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: P E-P 470 and 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 423 or 429, or the equivalent, and permission of instructor.

540. Sports in American Culture. (3)
Survey of current research of pervasive effects of sport on American society. All levels of sport involvement will be studied from earliest youth sports to sports in educational institutions and beyond.
Prerequisite: Soc 101 or equivalent.

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.

575. Facilities Planning, Construction, and Utilization. (3)
Principles of planning facilities for athletics, physical education and recreation; relationship of facilities to programs.

581. Administration of Varsity Athletics. (3)

586. Principles of Therapeutic Recreation. (3)
(Also offered as Recrea 586.)

588. Psychological Aspects of Sports. (3)
Survey of current application of psychological research and treatments to athletes and athletic settings. Main topics of investigation are social facilitation/inhibition, aggression and motivation.
Prerequisite: Psych 230 or 332 or equivalent.

590. Supervision of Physical Education Programs. (3)
Prerequisite: permission of instructor.

591. Problems. (1-3, to a maximum of 6)

592. Workshop. (1-4)
Carries graduate credit when specifically approved by the Office of Graduate Studies.

593. Topics. (1-3)

595. Advanced Field Experiences. (3-6)
Prerequisites: acceptance into a graduate program and permission of instructor.

598. Directed Readings in Physical Education. (3-6, to a maximum of 6)

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

604. Research Seminar. (1)
(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.

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. Problems. (1-3, to a maximum of 6)
Prerequisite: permission of instructor.

695. Advanced Field Experiences. (3-6, to a maximum of 12)
Prerequisite: permission of instructor.

696. Internship. (3-6, to a maximum of 12)
Prerequisite: permission of instructor.

698. Directed Readings in Physical Education. (3-6, to a maximum of 12)
Prerequisite: permission of instructor.

699. Dissertation. (3-12 hrs. per semester)
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.

104. Diving. (1)
Instruction in basic fundamentals of springboard diving, primarily on one-meter board.

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.

107. Water Safety Instruction. (2)

Instruction in swimming, teaching techniques for those who want to become teachers of swimming.
Prerequisite: current Red Cross Senior Lifesaving Certificate.

109. Skin and Scuba Diving. (1)

Special fees. Fundamental skills of skin and scuba diving, use of equipment, medical and safety aspects, dive planning, oceanography, and marine life.

110. Advanced Scuba. (1)

Special fees. Instruction in technical aspects of diving such as repetitive, deep decompression and high altitude diving, equipment maintenance and repair, underwater navigation, search and recovery, light salvage diving, life saving, and first aid.

115. Women's Gymnastics. (1)

Acquaints the student with fundamental skills of tumbling, balance beam, trampoline, uneven parallel bars, and vaulting to better acquaint the student with gymnastics.

117. Men's Apparatus Stunts. (1)

Instruction in activities in tumbling, vaulting, parallel bars, and trampoline to better acquaint the student with gymnastics.

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, rumba, 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.

130. Advanced Country Western Dance. (1)

Instruction in developing creative combination of Country Western Dance steps.

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.

145. Advanced Tennis. (1)

Instruction for the consistent player with emphasis upon advanced skills.

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.

151. Handball. (1)

Instruction and practice in all the four-wall handball shots and rules.

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.

169. Beginning Judo. (1)

Ancient Japanese methods of bare-handed fighting. A special uniform is necessary.

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.

177. Beginning Skiing. (1)

Special fees. Instruction leading to wide-track parallel skiing.

178. Intermediate Skiing. (1)

Special fees. Review of beginning skills including beginning parallel skiing and instruction in more advanced techniques.

179. Cross Country Skiing. (1)

Special fees. Instruction and practice in techniques leading to cross country touring.

180. Camping Experiences. (2)

(Also offered as Recrea 180.) Instruction and field experiences designed to develop skills in shelter, food, warmth, and safety.

181. Horseback Riding. (1)

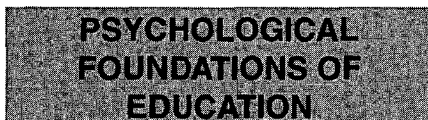
Special fees. Basic fundamentals of western horsemanship in relationship to trail and recreation riding.

183. Wilderness Experience. (2)

(Also offered as Recrea 183.) Creation of stressful situations in the wilderness environment to help students learn more about themselves.

188. Therapeutic Physical Education. (1)**193. Topics. (1-2)**

New activities offered on an exploratory basis.



The University of New Mexico
Psychological Foundations of Education
Simpson Hall
Albuquerque, New Mexico 87131-1231
(505)277-4535

Professors

Mary B. Harris, Ph.D., Stanford University
Vera John-Steiner, Ph.D., University of Chicago
Vonda Long, Ph.D., Washington State University
Candace G. Schau, Ph.D., Iowa State University

Associate Professors

Patricia Boverie, Ph.D., University of Washington
Victor Delclos, Ph.D., Vanderbilt University
Jan Gamradt, Ph.D., University of Minnesota
Christine McCormick, Ph.D., University of Wisconsin
Joseph Stevens, Ph.D., University of Arizona
Andrea Vierra, Ph.D., University of New Mexico

Assistant Professor

Jan Näslund, Ph.D., University of Chicago

Introduction

The program provides graduate degrees which emphasize learning and cognition, research methodology and statistics, and human development and social psychology applied to education. Psychological Foundations does not offer a baccalaureate degree. Undergraduate courses in Psychological Foundations are offered to meet licensure requirements. Consult a College advisor for specific information.

Graduate Programs

Graduate Advisor

Christine McCormick

Student Information Contact

Sheri Lesansee or Trish Stevens, Simpson Hall, 277-4535.

Application Deadlines

M.A.:

Fall semester: March 15

Spring semester: October 15

Ed.D., Ph.D.:

Fall semester: March 15

Spring semester: Due on October 15

Degrees Offered

M.A.: Educational Foundations, Psychological Foundations of Education

Ph.D. in Education: Psychological Foundations concentration

The Psychological Foundations of Education Program 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 with a concentration in Educational Foundations is offered and awarded under both Plan I (30 credit hours required) and Plan II (33 credit hours required) provisions as described in other sections of this catalog. All master of arts students are required to take PsyFdn 501, 503, 510, and 603.

The Doctor of Philosophy degree with a concentration in Psychological Foundations of Education requires at least 72 graduate credit hours, plus at least 18 hours for the dissertation. Of the 72 hours, 24 hours are in a minor field of study outside Psychological Foundations. Thirty of the 72 hours are required core courses in PsyFdn:

Ph.D. Required Core Courses

- 503 Principles of Human Development
- 505 Planning and Conducting Educational Research
- 510 Principles of Classroom Learning
- 574 Intro Educational and Psychological Measurement
- 603 Statistical Design and Analysis in Education
- 604 Multiple Regression Techniques as Applied to Education
- or- 606 Statistical Designs and Analyses for Multiple Dependent Measures
- 696 Internship
- and- 9 hours of electives in PsyFdn

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 in Education and 2) Quantitative Methods in Education. Both minors consist of a minimum of 24 credit hours of which no fewer than 18 hours are in Psychological Foundations. Required core courses for the two minors are listed below:

Cognitive-Psychological Processes

- 503 Principles of Human Development
- 510 Principles of Classroom Learning
- A Seminar in Cognition
- A Seminar in Learning and Motivation

Quantitative Methods

- 501 Introduction to Educational Statistics
- 505 Conducting Educational Research
- 574 Educational and Psychological Measurement
- 603 Statistical Design and Analysis in Education
- 604 Multiple Regression Techniques as Applied to Education
- or- 606 Statistical Designs and Analyses for Multiple Dependent Measures

All students interested in Psychological Foundations offerings are encouraged to contact the program for further information on courses, application procedures, and opportunities with the program.

Psychological Foundations of Education (PsyFdn)

193. Topics. (1-3)

303. [Ed Fdn 303.] Human Growth and Development. (1-3)
Principles of growth and development and implications for the school curriculum.

310. [Ed Fdn 310.] Learning and the Classroom. (3)
The basic principles of learning and their application to classroom situations.

391. Problems. (1-3)

393. Topics. (1-6)

493. Topics. (1-3) Δ

501. [Ed Fdn 501.] Fundamental Statistics in Education I. (3)

Sampling methods, descriptive statistics, estimation, tests of hypotheses, nonparametric methods, regression, analysis of variance, and applications. Required of Ph.D. candidates in the college; M.A. candidates may, with approval, take 501.

503. [Ed Fdn 503.] Principles of Human Development. (3)

504. [Ed Fdn 504.] Mainframe Computer Software Use in Education. (3)

An examination of ways computers can help solve educational problems; data storage and retrieval, computer operations, uses of computer packages, current and potential applications.

Prerequisite: 501 or permission of instructor.

505. [Ed Fdn 505.] Planning and Conducting Educational Research. (3)

Provides students with research skills relevant to education, including problem identification; reviewing literature; design, subjects, measures, report writing; types of research; and threats to validity. Prerequisite: 501 or equivalent.

510. [Ed Fdn 510.] Principles of Classroom Learning. (3)

513. [Ed Fdn 513.] Aging and Education. (3)
Characteristics of the aging process and theories about aging which have special relevance for educators dealing with adults.

524. [Ed Fdn 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. [Ed Fdn 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. [Ed Fdn 565.] Seminar in Thought and Language. (3)
(Also offered as Ling, Psych, 565L.)

574. [Ed Fdn 574.] Introduction to Educational & Psychological Measurement. (3)

An analysis of the educational and psychological tests used in a school testing program.

Prerequisite: 501 or equivalent.

586. [Ed Fdn 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. Problems. (1-3 hrs. each semester)

592. Workshop. [Workshop in Foundations of Education.] (1-4) Δ

593. Topics. (1-3) Δ

595. Advanced Field Experiences. (3-6, to a maximum of 12)

Prerequisites: acceptance into a graduate program and permission of instructor.

598. Directed Readings. [Directed Readings in Educational Foundations.] (3-6, to a maximum of 6)

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only.

603. [Ed Fdn 603.] Statistical Design and Analyses in Education. (3)

One-way randomized and block designs; factorial designs; fixed, mixed, and random models are introduced. Applications are stressed.

Prerequisite: 501 or equivalent.

604. [Ed Fdn 604.] Multiple Regression Techniques as Applied to Education. (4)

Advanced techniques of regression, factor analysis, canonical analysis, and multiple discriminant analysis are applied to educational problems. Computer applications of these techniques will be stressed.

Prerequisites: 504 and 603.

606. [Ed Fdn 606.] Statistical Designs and Analyses for Multiple Dependent Measures. (1-3)

Design and analysis of research involving more than one dependent variable. Utilizes techniques of discriminant analysis and classification, multivariate analysis of variance, canonical correlation, principal components analysis, factor analysis, canned programs. If enrolled for less than 3 hours, grade will be CR/NC. Permission of instructor required.

Prerequisites: 603, 604.

610. [Ed Fdn 610.] Seminar in Classroom Learning. (3)

An examination of selected learning theories with reference to application in classrooms or other learning situations.

613. [Ed Fdn 613.] Seminar in Human Growth and Development. (3)

Research and theory relevant to human growth and development, including implications for instruction and child-rearing.

645. [Ed Fdn 645.] Advanced Seminar in Foundations of Education. (3) Δ**650. [Ed Fdn 645.] Dissertation Seminar. (1-3)
Offered on a CR/NC basis only.****651. [Ed Fdn 651.] Seminar in Educational Statistics and Data Processing. (1-3)**

Selection of appropriate research design, measures and statistical techniques; application of statistical computer packages, and interpretation of statistical results.

Prerequisites: 504, 603 and permission of instructor. **Offered on a CR/NC basis only.**

674. [Ed Fdn 674.] Advanced Educational and Psychological Measurement. (3)

Prerequisites: 574 or equivalent.

**696. Internship. (3-6, to a maximum of 12)
Offered on a CR/NC basis only.****698. Directed Readings. [Directed Readings in Educational Foundations.] (3-6, to a maximum of 12)****699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.**

Secondary Education

(Formerly part of CIMTE)

Peter N. Winograd, Division Director
The University of New Mexico
Division of Teacher Education
Hokona Hall, Room 123
Albuquerque, NM 87131-1231
(505) 277-4533

Leroy Ortiz, Division Director
The University of New Mexico
Division of Language, Literacy, and Sociocultural Studies
Hokona Hall, Room 142
Albuquerque, NM 87131-1231
(505) 277-4037

Ginger Blalock, Division Director
The University of New Mexico
Division of Educational Specialties
Hokona Hall, Room 103
Albuquerque, NM 87131-1231
(505) 277-1499

**Division of Language, Literacy, and Sociocultural Studies (LLSS)
Bilingual, Communication Arts,
Language Arts, Middle Level,
Multicultural, Social Studies
(Secondary), TESOL/ESL, and
Teacher Education Specialty Areas**

Professors

William A. Kline, Ph.D., Stanford University
Peter N. Winograd, Ph.D., University of Illinois

Associate Professors

Leroy I. Ortiz, Ph.D., University of New Mexico
Anita Bradley Pfeiffer, M.A., University of Arizona
Donald Zancanella, Ph.D., University of Missouri

Assistant Professors

Mary Jiron Belgarde, Ph.D., Stanford University
Rebecca Benjamin, Ph.D., University of California
Greg Cajete, Ph.D., International College, William Lyon University
Federico Carrillo, Ph.D., University of New Mexico
Luisa Duran, Ph.D., University of New Mexico
Kathryn G. Herr, Ph.D., Ohio State University
Rosalita D. Mitchell, Ph.D., University of New Mexico
Elizabeth Noll, Ph.D., University of Arizona
Lynnette K. Oshima, Ed.D., Indiana University
Elizabeth R. Saavedra, Ph.D., University of Arizona
Dan P. Young, Ph.D., University of Washington

**Division of Educational Specialties (ES)
Mathematics, Science/Environmental,
Social Studies (Elementary),
Technology, and Teacher Education
Specialty Areas**

Professors

Craig W. Kelsey, Ph.D., University of New Mexico
Joseph G.R. Martinez, Ph.D., University of New Mexico
Patrick (Rick) Scott, Ed.D., Columbia University

Associate Professors

Anne L. Madsen, Ph.D., Michigan State University
Priscilla Norton, Ed.D., U.S. International University
Joseph H. Suina, Ed.D., University of New Mexico

Assistant Professors

Jaime Grinberg, Ph.D., Michigan State University
Leslie D. Hall, Ph.D., Ohio State University
Teresa M. Kokoski, Ph.D., University of Georgia
Kathryn M. Powell, Ph.D., Texas A&M University
Quincy Spurlin, Ph.D., University of Texas-Austin

Undergraduate Study Including Post-Baccalaureate Initial Teacher Preparation

Undergraduate Advisor Contact and Student Information Contact

College Advisement Center, Hokona Hall, 277-3190.

Information on program requirements, advisement, and application materials are available from the College Advisement Center or the Division Office of Teacher Education, both in Hokona Hall.

Secondary Education Majors and Degrees

Bilingual Education (7-12 grades): Bachelor of Arts in Education (B.A.Ed.)
Communication Arts Education (7-12 grades): Bachelor of Arts in Education (B.A.Ed.)
Earth Science Education (7-12 grades): Bachelor of Science in Education (B.S.Ed.)
French (7-12 grades): Bachelor of Arts in Education (B.A.Ed.)

- German (7-12 grades): Bachelor of Arts in Education (B.A.Ed.)
- Life Science Education (7-12 grades): Bachelor of Science in Education (B.S.Ed.)
- Mathematics Education (7-12 grades): Bachelor of Science in Education (B.S.Ed.)
- Social Studies Education (7-12 grades): Bachelor of Arts in Education (B.A.Ed.)
- Spanish (7-12 grades): Bachelor of Arts in Education (B.A.Ed.)
- Teaching English as a Second Language (TESOL/ESL) (7-12 grades): Bachelor of Arts in Education (B.A.Ed.)

Student Teaching Block	
CIMTE 462 Student Teaching	12
CIMTE 464 Student Teaching Seminar	3

Part of the Pre-Student Teaching Block includes a field experience in a secondary school. Pre-Student Teaching and the specific methods course must be taken concurrently. Pre-Student Teaching and the specific methods course in a chosen teaching field are prerequisites for admission into student teaching. The Student Teaching Block requires full-time student teaching for at least one **public school semester**. A total of 15 hours is required, which includes Student Teaching and Student Teaching Seminar.

Curriculum for Students Preparing to Teach in Secondary Schools

NOTE: Students should anticipate the Pre-Student Teaching Block to be offered in the Fall semester and followed with the Student Teaching Block in the Spring. Also, semesters may be adjusted to the school district calendars, where appropriate.

The undergraduate secondary teacher education programs are based on a broad general education. Beyond this general education, the program involves both pursuit of knowledge in areas of study in which students propose to become competent to teach, and experiences and course work in foundations of education, curriculum, and instruction.

Overall, the secondary teacher professional sequence may require from two to four semesters. Students are urged to consult the College Advisement Center and faculty advisors as early in their college careers as possible. Students should anticipate the Pre-Student Teaching Block to be offered in the Fall semester, followed with the Student Teaching Block in the Spring semester.

Special Requirements for Secondary Student Teaching

The student must have:

1. Completed an application at least one semester prior to student teaching, which includes a program of studies by the student's advisor(s). The program of studies will verify the following:
 - a. Completion of a major portion of work in the student's major and minor (degree check);
 - b. A GPA of at least 2.80 in the major teaching area and of at least 2.50 in the minor teaching field. Grades of C or better are required in all major and minor courses (see Requirements for Graduation from all programs in the preceding undergraduate and post-baccalaureate part of the College section of this catalog). A general GPA of at least 2.50 must be achieved in all courses attempted at the undergraduate level. Graduate students must also meet these requirements and maintain a 3.0 GPA.
 - c. A grade of B or better in all required education courses; -and-
 - d. Application has been made for graduation check.
2. Students enrolled in secondary student teaching are required to comply with a modified academic calendar, i.e., students are obliged to meet the public school schedule for the student's teaching semester.

General Education

To meet the general education requirements for secondary teacher education, students must complete the general education requirements as prescribed by each curriculum area.

Programs of Study

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. Because degree minors and certain patterns of course work in degree majors do not always meet licensure requirements, students programs must be approved by a faculty advisor in the program.

NOTE: Any student wishing to be certified in any majors or minors must be admitted to secondary teacher education before the semester in which they enroll in 462/464 Student Teaching Seminar.

Professional Sequence for Undergraduate and Post-Baccalaureate Students

The following professional sequence is required of all undergraduate and post-baccalaureate students working towards eligibility for a secondary initial teaching license. See the front part of the College section of this catalog on application for licensure.

NOTE: Program requirements may be revised to meet changing needs of professional educators in the future. See the College Advisement Center and faculty advisors far in advance of planned study.

Pre-Professional Study		
Educ 313	Develp/Psych/Soc Iss Ed	6
CIMTE 365	Microcomputers in Schools	3
Pre-Student Teaching Block		
Spc Ed 493	T/Working w/Spec Needs Population	2
CIMTE 438	T/Chg Rdg/Wrtg in the Con Flds	3
CIMTE 4xx	Special Methods (e.g., Teaching of Sciences, Teaching of Social Studies, etc.)	
CIMTE 362	Pre-Student Teaching I	3

Teaching Fields

Available only to students in the College of Education are majors in bilingual education, English education, mathematics education, teaching of reading, teaching English to speakers of other languages, and composite majors in communication arts/language arts, fine arts, sciences, and social studies. Minors are available in bilingual education, teaching English to speakers of other languages, and teaching of reading in the secondary schools.

The composite teaching fields are designed to enable prospective secondary teachers to acquire unified learning within a broad field of closely related subject-matter disciplines which would not be possible in a single subject-matter major teaching area. The application of this unified knowledge to the teaching of currently unified or generalized secondary school subjects (e.g., language arts, sciences, and social studies) is the purpose of composite teaching field preparation.

The teaching field majors, composites, and/or minors are listed below.

NOTE: Specific requirements are subject to change due to state revisions, as well as changes within the College. It is imperative to obtain information from the College Advisement Center and appropriate faculty advisors. The Division faculty for each teaching field are listed above at the beginning of this Secondary Education section.

Communication Arts. The major consists of 54 hours of interdisciplinary study in literature, composition, linguistics, communication and journalism and theatre arts.

Fine Arts. The major in Fine Arts consists of 36 hours of course work focused on one of two areas:

Theatre. This program 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 program 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 information.

Science. The major in science consists of course work in the broad fields of science and mathematics. Four areas of concentration are available in the composite major:

Physical Science. (Physics Emphasis) This program requires 30 hours in physics and 8 hours EACH in biology, chemistry, earth and planetary sciences and mathematics.

Physical Science. (Chemistry Emphasis) This program requires 30 hours in chemistry and 8 hours EACH in biology, earth and planetary sciences, physics and mathematics.

Earth Science. This program requires 30 hours of earth and planetary sciences and 8 hours EACH in biology, chemistry, physics, and mathematics.

Life Science. This program requires 30 hours of biology and 8 hours EACH in earth and planetary sciences, chemistry, physics, and mathematics.

Social Studies. The composite major in social studies requires history, (including U.S. and Western Civilization), political science, anthropology, economics, geography and sociology. Students are required to have a major in history or one of the social sciences; in addition, specific courses in history, political science, geography, sociology, economics and anthropology are required.

Mathematics. This program requires 34 hours in mathematics, enabling students to develop proficiencies in calculus, algebra, geometry, probability and statistics, computing, application of mathematics and history of mathematics.

Bilingual Education. Students may elect a teaching field in bilingual education with either a Spanish-English or Navajo-English concentration. This program meets K-12 licensure requirements.

Teaching English to Speakers of Other Languages (TESOL). Students may elect a 36 hour teaching field in Teaching English to Speakers of Other Languages. This program meets K-12 licensure requirements.

Reading. Students may elect a 24 hour teaching field in Reading. This program meets K-12 licensure requirements.

Graduate Programs

Graduate Advisor Contact and Student Information Contact

Contact office by specialty area for student information and application packet for graduate admissions.

Bilingual, Communication Arts/English, General Secondary Curriculum, Language Arts/Literacy, Middle Level, Multicultural, Social Studies (Secondary), and TESOL/ESL Education Specialty Areas

Division of Language, Literacy, and Sociocultural Studies
Paula Pascetti, Hokona Hall, Room 142, 277-4037

Mathematics, Science/Environmental, Social Studies (Elementary), and Technology Education Specialty Areas

Division of Educational Specialties
Julie McConnell, Hokona Hall, Room 103, 277-1499

Teacher Education Specialty Area

Division of Teacher Education
Irene Martinez, Hokona Hall, Room 123, 277-4533

Application Deadlines

Summer Session and Fall Semester	March 31
Spring Semester	October 10

Degrees Offered

M.A.: Secondary Education

Ed.D.: Multicultural Teacher and Childhood Education concentration

Ph.D. in Education: Multicultural Teacher and Childhood Education concentration

Certificate: Education Specialist (Ed.S.), Curriculum and Instruction

For information on specific M.A., Ed.S., and doctoral programs and emphases, contact the program office. For information about doctoral programs, students are referred to appropriate sections of this Catalog.

Prerequisites for Graduate Study

For most applicants, eligibility for a teaching license is required either upon entrance or as a part of the advanced degree requirement. Check undergraduate and post-baccalaureate teacher preparation licensure requirements in preceding parts of the College section of this catalogue, as well as above in Secondary Education. Any student who wishes to work toward teacher licensure in Secondary Education must be formally admitted to a licensure program, as well as graduate study. Students holding a bachelor's degree without a professional education background should consult with an advisor about a 39-50 credit hour program leading to both licensure and a master's degree. However, in most instances, only a six-hour overlap between a basic licensure program and a master's degree is permitted. In cases where licensure is clearly not a professional goal of the student, the student should submit a letter of intent as part of the application so stating. The program faculty will then make recommendations on admittance to the program and approval of program of study. Further information about how to complete the application process for admissions is available from the College Advisement Center.

M.A. in Secondary Education

Prospective students must apply for admission and be formally admitted by the 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 most individuals apply that can be accommodated.

Emphases (specialty areas) in bilingual education, communication arts/English education, educational technology, curriculum, mathematics, middle school, reading, science, social studies, and teaching English as a second language (TESOL/ESL), as well as general secondary education are available. Please contact designated specialty area office listed above.

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. 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. Not more than 4 hours of problems (591) may be a part of the program.
2. All students must complete the M.A. core, which consists of Educ 500 or PsyFdn 501, Bil Ed 582, CIMTE 500, 507 or 542, 583 and 590.
3. A comprehensive written examination (Plan II) will be administered.

Multicultural Teacher and Childhood Education Doctoral Concentration

The College offers one doctoral concentration in Teacher Education: Multicultural Teacher and Childhood Education. This provides for the study of teaching and curriculum and instruction in the multicultural settings of the Southwest. Both the Ed.D. and the Ph. D. require a core of Foundational Studies: Curriculum Theory; Pedagogy in Teacher Education; Technology and Education; and Multicultural Education. Both the Ed.D. and the Ph.D. support a variety of experiences through supportive fields of study, practice and internships in multicultural classroom settings, and intensive study of teaching.

Persons interested in applying for admission to this doctoral concentration should contact the specialty area division office for student information and an application packet. All materials required must be submitted before an applicant will be considered for admission.

Education Specialist Certificate

Programs offer the Education Specialist Certificate in Curriculum and Instruction.

SPECIAL EDUCATION

Ginger Blalock, Division Director
The University of New Mexico
Division of Educational Specialties
Special Education, Hokona Hall, Room 273
Albuquerque, NM 87131-1231
(505) 277-5018, FAX (505) 277-8679

Professors

Gary W. Adamson, Ed.D., University of Kansas
Ruth Luckasson, J. D., University of New Mexico
Deborah D. Smith, Ed.D., University of Washington

Associate Professors

Isaura Barrera, Ph D., State University of New York (Buffalo)
Ginger Blalock, Ph. D, University of Texas (Austin)

Elizabeth Nielsen, Ph.D., Purdue University
Christine Schnieders, Ph.D., University of New Orleans
Loretta Serna, Ph.D., University of Kansas

Assistant Professors

Diane Raborn, Ph.d., University of New Mexico
Anne Tafoya, Ph.D., University of New Mexico
Linda Ware, Ph.D., University of Kansas

Lecturer

Carlene Van Etten, Ed.S., George Peabody College for Teachers

Special Education offers degrees and programs at the following levels: Associate of Arts in Education, a non-teaching minor, and an undergraduate major.

Undergraduate Program

Undergraduate Advisor Contact and Student Information Contact

For program, application, and admission information, see below.

Majors and Degrees

Special Education Paraprofessional Training: Associate of Arts (A.A.)
Special Education (K-12 grades): Bachelor of Science in Education (B.S.Ed.)

Minor

Non-Teaching Undergraduate Minor

Special Education Paraprofessional Training

Contact Special Education program for program description and availability.

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. Letters of notification are mailed describing the application outcome.

Step Three

Complete course sequence as outlined on individual program of studies. Advisor assistance should be sought.

Choose three (3) of the following:

- Spc Ed 409 Affective Education of Except Person 3
- Spc Ed 420 Nature & Needs of Mental Retardation 3
- Spc Ed 430 Nature & Needs of Behavior Disordered 3
- Spc Ed 440 Nature & Needs of Learn Disabled Pers 3

Choose two (2) of the following:

- Spc Ed 302 Introduction to Communicative Disorders 3
- Spc Ed 465 Art & the Exceptional Child 3
- Spc Ed 467 Survey of Physical Defects & Path 3

Undergraduate Major

An undergraduate major in Special Education is available. It requires 30 hours of Special Education, and 6 (presently) hours of supporting courses. A combined major with Elementary Education is also available. Upon completion, this Dual License Teacher Preparation Program offers eligibility for Special Education Licensure (K-12 grades) and Elementary Education Licensure (K-8 grades). 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 Office for information on application and admission procedures for the paraprofessional program and the undergraduate major. Individuals interested in the nonteaching minor should contact the Special Education Records Secretary for an application.

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 GPA of 2.50 prior to admission to any Special Education undergraduate program. Other specific requirements are stated in program documents, which describe individual programs. Upon acceptance into any program, 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 College of Education Advisement Center or request an appointment with an undergraduate program advisor.

Graduate Program

Graduate Advisor

Inquire within the program.

Student Information Contact

Jo Sanchez - Hokona Hall, Rm. 273, 277-5018

Review of Applications Begins

- Fall semester: February 28 (Ed.D., Ph.D.)
March 15 (M.A.)
- Spring semester: September 30 (M.A., Ph.D., Ed.D.)
- Summer session: March 31 (M.A. only)

NOTE: Early application is recommended. Fall (February 28), Spring (September 30), Summer (March 31) dates apply for financial aid.

Degrees Offered

- M.A.: Special Education
- Ed.D.: Special Education concentration
- Ph.D. in Education: Special Education concentration
- 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.). Emphases in learning disabilities, behavior disorders, mental retardation, severe/profound handicaps, gifted, and educational diagnosis are available. The program also offers at-risk, early childhood, assistive technology and transition as concentration areas. Contact the program for specific information about available programs and related requirements.

Application

Persons applying for admission to graduate programs in special education must have a complete file 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 (2) official copies of all transcripts to the University of New Mexico Office of Graduate Studies.
3. Application form for admission to the Special Education program.
4. A letter of application which includes reason for applying, brief description of career goals, and brief description of experience and accomplishments to the Special Education program.
5. Transcripts of the NTE or GRE examination results to Special Education.
6. Be available for personal interview with program faculty.

Persons applying for admission to the Master of Arts degree program should also submit the following items:

1. Three letters of recommendation from persons qualified to comment on the applicants potential to do graduate work and/or teach; send directly to Special Education.

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 (5) letters of recommendation; please send directly to the Special Education;
2. A sample of writing (term paper, M.A. thesis, or published or unpublished articles);
3. Professional vita;
4. Evidence of at least two years successful special education teaching experience or equivalent;
5. Transcript of Graduate Record Exam scores (aptitude only) to Special Education.

Graduate and Post-Baccalaureate Programs

Special Education offers a post-bachelors program leading to New Mexico teacher licenses in special education. Admission decisions are based on the application package. Particular attention is paid to the NTE scores and the GPA (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.)

The Master of Arts requires a minimum of 36 credit hours. Students not presently holding a valid teaching certificate may anticipate a longer program. 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 sixth year certificate is designed for the practitioner who feels the need for advanced training but for whom the doctorate is not appropriate for her/his career objectives. The program requires a minimum of 36 hours beyond the M.A. For more details contact the programs office for a description.

Special Education offers both the Ed.D. and Ph.D. degrees. Students may orient their program for research, service or teacher training. The program requires a minimum of 72

hours plus dissertation beyond the bachelor's degree. Interested applicants should contact the program for a detailed description.

Special Education (Sp Ed)

104T. Field Applications I. (3)

This field course allows paraprofessional trainees to explore populations, programs, and potential employment settings of interest. Placement provides students the opportunity to apply and strengthen competencies learned through formal instruction.

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.
Coresquisite: 204.

204. Introduction to Special Education. (2)

Field experience and seminar in special education settings. Required of all undergraduate majors.
Coresquisite: 201.

293. Topics. (1-3)

Designed to offer specialized content to paraprofessionals working with handicapped learners.

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 the Mildly Handicapped. (3)

To provide the undergraduate special education student with a variety of specific strategies and a knowledge of materials which are important in meeting the needs of mildly handicapped students at all ages and in a variety of classroom settings.
Prerequisites: 201, 204; corequisites: 304, 313

304. Practicum. (1-4) [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 4 week, 32 hour instructional block.
Coresquisites: 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 and 204.

313. Curriculum for the Mildly Handicapped Learner. (2)

Primary focus areas: altering/adapting basic curriculum, implementing behavioral, affective, academic curriculum, and selecting/altering curriculum content for special needs of handicapped learners.
Coresquisites: 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)

(Also offered as ETSCS 383.) 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. 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. Nature and Needs of the Mentally Retarded. (3)

Offers a study of the social, medical, emotional, physical, and mental characteristics of mentally retarded persons. Emphasizes classification, diagnosis and treatment from medical, psychological, sociological, and educational points of view.
Prerequisite: 201.

430. Nature and Needs of the Behavior Disordered Person. (3)

Covers the characteristics of emotionally or behaviorally disordered children. Emphasis is on identification, behavioral description, classification, and intervention strategies in various therapeutic environments.

440. Nature and Needs of Learning Disabled Persons. (3)

Covers the characteristics of the learning disabled person. Emphasis is on historical development of the field, characteristics, diagnosis, and definitions, and research findings.

452. Teaching the Severely/Profoundly Handicapped. (3)

Strategies and techniques for teaching the severely handicapped (TMR) child.
Prerequisites: 201, 204, 420, and program of studies (contract) on file.

462. Student Teaching in Special Education. (1-7) [7]

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 1 to 2 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)

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. 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. Physical Disabilities and Causes.** [Survey of Physical Defects and Pathology.] (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.

Prerequisites: Spc Ed 201 or permission of instructor. {Fall}

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. {Fall, Spring}

492. Workshops in Special Education. (1-4)

Prerequisite; permission of instructor.

493. Topics in Special Education. (1-3) Δ**495. Field Experience (3-6, to a maximum of 12)**

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.

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. 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 as topics vary.

506. Sex Education for Exceptional Person. (3)

Presentation of sexual information, value system, teaching and counseling techniques, and alternative lifestyles applicable to all persons, including handicapped, with special emphasis on retarded.

Prerequisite: permission of instructor.

508. Techniques of Parent-Teacher Counseling. (3)

(Also offered as Couns 510.) Provides personnel who work with parents of exceptional children (i.e., special education teachers, counselors, and principals) with a positive attitude, knowledge, and skills associated with facilitating child growth in the classroom by cooperative home-school planning.

509. 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.

512. Teaching the Secondary Work Study Student. (3)**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.

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. Nature and Needs of the Mentally Retarded. (3)

Introductory course on social, medical, emotional, physical, and mentally retarded children. Emphasis on classification, diagnosis, and treatment from medical, psychological, sociological, and educational points of view.

Prerequisite: 501.

521. Motor Learning of People with Disabilities. [Motor Learning of the Handicapped.] (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. {Spring}

522. Motor Learning of the Handicapped. (3)

(Also offered as P E-P, Recrea 522.)

523. Teaching the Educable Mentally Handicapped. (3)

Covers with education of mentally handicapped individuals. Reading and discussion of global objectives reflecting needs of retarded persons to achieve success and independence in the adult community are integrated with curriculum and instructional theory lectures.

Prerequisite: 520.

525. Legal Rights of Handicapped Persons. (3)

Study of substantive law in area affecting the lives of exceptional persons and an analysis of the legal and practical reasons for the laws involvement.

526. 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.

530. Nature and Needs of the Behavior Disordered. (3)

Introductory course on characteristics of emotionally or behaviorally disordered children. Emphasis on identification, behavioral description, classification, and intervention strategies in various therapeutic environments.

532. Education of Behaviorally Disordered. (3)

Designed to instruct students in development and maintenance of educational intervention programs for the behaviorally disordered child. Emphasis on philosophical approach, intervention strategies, environmental arrangement, program organization, behavior management, classroom management, parent involvement, and case conferencing.

540. Nature and Needs of Learning Disabled Person. (3)

Introductory course on characteristics of learning disabled persons. Emphasis placed on historical development of field, on characteristics, diagnosis, and definitions, and on research findings concerning treatment. Graduate students enroll in 540.

541. Precision Teaching and Direct Instruction in Special Education. (3)

Provides teachers with an introduction to the philosophy and techniques of precision teaching and direct instruction. Prerequisite: permission of instructor; 519 recommended.

542. Teaching the Learning Disabled. (3)

Covers the basic principles of curriculum development for learning disability children. Includes materials and methods unique and effective with learning disability children.

543. Reading for Handicapped Learners. (3)

Focus is on specific materials, techniques, special programs, and adaptations for handicapped learners with severe prob-

lems in reading. Prerequisites: completion of reading courses required for teacher certification.

552. Teaching the Severely/Profoundly Handicapped. (3)
 Designed to give an overview of general programming considerations for severely/profoundly handicapped persons. Students are to demonstrate competencies in writing instructional objectives, task analysis, instructional program design, and in developing evaluation procedures for instructional programs. Prerequisites: 420/520 and Department majors only or permission of instructor.

553. Assessment for Special Education Teachers. (3)
 Provides special education majors knowledge of assessment procedures for diagnosis and placement of exceptional children and skills in formal and informal assessment for educational planning in the special education classroom. Prerequisite: 201 or 501.

564L. [564.] Administration and Use of Diagnostic Tests in Special Education. (3)
 Assists special education teachers in becoming proficient in the administration of educational diagnostic instruments for evaluating students progress. Emphasis is also placed on interpretation of the test results in view of specific deficits and assets in the individuals learning patterns for future programming and individualized instruction. Basic concepts in measurement and test construction are also introduced. Prerequisites: Ed Fdn 564, permission of instructor; department majors only.

565. 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. [566.] Differential Diagnosis I. (3) Pepe
 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: 564L or permission of instructor.

567L. [567.] 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. [568.] 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)
Offered on a CR/NC basis only.
 Internship is laboratory and clinical experience conducted primarily within a public school setting; allows for direct application of theoretical knowledge with children. Prerequisites: 567L, 568L. **Offered on a CR/NC basis only.**

570. Nature and Needs of the Gifted. (3) Nielsen
 Overview of characteristics of the gifted, educational programs, screening and identification techniques. 570 is a prerequisite to other courses in gifted education.

572. Teaching the Gifted Person. (3)
 Covers the methods, materials, and procedures that have been effective in public school programs for the gifted. Prerequisite: 570 and department majors only.

573. Instructional Strategies in Education of the Gifted. (3)
 Presents a series of four generic strategies; the Hilda Taba method, which is usable at all grade levels and in all content areas. Prerequisite: 572.

576. Early Childhood Visual/Motor Development & Curriculum. (3)
 (Also offered as CIMTE 576.)

580. Language/Learning in Special Education Classrooms. (3)
 Designed to introduce students to relationship of language and learning in handicapped populations. Emphasis placed on patterns of discourse used at home and school, by teachers, printed material, and nonvocal communication systems.

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. (Fall, Spring)

582. Teaching the Communicatively Disordered Child. (3)
 Integrates theoretical knowledge of disordered communication with practical application to teaching children with speech and language handicaps. Prerequisites: SHS 430, 530; must be admitted to graduate study in the department.

583. Fundamental Assistive Technology. (3)
 Prerequisite: Basic computer competencies. (Summer, Fall, Spring, as needed)

585. Educational Assistive Technology. (3)
 Prerequisite: Overview of Assistive Technology and/or demonstration of basic computer use. (Summer, Fall, Spring, as needed)

588. Organization and Supervision of Special Education Programs. (3)

591. Problems. (1-3 hrs. each semester)
 Prerequisite: permission of instructor.

592. Workshops in Special Education. (1-4)

593. Topics. (1-3)

595. Advanced Field Experience. (3-6, to a maximum of 12)
 Planned and supervised professional laboratory experiences in agencies or institutional settings.

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

601. Professional Seminar in Special Education. (3)
 Luckasson, Watson
 A seminar for post-masters students in special education degree programs. It is recommended this seminar be taken during the first semester of enrollment. Prerequisite: admission to post-masters work in Special Education or permission of instructor.

608. Seminar: Parents and Families of Exceptional Persons. (3)
 Designed for post-masters student desiring to work with parents of exceptional children in greater depth than parent/teacher conferences. Will be combination of program design and practical experience. Prerequisite: 508 or permission of instructor. Masters students may enroll only with 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. Prerequisite: 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 mentally retarded persons. Current research and development projects are reviewed.

Prerequisites: 520, 522 or permission of instructor. May be repeated for credit when topics differ. Masters students may enroll with permission of instructor.

630. Clinical and Behavioral Aspects of Behavior Disorders. (3)

Designed to investigate existing research in the area of behavior disorders and to identify specific areas lacking significant research. Emphasis or areas of study include theory, etiology intervention, training, and programs.

635. Seminar in Behavioral Disorders. (3)

Prerequisite: permission of instructor.

640. Clinical Aspects of Learning Disabilities. (3)
Watson

Designed to investigate existing research in the area of behavior disorders and to identify specific areas lacking significant research. Emphasis or areas of study include theory, etiology intervention, training, and programs.

645. Seminar in Learning Disabilities. (3)

Study of current research and theoretical literature on selected topics in learning disabilities with in-depth analysis of a major issue in the field. Prerequisites: 440, 542, and permission of instructor.

675. Seminar on the Gifted. (3) Δ

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.

685. Seminar in Assistive Technology. (3)

Prerequisite: competencies in use and assessment for assistive technology. (Summer, Fall, Spring, as needed)

696. Internship. (3-6, to a maximum of 12)

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 hrs. per semester)
Offered on a CR/NC basis only.**

Students may not receive credit in Dissertation until the semester in which the doctoral comps are passed. Offered on a CR/NC basis only.

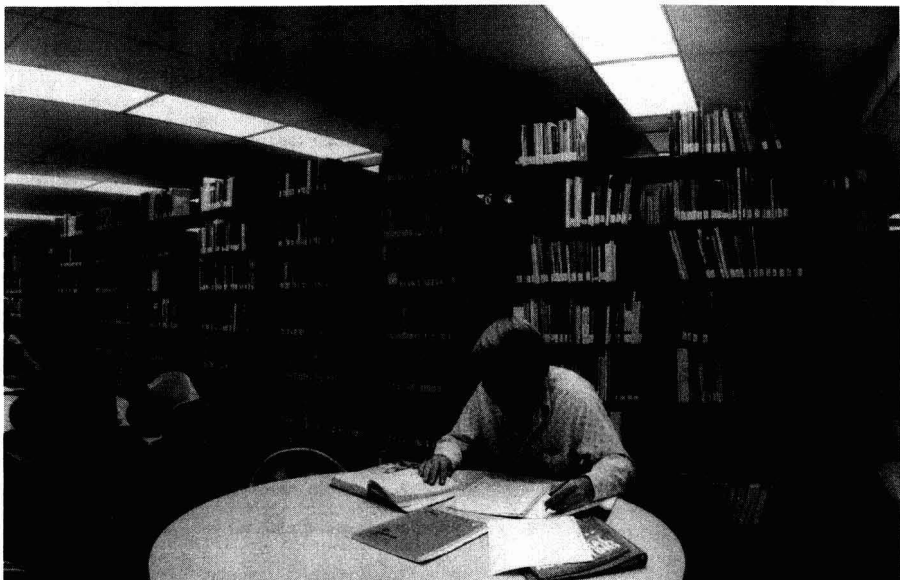
Special Physical Education

The University of New Mexico
Division of Physical Performance and Development
Special Physical Education, Johnson Center 115A
Albuquerque, NM 87131-1231
(505) 277-4114

Associate Professor

Ernest K. Lange, Ed.D., University of New Mexico

An emphasis in Special Education is offered both at the Master's and doctoral levels. No baccalaureate program is available. Description of the courses required in these programs can be found in the sections on Professional Physical Education and Special Education. Additional information may be obtained from program faculty.



SCHOOL OF ENGINEERING

Paul A. Fleury, Dean
The University of New Mexico
School of Engineering
Farris Engineering Center 107
Albuquerque, NM 87131-1336
(505) 277-5521

Introduction

ENGINEERS and COMPUTER SCIENTISTS are creators, problem solvers, and builders. They direct their imagination, ingenuity, resourcefulness, and intelligence to the economical use of our natural resources. Few professions offer individuals greater challenge, stimulation, and satisfaction of creative accomplishment. In these days, when breathtaking technological advances are commonplace and the impacts of technology are widely recognized, engineers and computer scientists require ever greater breadth and depth of mathematical and scientific 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 several 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. More accurately, that is just the first phase of education. True professional engineers and computer scientists never stop learning; they are continually broadening 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 New Mexico Engineering Research Institute, Institute for Space and Nuclear Power Studies, Center for High Technology Materials, Center for Micro-Engineered Materials, Microelectronics Research Center, Center for Autonomous Control Engineering, High Performance Computing

Education and Research Center, Center for Radioactive Waste Management, Alliance for Transportation Research, Alliance for Photonic Technology, Waste Management Education Research Consortium, Advanced Materials Laboratory, U.S. Industrial Coalition, Training and Research Institute for Plastics, Alliance for Satellite Technology Research and Application, and Center for Global Environmental Technologies.

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. The baccalaureate program in computer science is accredited by the Computing Sciences Accreditation Board. 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 only for students who enter the program with all of the prerequisite skills and who can carry the prescribed scholastic loads every semester as indicated under the respective departmental programs. 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 the prescribed 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.

Associate of Science Degree. The Associate of Science in Pre-Engineering offered by the School of Engineering is a two-year degree requiring the completion of the freshmen and sophomore years of one of the engineering curricula. It is not a professional degree and does not prepare one for specific job opportunities. This degree is being phased out. Those students in the program have until May 2001 to complete degree requirements. No additional students are being accepted into the program.

Courses Offered upon Demand. Engineering departments attempt to schedule courses listed in the Catalog as offered upon demand so as to satisfy student needs. Students may present a petition for a specific departmental course for consideration by the chairperson, at least two weeks before the beginning of open registration. This petition is to include the names of those students who will enroll.

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, Army, 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 concerned in planning their programs.

Admission Requirements

Academic Preparation

High School students intending to study engineering or computer science should take all of the high school mathematics and English possible, as well as chemistry and physics. The mathematics should include a minimum of 2 units of algebra, 1 unit of geometry, and 1/2 unit of trigonometry or college-preparatory mathematics. High school courses in calculus and computer programming are not required, but students who have had them may be able to progress faster toward their degrees.

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 a premajor status; as internal or external transfers or as readmits in a premajor status; or as internal or external transfers or readmits in a department major status.

As of January 1996, freshmen students admitted to the University of New Mexico who declare engineering or computer science as a major and meet the eligibility criteria listed below will be automatically enrolled in the School of Engineering in a premajor status. Their academic records will be maintained by the Student Programs Office.

1. ACT math score placing student in Math 150 or above; and
2. ACT English score of 19 or higher; and
3. Average of ACT Reading and Science Reasoning scores equaling 20 or higher.

Freshmen who do not initially meet the above criteria or any student wishing to transfer from the Office of Undergraduate Studies, from other degree-granting colleges, from non-degree status, or from other accredited institutions to the School of Engineering in the premajor status must meet the following requirements. Their academic records will be maintained by the Student Programs Office.

1. Minimum 2.20 cumulative grade-point average; and
2. Completion of Math 120 or equivalent with a C- or better; and
3. Completion of all Introductory Skills courses, as required; and
4. Completion of no more than 60 credits that count toward the declared major in the School of Engineering.

To be eligible for admission to one of the five departments in the School of Engineering in a department major status, students must meet the following 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, and social science courses.
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 specific program requirements, as noted in the departmental sections of this catalog.

For additional information about premajor status or other aspects of admission, contact the Student Programs Office, Farris Engineering Center, (505)277-4354.

Graduation Requirements

Specific graduation requirements are as follows:

1. Candidates for bachelors 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 major chairperson during the second semester of their junior year, but in no case no 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 grade-point average on work taken at the University of New Mexico which is counted toward the degree and at least a 2.00 grade-point average on all work taken at UNM. Among the credits presented for the degree not more than 9 credit-hours shall be D. Departments may also have more restrictive academic requirements which must be met.
4. For minimum residence requirements, see the section on university-wide Graduation Requirements.
5. Physical education activity courses are not acceptable toward bachelor degree requirements in the School of Engineering.
6. Introductory Studies courses are not acceptable toward bachelor degree requirements in the School of Engineering.
7. Total number of hours required for graduation varies, depending on the specific program.
8. The normal method for satisfying the requirement for competence in English writing (see *Graduation Requirements*) in the School of Engineering is to pass Engl 102 with a grade of C or better. Transfer credit for a course equivalent to Engl 102 from another institution also satisfies this requirement as does credit earned through appropriate CLEP or AP tests. Sufficiently high ACT or SAT scores may exempt School of Engineering students from English 101, but not from English 102.
9. Requirements for all B.S. engineering degrees in the School of Engineering include at least 18 credit-hours of humanities and social science courses distributed as follows:
 - a. At least 6 credit-hours in humanities.
 - b. At least 6 credit-hours in social science.
 - c. At least 6 credit-hours must be taken from one department. Three of these 6 credit-hours must be non-introductory.

Some programs have additional H&SS requirements. Students should therefore see their academic advisors for departmental H&SS regulations and lists of acceptable H&SS electives.

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 premajor 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 School's Student Programs Office each semester in addition to an advisor in his or her current college (e.g., an advisor in the Office of Undergraduate Studies).

Minority Programs

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 three minority-focused student programs. They are the Minority Engineering Program (MEP), the NASA Training Project, and the Native American Program-School of Engineering (NAPCOE). Study groups, tutoring, workshops, summer programs and scholarships are offered through these offices. Four student groups are also sponsored: Hispanic Engineering Organization (HEO), 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 GPA of 2.00 may enter the Engineering Co-op Program if a suitable employer can be found to sponsor the student. A 2.50 GPA is required of students majoring in computer science, computer engineering, or electrical engineering, and the majority of employers seek students with 2.50 GPAs or better. The student must have completed at least two semesters at the University of New Mexico, carrying a full-time load, 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 GPA of 2.00 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, activity 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 one credit-hour. A maximum of six 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 (WERC) 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. WERC members include UNM, New Mexico Institute of Mining and Technology, New Mexico State University, Navajo Community College, Sandia National Laboratories and Los Alamos National Laboratory.

Licensure

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.

Dismissal

A student may be dismissed from the School of Engineering for any one of the following reasons:

1. Being on academic probation and not making satisfactory progress towards a School of Engineering degree.
2. Accumulating 30 or more attempted credit-hours of D+, D, D-, F, WF or NC other than those subject to removal by academic renewal or use of the repeat policy.
3. Not meeting the conditions for being removed from School Probation at the end of the specified semester.

No student is subject to dismissal from the School of Engineering until the end of the semester in which the cumulative hours attempted at UNM exceed 16.

A student dismissed from the School of Engineering may not apply for readmission to the School of Engineering for a minimum period of one calendar year from the date of dismissal. All applications for readmission to the School of Engineering are reviewed and considered. However, application does not guarantee readmission.

Dismissal from the School of Engineering is not a suspension from the university. However, a student dismissed from the School of Engineering is disenrolled from all classes for the following semester or summer session and a hold is placed on his or her registration. A student dismissed from the School of Engineering may transfer to another college in the university subject to that college's regulations, at which time the hold will be lifted. However, a student dismissed from the School of Engineering is not permitted to register for any course offered by the School of Engineering.

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 UNM 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 premajor status, a cumulative grade-point based on work taken at UNM and accepted toward a particular School of Engineering degree falls below a 2.20 or below 2.00 in most recent semester.
- b. When in a department degree status, a cumulative grade-point average based on work taken at UNM 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 premajor status or department degree status, there is unsatisfactory progress towards a School of Engineering degree.

Suspension

A student on academic probation during any regular semester may, at the end of that semester, be suspended from the university if the condition for the academic 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 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 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 UNM exceed 16.

All applications for readmission to the university or the School of Engineering are reviewed and considered. However, application does not guarantee readmission.

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 a 29 or higher on the English portion of the Enhanced ACT exam or a score of 650 or higher on the verbal portion of the SAT exam is not required to take English 101. The student may graduate with 3 credit-hours less, as long as the total degree hours does not fall below 128, or 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*.

Students transferring into the School of Engineering from other universities will normally be admitted on a provisional basis until official transcripts of all of their previous work have been evaluated by School of Engineering advisors.

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 UNM units until

the admission requirements have been met. If such a transfer student is ineligible to enroll in other UNM units, the student should seek advisement in the School of Engineering Student Programs Office.

Scholastic Regulations

The student should become familiar with the general academic and scholastic rules which 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. Students may be admitted to courses numbered 300 or above that are required in the Junior and Senior years of their program in the School of Engineering if: 1) they are not more than 8 hours short of completing all freshmen 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 freshmen 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 freshmen 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 freshmen and sophomore years have been completed. Failure by a student to observe this rule can result in the student being placed on School of Engineering probation or dismissed from the School of Engineering.

The School of Engineering will not accept 300-level or above engineering courses which have been taken by extension or correspondence except by prior approval of the appropriate Department 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 Dean of the School 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 and social science (H&SS) 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.

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-F 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.

Humanities and social science (H&SS) courses are required for all undergraduate degrees in the School of Engineering. Lists of acceptable courses and required categories of

courses are available in the Student Programs Office and in departmental offices.

Graduate Programs

Engineering Graduate Committee

Edward S. Angel, Ph.D., Professor of Computer Science
 Ronald C. DeVries, Ph.D., Professor of Electrical and
 Computer Engineering
 Richard J. Heggen, Ph.D., Professor of Civil Engineering
 Toivo T. Kotas, Ph.D., Associate Professor of Chemical and
 Nuclear Engineering
 Anil K. Prinja, Ph.D., Professor of Chemical and Nuclear
 Engineering
 Gregory Starr, Ph.D., Professor of Mechanical Engineering

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 a bachelor's degree 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.

Master of Science

The University, under the auspices of the departments of the School of Engineering, offers a Master of Science degree 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 in residence at the University.
4. Six to nine hours of Thesis (599) credit, with a maximum of nine hours of thesis and problems, or independent research, combined.

Plan II +

1. A minimum of 30 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 in residence at the University.

A master's degree program in engineering is available for students at the Center for Graduate Studies at Los Alamos. Approved courses offered at this Center carry graduate credit. Those interested should write for details to the graduate advisor of the department of their particular field of engineering. Advisement is required for graduate students each semester.

+NOTE: Individual department requirements may differ. See the appropriate departmental requirements.

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 major difference between the Master of Science degree and the Master of Engineering degree is one of emphasis. The M.S. degree is based on the engineering sciences and their use in research and development. The M.Eng. degree is based on existing technology and its use to address significant societal and national problems. The M.Eng. programs are generally interdisciplinary in nature, in contrast to the M.S. degree, which is primarily in one discipline.

The M.Eng. in Manufacturing Engineering is offered with three areas of emphasis: CIM (Computer-Integrated Manufacturing), semiconductor and electronics manufacturing, and mechanical manufacturing. A total of 36 hours is required for the M.Eng. degree. Interested students should contact the graduate 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 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.

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 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 bachelors 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.

Scientific and Engineering Computation Certificate

The Scientific and Engineering Computation (SEC) certificate program is an interdisciplinary graduate program aimed at promoting advanced research in high performance computing. It provides graduate students in engineering, science and mathematics the opportunity to complete a structured program in applied high performance computing while still satisfying all requirements of a traditional-degree program. Students will learn to use high performance computing effectively within their disciplines. Extensive computational resources are available through the High Performance Computing, Educational and Research Center (HPCERC). Admission to the program is based on undergraduate GPA, letters of recommendation and GRE scores. Research and teaching assistantships are available through the SEC program and through participating departments. Information and application materials can be obtained by writing to: Scientific and Engineering Computation Program; The University of New Mexico; High Performance Computing Education and Research Center; Galles Building 1601 Central Ave. 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, 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 and mechanical engineering) in Computer Science and in Optical Sciences (with concentration in optical engineering).

CHEMICAL AND NUCLEAR ENGINEERING

Joseph L. Cecchi, Chair
The University of New Mexico
Department of Chemical and Nuclear Engineering
Farris Engineering Center 209
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Professors

Joseph L. Cecchi, Ph.D., Harvard University
Abhaya K. Datye, Ph.D., University of Michigan
Mohamed S. El-Genk, Ph.D., University of New Mexico
David Kauffman, Ph.D., University of Colorado*
Toivo T. Kodas, Ph.D., University of California (Los Angeles)
Werner Lutze, Ph.D., Universitat Berlin, Germany

H. Eric Nuttall, Ph.D., University of Arizona
Anil K. Prinja, Ph.D., University of London
Norman F. Roderick, Ph.D., University of Michigan
Douglas M. Smith, Ph.D., University of New Mexico
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
A. Sharif Heger, Ph.D., The University of Texas (Austin)**
Richard W. Mead, Ph.D., University of Arizona*

Assistant Professors

Gabriel P. Lopez, Ph.D., University of Washington
Timothy L. Ward, Ph.D., University of Washington

Professors Emeriti

Chen Yen Cheng, Ph.D., Kyoto University
Glenn A. Whan, Ph.D., Carnegie Institute of Technology*

Lecturer III

Robert D. Busch, Ph.D., University of New Mexico

UNM/Sandia National Laboratory Professors

C. Jeffrey Brinker, Ph.D., Rutgers University
Ronald E. Loehman, Ph.D., Purdue University

Research Professors

Plamen Atanassov, Ph.D., Bulgarian Academy of Science
William G. Fahrenholtz, Ph.D., University of New Mexico
Andrey L. Gindilis, Ph.D., U.S.S.R. Academy of Sciences
F. Eric Haskin, Ph.D., Kansas State University
Lianmin Huang, Ph.D., University of New Mexico
Wanguang Li, Ph.D., University of Washington
Victor H. Perez-Luna, Ph.D., University of Washington
Emmanuil Rabinovich, Ph.D., Saratov University, Russia
Thomas P. Rieker, Ph.D., University of Colorado
David L. Sidebottom, Ph.D., Kansas State University
Daniel J. Skamsner, Ph.D., Northwestern University
Leonard M. Tender, Ph.D., University of North Carolina
Jean-Michel P. Tournier, Ph.D., University of New Mexico

Affiliated Faculty

Thomas E. Buhl, Ph.D., University of Wisconsin
William H. Casson, Ph.D., University of Tennessee
Roger G. Cox, Ph.D., Cornell University
John G. Curro, Ph.D., California Institute of Technology
Kenneth E. Greenberg, Ph.D., University of Illinois
Debra Hawker-Schreiner, Ph.D., University of Colorado
John M. Hostak, M.S., University of New Mexico
James M. Hylko, M.P.H., University of Michigan
William Kroenke, Ph.D., Case Institute of Technology (Ohio)
Patrick McDaniel, Ph.D., Purdue University
Ho Young Pak, Ph.D., University of Illinois
John Petrovic, Ph.D., Case Western Reserve University
Charles A. Potter M.S., University of Massachusetts at Lowell
Hoanh X. Vu, Ph.D., California Institute of Technology

* Registered Professional Engineer in New Mexico.

** Registered Professional Engineer in a state or territory outside 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

Students must be admitted for study at the University of New Mexico, and must have completed approximately one year of

the appropriate Freshmen year subjects, before applications can be processed for admission to the Baccalaureate Programs in Chemical Engineering and Nuclear Engineering. Approval from the Ch-NE 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 the Baccalaureate Program 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 Freshmen 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 BS 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

Introduction

Chemical engineering has a rich history of contributions to the nation's technological needs in 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 engineering is also widely applied to environmental protection and remediation, process safety, and hazardous waste management. 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. Owing to this, 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 microstructures. Chemical engineering is a rapidly evolving discipline that offers the excitement of developing cutting-edge products and the satisfaction on contributing importantly towards advancing technology to improve our lives.

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 course of study at UNM 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 may choose to concentrate electives in order to gain additional expertise in a specific area. A concentration consists of three advanced chemistry courses and three technical electives which are all focused. Concentrations

include traditional chemical processing, biotechnology, materials processing, semiconductor manufacturing, waste management, and preparation for graduate studies.

Undergraduate chemical engineering students benefit greatly from the departmental faculty's extensive research activities 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. Learning is enhanced with such hands-on experience, and students are more competitive when they leave UNM. 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.

Curriculum in Chemical Engineering

The Bachelor of Science Program in Chemical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Hours required for graduation: 131⁹

	Cr	Lect/Lab	Hrs.
First Year—First Semester			
Ch-NE 101	1		(1-0)
Math 162L	4		(4-0)
Chem 121L	4		(3-3)
Engl 101	3		(3-0)
H&SS Elective 1	3		(3-0)
	15		(14-3)
Second Semester			
Math 163L	4		(4-0)
Chem 122L	4		(3-3)
C S 151L	3		(3-1)
Engl 102	3		(3-0)
Physcs 160	3		(3-0)
	17		(16-4)
Second Year—First Semester			
Ch-NE 251	3		(3-0)
Math 264L	4		(4-0)
Chem 301	3		(3-0)
Chem 303L	1		(0-3)
Physcs 161	3		(3-0)
Econ 105	3		(3-0)
	17		(16-3)
Second Semester			
Ch-NE 253	3		(3-0)
Ch-NE 301	3		(3-0)
Math 316	3		(3-0)
Basic Science for Concentration ³	3		(3-0)
Adv Chem for Concentration ⁴	3		(3-0)
	15		(15-0)
Third Year—First Semester			
Ch-NE 311	4		(4-0)
Ch-NE 317	3		(3-0)
Ch-NE 450	3		(3-0)

Engl 219	Tech Writing 2	3	(3-0)
Adv Chem for Concentration 4		4	(4-0)
		17	(17-0)

Second Semester

Ch-NE 302	Chem Engr Thermo	3	(3-0)
Ch-NE 312	Unit Operations	2	(2-0)
Ch-NE 321	Mass Transfer	3	(3-0)
Basic Engineering Elective 5		3	(3-0)
Adv Chem for Concentration 4		4	(4-0)
H&SS Elective 1		3	(3-0)
		18	(18-0)

Fourth Year 7th—First Semester

Ch-NE 414L	Chem Engr Lab	2	(1-5)
Ch-NE 451	Senior Seminar	1	(1-1)
Ch-NE 461	Chem Reactor Engr	3	(3-0)
Ch-NE 493L	Chem Engr Design	3	(2-3)
Technical Elective 6		3	(3-0)
H&SS Elective 1		3	(3-0)
		15	(13-9)

Second Semester

Ch-NE 415L	Chem Engr Lab II	3	(1-8)
Ch-NE 454	Proc Dynamics & Contrl	3	(3-0)
Ch-NE 494L	Adv Chem Engr Design	2	(2-2)
Technical Elective 6		3	(3-0)
H&SS Elective 1		3	(3-0)
H&SS Elective 1		3	(3-0)
		17	(15-10)

- Students should consult with advisors to obtain a list of acceptable humanities and social science (H&SS) electives. These courses may be taken whenever convenient.
- Econ 105 and Engl 219 may be taken in either the sophomore or junior year.
- Physcs 262 or Biol 121L, depending on the student's area of concentration.
- A minimum of three courses from Chem 302, 311, 312, 423 or 431, depending on the student's area of concentration.
- C E 202, C E/M E 304 or EECE 203.
- 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.
- Students must file an application for the B.S. degree prior to the completion of 95 semester hours of applicable courses.
- Students are encouraged to take the Fundamentals of Engineering (FE) Examination during their senior year. This is the first formal step toward professional registration.
- Only courses with grades of C- or better may be applied toward the bachelor of science degree in chemical engineering.

Chemical Engineering Laboratory

The chemical engineering laboratory is equipped with pilot plant equipment for the study of heat and mass transfer including the unit operations: liquid-liquid extraction, multi-tube heat exchangers, evaporation, distillation and absorption. Experiments also exist for the engineering sciences: thermodynamics, chemical kinetics, fluid mechanics, and process control. Integrated engineering workstations for data acquisition and control are an integral part of the laboratory. For juniors and seniors, opportunities exist for research projects with individual faculty in their laboratories. The range of projects includes such things as catalysis, biotechnology, semiconductor manufacturing, chemical vapor deposition, and plasma etching. Students undertaking

individual research projects gain exposure to state of the art processing and analytical equipment, including aerosol, chemical vapor deposition, and plasma reactors; ellipsometry; scanning electron microscopy; Auger spectroscopy; and X-ray photoelectron spectroscopy.

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 PC and Macintosh computers connected to the UNM network and the internet. Additional computers are available in one of the many UNM computer pods maintained by UNM's Computer and Information Resources and Technology division. Freshmen 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 the sophisticated process simulation code, ASPENPLUS, and learn to write digital process control programs. Students interested in working in the semiconductor industry or advanced materials can gain extensive experience with the RS/1 suite of software tools for statistical design of experiment. In addition to these technical software packages, students also gain experience with other computer software including word processing, mathematical subroutines and spreadsheets.

Honors Program

Eligible freshmen and upperclassmen in the Department of Chemical and Nuclear Engineering are urged to enroll in the Honors Program. Chemical and nuclear engineering students may graduate with General Honors (honors in general studies), with Departmental Honors, or both. Information is available from departmental advisors and the University Honors Center.

Cooperative Education

Chemical engineering students may participate in the cooperative education program or in Summer industrial internship programs. Excellent opportunities exist throughout the Southwest for undergraduate chemical engineering students. For further information, contact the Director of Cooperative Education.

Nuclear Engineering**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, inherently safe nuclear fission reactors. 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.

The goal of nuclear engineering education is to give the student an excellent understanding of nuclear processes and

fundamentals and provide the physical and engineering principles which lead to applications of the basic processes. 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 courses in radiation detection and protection, nuclear reactor theory and safety, thermalhydraulics, and nuclear systems design. Students also select three technical electives which 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.

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 the Accreditation Board for Engineering and Technology.

Hours ⁶ required for graduation: 133

	Cr	Hrs. Lect/Lab
First Year—First Semester		
Ch-NE 101 Intro Chem & Nclr Engr	1	(1-0)
Chem 121L General Chemistry	4	(3-3)
Math 162L Calculus I	4	(4-0)
Engl 101 Comp I: Exposition	3	(3-0)
C S 151L Comp Prog Fund	3	(3-1)
	15	(14-4)

Second Semester		
Physcs 160 General Physics	3	(3-0)
Chem 122L General Chemistry	4	(3-3)
Math 163L Calculus II	4	(4-0)
Engl 102 Comp II: Analys & Arg	3	(3-0)
H&SS Elective ¹	3	(3-0)
	17	(16-3)

Second Year—First Semester		
Ch-NE 230 Princ Radiation Prot	3	(3-0)
Physcs 161 General Physics	3	(3-0)
Math 264L Calculus III	4	(4-0)
C E 202 Engineering Statics	3	(3-0)
Econ 105 Intro Macroeconomics	3	(3-0)
	16	(16-0)

Second Semester		
Ch-NE 231 Prin of Nuclear Engr	3	(3-0)
Physcs 262 General Physics	3	(3-0)
Math 316 Appl Ord Diff Equas	3	(3-0)
Ch-NE 301 Thermodynamics	3	(3-0)
Engl 219 Technical Writing	3	(3-0)
EECE 203 Circuit Analysis I	3	(3-0)
	18	(18-0)

Third Year—First Semester		
Ch-NE 311 Intro Transp Phenom	4	(4-0)
Ch-NE 317 Chem Nucl Engr Anal	3	(3-0)
Ch-NE 323L Nucl Det Meas/Lab	3	(2-3)
Ch-NE 450 Chem Nucl Engr Econ	3	(3-0)
H&SS Elective ¹	3	(3-0)
	16	(15-3)

Second Semester		
Ch-NE 312 Unit Operations	2	(2-0)
Ch-NE 313L Intro NE Lab Techn	3	(2-3)
Ch-NE 314 Nuclear Systems	2	(2-0)
Ch-NE 330 Nucl Engr Science	3	(3-0)

Ch-NE 370 Engr Materials Science	3	(3-0)
Tech Elective ²	3	(3-0)
	16	(15-3)

Fourth Year 3, 4—First Semester

Ch-NE 410 Nucl Reactor Theory I	3	(3-0)
Ch-NE 464 ThrmI-HydrI Nucl Sys	3	(3-0)
Ch-NE 497L Intro NE Design/Lab	3	(2-3)
NE Tech Elective ⁵	3	(3-0)
H&SS Elective ¹	3	(3-0)
H&SS Elective ¹	3	(3-0)
	18	(17-3)

Second Semester

Ch-NE 413L Nuclear Engr Lab I	3	(1-6)
Ch-NE 498L Nuclear Engr Design	4	(3-3)
Tech Elective ⁵	3	(3-0)
Ch-NE 452 Senior Seminar	1	(1-0)
Tech Elective ²	3	(3-0)
H&SS elective ¹	3	(3-0)
	17	(14-9)

- 1 Students should consult with advisors to obtain a list of acceptable humanities and social science (H&SS) electives. These courses may be taken whenever convenient.
- 2 Technical electives are chosen from approved upper division courses in engineering, mathematics and science. The chairperson may allow up to 6 hours of technical electives for students taking required ROTC courses in aerospace or naval science.
- 3 Students must file an application for the B.S. Degree prior to the completion of 95 semester hours of applicable courses.
- 4 Students are encouraged to take the Fundamentals of Engineering (FE) Examination during their senior year. This is the first formal step toward professional registration.
- 5 The NE Technical Elective is chosen from a list of approved upper division nuclear engineering courses with the approval of the student's advisor.
- 6 To count towards graduation credit hours, each course must be completed with a grade of C- or better.

Nuclear Engineering Laboratories

The nuclear engineering laboratories are equipped with an AGN-201M nuclear training reactor; a Cobalt-60 gamma irradiation 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, Inhalation Toxicology Research Institute, Los Alamos National Laboratory, and the Phillips 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 state-of-the-art PC and Macintosh computers connected to the UNM network and the internet. Additional computers are available in one of the many UNM computer pods maintained by UNM's Computer and Information Resources and Technology Division. Freshmen 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 the sophisticated process simulation code, ASPENPLUS, and learn to write digital process control programs. Students interested in working in the semiconductor industry of advanced materials can gain extensive experience with the

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RS/1 suite of software tools for statistical design of experiment. In addition to these technical software packages, students also gain experience with other computer software including word processing, mathematical subroutines and spreadsheets.

Honors Program

Eligible freshmen and upperclassmen in the Department of Chemical and Nuclear Engineering are urged to enroll in the Honors Program. Chemical and nuclear engineering students may graduate with General Honors (honors in general studies), with Departmental Honors, or both. Information is available from departmental advisors and the University Honors Center.

Cooperative Education

Nuclear engineering students may participate in the cooperative education program. Excellent opportunities exist throughout the Southwest for undergraduate students. For further information, contact the Director of Cooperative Education.

Graduate Program

Graduate Advisors

Toivo T. Kodas, Chemical Engineering
Anil Prinja, Nuclear Engineering

Application Deadlines

Fall semester: June 15
Spring semester: November 1
Summer session: April 1

NOTE: Early application is recommended. Deadline for applications with financial aid and all international applications is February 15.

Degrees Offered

M.S. in Chemical Engineering and in Nuclear Engineering, Ph.D. in Engineering

Concentrations: chemical engineering and nuclear engineering.

The Department of Chemical and Nuclear Engineering offers programs in chemical engineering and nuclear engineering leading to the Master of Science and the Doctor of Philosophy degrees. The GRE is required of all Chemical and Nuclear Engineering applicants.

The master's degree is offered under both Plan I and Plan II. The Plan II option is not common and requires special approval by the department Graduate Committee. 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.

Under both Plans (I and II), the master's degree candidate in Chemical Engineering or Nuclear Engineering is required to take a set of core courses specific to his/her program. A listing of the requirements is available from the Department's Graduate Secretary. The core course credit hours include 3 hours of Graduate Seminar (Ch-NE 501/502). A maximum of 3 credit hours of Graduate Seminar can be applied toward the 33 hours degree requirement. 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. 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 Chair.

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 a prerequisite to graduate study.

General requirements for the Ph.D. degree are set by the School of Engineering and are stated on other pages of this Catalog. Students who wish to be admitted to a doctoral program in chemical engineering must pass a program qualifying examination. The qualifying examination covers the basic areas or core courses of the appropriate discipline, and it should be taken as soon as possible after completion of the core courses for the M.S. degree or M.S. equivalency. 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 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, processing of superconducting ceramics, sol-gel synthesis, CVD thin films, ceramic composites, surface science, catalysis, coal utilization, solar energy, radioactive waste management, ceramics, ceramic membranes, advanced thermal insulation, separation processes, and biomedical research.

The principle equipment in the chemical engineering laboratories includes the following: chemical reactors (Berty, packed bed), Autoscan-33 Mercury porosimeter, Autosorb-1 sorption analyzer, Sedigraph particle sizer, Coulter counter, ASAP2000 sorption analyzers (2), VTI 100 high pressure adsorption analyzer, scanning and transmission electron microscopes, Varian 400 MHz NMR with in-situ gas adsorption capabilities, 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 2 rotating anode generators, Kratky, Pinhole, and Bonse-Hart optics for SAXS, 1800 XRD, and 2 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 area is recommended: atomic and nuclear physics,

advanced applied mathematics, computer programming, thermodynamics and heat transfer, fluid mechanics, principles of circuits, materials science, nuclear measurements and instrumentation. Additional course work is chosen 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 generation, nuclear activation diagnostics, reactor and shielding design, nuclear fuel irradiation behavior, 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, one 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 6 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*, Pharmacy 413-*Biological Effects of Radiation*, 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 coursework. 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 coursework 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 Cobalt-60 gamma irradiation 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. 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 count-

ing 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, and the Phillips Laboratories are utilized for instruction and research. The laboratories provide not only experimental facilities but access to CRAY super computers for carrying on advanced computational physics.

The department maintains a "Computer Pod" for student use with IBM PC's and Macintosh computers with a wide selection of software available. The Computer and Information Resources and Technology Center can be accessed from the Pod where mainframes are available. There is a dedicated graduate student workstation containing advanced engineering codes for both chemical and nuclear engineering.

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. [Principles of Nuclear Engineering.] (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, C S 151L. {Fall}

231. Principles of Nuclear Engineering. [Radiation Safety 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, C S 151L. {Spring}.

251. Chemical Process Calculations I. [Chemical Process Calculations.] (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.

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) [2]

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.

312. Unit Operations. (2) [4]

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.

Prerequisites: C or better in 311.

313L. Introduction to Laboratory Techniques for Nuclear Engineering. (3) [2]

Techniques for error analysis, experiments in fluid flow, heat transfer, neutron detectors, and neutron activation, and neutron diffusion theory and Fermi age. Design and development of experiments, emphasis on written presentations.

Prerequisites: Engl 219. Corequisites: 312, 314.

314. Nuclear Systems. (2) [3]

Applications of fluid flow and heat transfer in the nuclear industry including pumps, fans, piping, and heat exchangers. Types of nuclear power systems and the thermodynamics of energy conversions. Requires computer techniques and design concepts.

Prerequisites: 301, 311. 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 ODE's and PDE's 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.

Prerequisite: 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.

Prerequisites: 231 or equivalent. 2 lectures, 3 hrs. lab.

(Fall)

***330. Nuclear Engineering Science. (3)**

Quantum effects, atomic structure, nuclear properties, nuclear stability radioactivity, decay modes, cross sections, nuclear reactions and reaction rates.

Prerequisite: 230.

370. Engineering Materials Science. (3)

(Also offered as C E 370, M E 370.) 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.

***410. Nuclear Reactor Theory I. (3)**

Nuclear diffusion and transport theory, critical system analysis, reactor kinetics, core design problems, computer methods and applications.

Prerequisites: 317, 330, or equivalent. 3 lectures. (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: 323L, 330, 410. 1 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. 1 lectures, 8 hrs. lab. (Spring)

****430. Introduction to Nuclear Engineering. (3)**

Principally for non-nuclear engineering majors. The nucleus and nuclear properties; fission process and chain reaction; survey of design and operation of reactors and associated equipment; effects, uses, and detection of radiation. (Offered upon demand.)

***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.

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 and 461. (Spring upon demand)

***441. Air Pollution Control. (3)**

Technical analysis of air pollution control: air pollution sources, environmental effects, regulations, control technology. Emphasis is on practical projects, especially those related to local air pollution problems.

***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. 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 as subject matter varies each term.

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. Prerequisite: 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: 231, 317 and 323L or equivalent. {Fall}

***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, 313, 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 or 430, Math 316. 3 lectures. {Fall}

***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: 230 or 430, 311; recommended: 410, 464. {Spring}

***470. Nuclear Fuel Behavior and Reactor Safety. (3)**

Crystal structure, chemical equilibrium, point defects, dislocation, fuel and cladding behavior during irradiation, fission products behavior, mechanical properties of fuel, modeling of fuel elements, cladding/fuel interaction. Prerequisites: 330 and 370 or their equivalents. {Offered upon demand}

***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. Prerequisite: 430 or equivalent. {Offered upon demand}

***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 etch, ion implantation and metalization. Computer aided process simulation. Prerequisite: 311 or permission of instructor. {Offered upon demand}

479. Material Technology and Manufacturing Science. (3)

Material properties for advanced manufacturing technologies, product design and performance problem solving. Topics include: ceramics, polymers, metals, composites, electronic and photonic materials. Prerequisite: 370 or equivalent materials background. {Fall}

***485. Fusion Technology. (3)**

{Also offered as EECE 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. 3 lectures. {Spring}

486. 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) [3]

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 & 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 system, 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. Pre- or corequisites: 410, 464. 2 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. 3 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}

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501-502. Chemical and Nuclear Engineering Seminar.(1-2, 1) Δ

Colloquia, special lectures, and individual study in areas of current research. {Fall, Spring}

511. Nuclear Reactor Theory II. (3)

The theory of nuclear chain-reacting systems with emphasis on computer methods used in current applications. Multigroup diffusion theory, transport theory and Monte Carlo methods, and applications to nuclear system design. Prerequisite: 410, Math 312. {Spring}

513L. Nuclear Engineering Laboratory II. (1-4) ¹

Laboratory investigations of the theory and practice of nuclear chain reacting systems. Experiments on the departments AGN-201M reactor, the ACPR and SPR at LANL. Pre- or corequisites: 323L, 511. 1 lecture, 6 hrs. lab. {Spring upon demand}

515. Special Topics. (1-3, to a maximum of 9) Δ ¹

{Offered upon demand}

520. Radiation Interactions and Transport. (3)

Theoretical models for charged particle, x-ray, and gamma-ray interactions and transport in matter. Development of calculational methods including computer codes. Applications to nuclear systems. Prerequisites: 317 and 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}

522. Advanced Transport Phenomena II. (3)

Turbulent transport phenomena. Homogeneous turbulent flows. Turbulent shear flows-channels and pipes. Solutions of the diffusion equation. Extension of mathematical models of turbulent flow to the real world. Prerequisite: 521 or equivalent. {Fall}

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. Prerequisite: 323L or permission of instructor. 2 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. Corerequisite: 466. {Fall}

525. Methods of Analysis in Chemical and Nuclear Engineering. (3)

Mathematical methods used in chemical and nuclear engineering; partial differential equations of transport processes, integral transforms, matrix theory, introduction to finite difference and finite element numerical methods. Applications in heat transfer, fluid mechanics and diffusion theory. Prerequisite: Math 316 or equivalent. {Fall}

526. Advanced Analysis in Chemical and Nuclear Engineering. (3)

Extension of 525 to more advanced methods including integral equations, numerical methods applied to nonlinear systems and applications to research problems. Prerequisite: 525. {Spring upon demand}

528. External Radiation Dosimetry.

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, EECE 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 535, EECE 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}

542. Advanced Chemical Engineering Thermodynamics. (3)

Advanced thermodynamics with reference to its application in chemical engineering. {Fall}

545. Charged Particle Accelerators. (3)

(Also offered as EECE 557) Principles of charged particle accelerators and transport systems. Single particle dynamics, transfer matrices, periodic focusing systems, RF cavities and waveguides. Induction linacs, RF linacs, synchrotrons and other types of accelerators. Prerequisites: Preparation in classical mechanics and fields and waves (EECE 361 or equivalent).

546. Charged Particle Beams. (3, to a maximum of 9) Δ

(Also offered as EECE 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: EECE 557 or Ch-NE 545.

549. 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 as subject matter varies each term.

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.

[Experimental Plasma Physics and Pulsed Power.] (3) (Also offered as EECE 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. Prerequisites: Undergraduate E&M and Physics 534 or permission of instructor.

555. Gaseous Electronics. [Pulsed Power and Gaseous Discharges.] (3)
(Also offered as EECE 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: EECE 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)

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)

575. Selected Topics in Material Science. (1-3) Δ
(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)

578. Plasma and Beam Process Technology. (3)
Plasma and beam process technology for microelectronic fabrication: plasma deposition, etching and sputtering of thin films for VLSI; laser and ion beam assisted processing of semiconductor IC materials. Prerequisite: 478, 534 or equivalent, or permission of instructor. (Spring)

579. Material Technology and Manufacturing Science. (3)
(Also offered as M E 579.) Material properties for advanced manufacturing technologies, product design and performance problem solving. Topics include: ceramics, polymers, metals, composites, electronic and photonic materials. Prerequisite: 370 or equivalent materials background. (Fall)

580. Advanced Plasma Physics. (3)
(Also offered as Physcs 580, EECE 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 1998 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)

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. (Fall, Spring, Summer)

599. Master's Thesis. (1-6 hrs. per semester)
See Graduate Programs section for total credit requirements. Offered on a CR/NC basis only.

610. Advanced Nuclear Reactor Theory. (3)
Development of calculational procedures for reactor systems. Topics: neutron transport, Monte Carlo, structure and use of large-scale computer codes, and applications to electron and radiation transport. Prerequisite: 511. (Fall 1998 and alternate years)

699. Dissertation. (3-12 hrs. per semester)
See Graduate Programs section for total credit requirements. Offered on a CR/NC basis only.

1 Registration for less than 3 credits only with approval of instructor.

CIVIL ENGINEERING

Jerome W. Hall, Chairperson
The University of New Mexico
Civil Engineering
Tapy Hall, Rm. 209
Albuquerque, NM 87131-1351
(505) 277-2722

Professors

James D. Brogan, Ph.D., University of Tennessee*
Jerome W. Hall, Ph.D., University of Washington*
Richard J. Heggen, Ph.D., Oregon State University*
Gerald W. May, Ph.D., University of Colorado*,
Timothy J. Ross, Ph.D., Stanford University*
Stephen P. Shelton, Ph.D., University of Tennessee*
Bruce M. Thomson, Ph.D., Rice University*

Associate Professors

Koon Meng Chua, Ph.D., Texas A&M University**
Deborah J. Fisher, Ph.D., University of Texas*
Walter H. Gerstle, Ph.D., Cornell University*
Arup K. Maji, Ph.D., Northwestern University*
James R. Matthews, Ph.D., University of Missouri Rolla**
Tang-Tat Percy Ng, Ph.D., Rensselaer Polytechnic Institute*
John C. Stormont, Ph.D., University of Arizona*

Assistant Professors

Julie E. Coonrod, Ph.D., University of Texas*

Lecturers

Robert H. Greenlee, M.S., University of New Mexico*
Larry R. Lenke, M.S., University of New Mexico*

Professors Emeriti

John B. Carney, Jr., Ph.D., University of Arizona*

ENGINEERING

Richard Clough, Sc. D., Massachusetts Institute of Technology*
 Marion M. Cottrell, M.S., University of New Mexico*
 Cornie L. Hulsbos, Ph.D., Iowa State University*
 Roy L. Johnson, Jr., Ph.D., University of Wisconsin†
 J. E. Martinez, M.S., Iowa State University*
 Marvin C. May, M.S., Oklahoma State University*
 Glenn A. Sears, Engr., Stanford University*
 George A. Triandafilidis, Ph.D., University of Illinois†

- * Registered Professional Engineer in New Mexico.
- † Registered Professional Engineer in a state or territory other than New Mexico

Introduction

Civil Engineering

Civil engineering is an extremely broad professional field. Areas of interest include such seemingly diverse subjects as the theory of traffic flow, electronic computations, microbiology, the chemistry of polymers, network theory, earth physics, the stresses and strains induced in aerospace 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 man'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 aerospace vehicles and launching facilities. 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 known 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 may wish to 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 first program is in the area of construction engineering, 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 second program is in the area of construction management. This curriculum includes approximately equal emphasis in engineering science, business and management, and construction operations, and leads to a Bachelor of Science degree in Construction Management.

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: 131 Credits

First Year—First Semester

Engl 101	Comp I: Exposition	3
Math 162L	Calculus I	4
Chem 121L	General Chem/Lab	4
Engr-F 122L	Intro Engr Methods	3
H&SS elective		3
		17

Second Semester

Engl 102	Comp II: Analysis & Arg	3
Math 163L	Calculus II	4
Chem 122L	General Chem/Lab	4
C S 151L	Comp Prog Fund/Lab	3
Physcs 160	General Physics	3
		17

Second Year—First Semester

Math 264L	Calculus III	4
Physcs 161	General Physics	3
C E 202	Engineering Statics	3
C E 283L	Trans System Measure	3
H&SS elective		3
		16

Second Semester

Math 316	Appl Ord Diff Equas	3
C E 270L	Const Materials Lab	1
M E 306L	Dynamics	3
Econ 105	Intro Macroeconomics	3
Engl 219	Technical Writing	3
H&SS elective		3
		16

Third Year—First Semester

Math 314	Linear Algebra	3
C E 302	Mech of Materials	3
C E 303L	Mech of Materials/Lab	1
C E 331L	Fluid Mechanics/Lab	4
C E 352	Computer Appl Civil Engr	3
C E 382	Transportation Engr	3
		17

Second Semester

C E 308	Structural Analysis	4
C E 310L	Structural Design I	4
C E 332	Hydric Engr & Hydrol	3
C E 350	Engineering Economy	3
C E 360L	Soil Mechanics/Lab	3
		17

Fourth Year 1—First Semester

C E 370	Engr Materials Science	3
C E 350	Engineering Economy	3
C E 472	Constr Contracting	3
Technical Elective D		3
EngrSci elective EECE 203		3
-or- Ch-NE/M E 301		3
		15

Second Semester

C E 490	C E Prof Pract	1
C E 499L	Design of C E Sys	3
Technical Elective D		3
Technical Elective		3
H&SS elective		3
H&SS elective		3
		16

¹ Students are required to take the Fundamentals of Engineering Examination prior to graduation.

NOTES.

1. H&SS electives are to be chosen from humanities and social sciences list. See Department for list of approved courses.

2. Technical Electives D: C E 411, 424, 430, 436, 462 and 482.
3. See Department for list of other approved technical electives. Approval of Advisor required.

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.

Total hours for Graduation: 135

	Credits
First Year—First Semester	
Engl 101 Comp I: Exposition	3
Math 162L Calculus I	4
Chem 121L General Chem Lab	4
Engr-F 122L Intro Engr Methods	3
H&SS Elective	3
	17

Second Semester	
Engl 102 Comp II: Analys & Arg	3
Math 163L Calculus II	4
C S 151L Comp Prog Fund/Lab	3
Phys 160 General Physics	3
H&SS Elective	3
	16

Second Year—First Semester	
Math 264L Calculus III	4
Physcs 161 General Physics	3
C E 202 Engineering Statics	3
C E 283L Trans System Measure	2
Econ 105 Intro of Macroeconomics	3
	16

Second Semester	
Math 316 Appl Ord Diff Eq	3
C E 270L Construction Materials	1
C E 277 Basic Plng & Estimg	3
M E 306 Dynamics	3
Engl 219 Technical Writing	3
H&SS Elective	3
	16

Third Year—First Semester	
Math 314 Linear Algebra	3
C E 302 Mech of Materials	3
C E 303L Mech Materials Lab	1
C E 331L Fluid Mechanics/Lab	4
C E 350 Engineering Economy	3
C E 352 Comp Appl Civil Engr	3
	17

Second Semester	
C E 308 Structural Analysis	4
C E 310L Structural Design I	4
C E 360L Soil Mechanics/Lab	3
C E 470 Const Mthds & Equip	3
Mgt 202 Prin of Finan Acctg	3
	17

Fourth Year—First Semester	
C E 472 Constr Contracting	3
C E 477 Advanced Plng & Estimg	3
C E 478 Temp Support Struc	3
C E 495 Construc Internship	1
Math 345 Math Stat&Prob Theory	3
H&SS Elective	3
	16

Second Semester	
C E 479L Mthds Improvement Lab	3
C E 490 C E Prof Pract	1
C E 499L Design of C E Systems	3
Mgt 303 Acct-Mangt Control	3
H&SS Elective	3
EngrSci elective EECE 203 Circuit Analysis	3
-or- Ch/NE/M E 301 Thermodynamics	
	16

NOTES.

1. H&SS and Mgt electives from approved lists.
2. C E 499L must be taken during the final two semesters of the program.
3. Student must take FE exam prior to graduation.

Curriculum in Construction Management

Construction Management is a four-year program that combines engineering skills, management, business, and field construction know-how. 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.

Total hours required for graduation: 128

	Credits
First Year—First Semester	
Chem 121L Gen Chem/Lab	4
Math 180 Calculus I	3
Engl 101 Comp I: Exposition	3
Engr-F 122L Engr Methods	3
H&SS Elective	3
	16

Second Semester	
Math 181 Calculus II	3
Physcs 151 Gen Physics I	3
C S 151L Comp Prog Fund/Lab	3
Engl 102 Comp II: Analys & Arg	3
Psych 105 Gen Psychology	3
	15

Second Year—First Semester	
Arch 285 Construction I	3
C E 283L Trans System Measure	3
C E /Arch Elective	3
Econ 105 Intro Macroeconomics	3
Humanities Elective	3
	15

Second Semester

Engl 219	Tech Writing	3
Econ 106	Intro Microeconomics	3
C E 270L	Constr Materials	1
C E 277	Basic Plan & Estimating	3
Mgt 202	Prin of Finan Accounting	3
Mgt Elective		3
		<hr/>
		16

Third Year—First Semester

Arch 381	Structures I	3
Arch 385	Environmental Controls I	3
Arch 485	Construction II	3
C E/Arch Elective		3
C E/Arch Elective		3
C E 350	Engineering Economy	3
		<hr/>
		18

Second Semester

Math 245	Introduction to Business Statistics	3
Arch 382	Structures II	3
C E 470	Constr Mthd & Equip	3
C E 495	Construc Internship	1
Mgt 303	Acct -Mangt Control	3
Mgt 310	Legal Environ Mgt	3
		<hr/>
		16

Fourth Year—First Semester

C E 472	Const Contracting	3
C E 477	Adv Plan & Sched	3
C E 478	Temp Support Struc	3
C E 495	Constr Internship	1
C E/Arch Elective		3
Mgt Elective		3
		<hr/>
		16

Second Semester

Arch 487	Environ Controls II	3
C E 471L	Construc Prof Pract	1
C E 479L	Methods Improvement	3
Mgt Elective		3
Hum Elective		3
Mgt 361	Organization Theory	3
-or- Mgt 495	Small Business	3
		<hr/>
		16

NOTES.

1. H&SS electives from approved lists.
2. See Department for list of other approved technical electives. Approval of Advisor required.

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 Director of the UNM's Cooperative Education Program.

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, mechanics of materials, concrete and bituminous 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 ranging from departmental microcomputers to the university's mainframe system. The department has digital micro and minicomputers available for student use as well as remote terminals connected to the university's central computer 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

Richard J. Heggen.

Review Deadline

Fall semester: February 15
 Spring semester: September 1
 Summer session: February 15

Application Deadline

July 15
 November 10
 April 29

NOTE: Early application is recommended. These dates also apply for financial aid.

Degrees Offered

M.S. in Civil Engineering

Concentrations: construction, hydraulics, environmental engineering, geotechnical engineering, structural engineering, structural mechanics, transportation, and water resources.

Plan I

1. 33 credit hour total, excluding 691 (Seminar)
2. 6 or 9 hours of 599 (Thesis)
3. A maximum 9 hours of thesis, Problems, and Independent Research combined.
4. A minimum 9 hours of 500-level courses.
5. A maximum 6 hours taken in non-degree status.
6. 2 hours 691 (Seminar)
7. General UNM limits, including transfer credit, course work from a single professor, and time of completion.
8. No credit is allowed for experiential learning.

Plan II

1. 33 credit hour total, excluding 691 (Seminar).
2. 0, 3, or 6 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 6 hours taken in non-degree status.
6. 2 hours of 691 (Seminar).
7. General UNM limits, including transfer credit, course work from a single professor, and time of completion.
8. No credit is allowed for experiential learning.

Ph.D. in Engineering

General requirements for the Doctor of Philosophy degree are given in earlier pages of this Catalog. Programs of study are available in the concentrations of hydraulics, environmental engineering, geotechnical engineering, structural engineering, structural mechanics, and water resources. A program in solid mechanics is offered in cooperation with the Department of Mechanical Engineering.

Candidates for the Doctor of Philosophy degree majoring in civil engineering must demonstrate a competence in basic areas of the field by satisfactorily completing the departmental qualifying examination. This examination must be taken as soon as possible upon admission to the doctoral program.

Persons with a bachelor's degree in a field other than civil engineering may under certain conditions be admitted to the graduate program. Each of these cases is considered individually. The departmental graduate advisor can supply a listing of specific requirements.

Additional information on the programs and facilities of the Civil Engineering Department may be obtained by contacting the graduate advisor.

Civil Engineering (C E)

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 163L. {Summer, Fall, Spring}

270L. Construction Materials Laboratory. (1)

Experimental determination of physical, mechanical and chemical properties of concrete and other common construction materials.

Prerequisite: 202. 3 hrs. lab. {Fall, Spring}

277. Basic Planning and Estimating. (3)

Introduction to construction processes. Techniques for transforming contract documents into detailed construction estimates. Quantity take offs, unit pricing, and productivity will be used to plan project activities and durations for network scheduling.

283L. [281L-282L.] Transportation System Measurements. [Engineering Measurements.] (3) [2]

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 162L. 2 lectures, 3 hrs. lab. {Fall}

302. Mechanics of Materials. (3)

Stresses and strains in members subjected to tension, compression, torsion, shear, and flexure. Combined and principle stresses; Mohr's circle construction; buckling. Introduction to statically indeterminate members.

Prerequisites: 202, Math 264L. {Fall, Spring}

303L. Mechanics of Material Laboratory. (1)

Laboratory practice in determining properties of engineering materials. Use of testing equipment to measure force and deformations. Verification of principles developed in 302. Independent project is required.

Prerequisite: 270L; corequisite: 302. 3 hrs. lab. {Fall, Spring}

304. Engineering Mechanics. (4)

(Also offered as M E 304.) Accelerated course combining fundamentals of statics and dynamics of rigid bodies. Principles of kinematics and kinetics for particles and rigid bodies, in two and three dimensions, using vector notation. Not intended for C E or M E students.

Prerequisites: Physcs 160, Math 264L.

308. [308L.] Structural Analysis. (3) [4]

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. Pre or Corequisite: 352. {Spring}

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.

Corequisite: 308L, 3 lectures and 2hrs. lab.

331L. Fluid Mechanics. (4)

Fluid properties; fluids at rest; fluid flow principles, including

continuity, energy, and momentum; incompressible fluid flow; open channel hydraulics; hydraulic machinery; laboratory study of basic principles of fluid mechanics and hydraulics.

Corequisite: M E 306L. 3 lectures, 3 hrs. lab. {Fall}

332. 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. {Spring}

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. {Summer, Fall, Spring}

352. Computer Applications in Civil Engineering (3)

Numerical methods for linear systems of equations, curve fitting techniques, solutions of differential equations, fundamentals of statistics and probability. Applications to civil engineering problems.

Prerequisites: Math 316. Corequisite: Math 314.

360L. Soil Mechanics. (4) [3]

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. 3 lectures, 3 hrs. lab. {Spring}

370. Engineering Materials Science. (3)

(Also offered as Ch-NE, M E 370.) The structure of matter and its relation to mechanical properties. Mechanical behavior of structural materials: metals, ceramics, and polymers.

Pre- or corequisite: 302, Ch-NE 301. {Summer, Fall, Spring}

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. {Fall}

*401. Advanced Mechanics of Materials. (3)

(Also offered as M E 401.) 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.

Prerequisites: 302, senior standing. {Spring}

*402. Introduction to Continuum Mechanics. (3)

(Also offered as M E 402.) 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.

Prerequisites: Math 311 (or permission of instructor) and senior standing in engineering, physics or mathematics. {Fall}

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 elastic, ultimate, and prestressed concrete design.

Prerequisite: 310. {Fall}

*424. [424.] Structural Design in Metals. (3)

Methods of design of tension, compression, and flexure members of metal including their connections; the analysis

and design of structural elements of metal as consistent with modern practice.

Prerequisite: 310L. 3 lectures. {Spring}

***430. 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. {Fall}

***431. Intermediate Hydrology. (3)**

Hydrometeorology, interception, depression storage, infiltration, hydrograph analysis, flood routing, urban hydrology, groundwater analysis and utilization.

Prerequisite: 332. {Fall}

***433. Groundwater Engineering. (3)**

Hydraulics of groundwater flow, well hydraulics, subsurface water quality and groundwater management.

Prerequisite: 332 or permission of instructor. {Spring}

435. Introduction to Water And Wastewater Treatment. (3)

Basic design concepts of water and wastewater treatment. Flow rates, characterization of water, materials balances, sedimentation, coagulation, flocculation, biological treatment, disinfection, land application, and alternative treatments.

Prerequisites: 331L, Chem 122L. {Fall}

***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: 435. {Spring}

***437L. [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: 435 or permission of instructor. 2 lectures, 3 hrs. lab. {Fall}

***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. Foundation Engineering I. (3)**

Application of principles of soil mechanics to analysis and design of footings, piles, caissons, cofferdams, and other substructures.

Prerequisite: 360L. {Fall}

***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. {Offered upon demand}

***466. [*476.] Highway and Airport Pavements. (3)**

Pavement design principles, including a review of methods for soil testing and characterization, base selection, sub-grade stabilization, and surfacing material design. Procedures for new pavement design and existing pavement testing and evaluation will be covered.

Prerequisite: 360L. {Spring}

***470. Construction Methods and Equipment. (3)**

Comprehensive study of the ownership and operating costs, production rates, and operating characteristics of the major construction equipment types.

Prerequisite: 350 and senior standing. {Fall}

***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. {Spring}

***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. {Fall, Spring}

***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. {Spring}

***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.

Prerequisites: 308L or Arch 412. {Fall}

***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.

Prerequisites: junior standing. 2 lectures, 3 hrs. lab. {Spring}

***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. {Spring}

***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. {Fall}

490. Civil Engineering Professional Practice. (1)

Practical issues facing the engineering profession, including ethics, business decisions, professional registration and societies. Prerequisite: senior standing in engineering. {Spring}

***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 grade-point average.

494. Honors Seminar. (1-3)

Prerequisite: 3.20 grade-point average. {Offered upon demand}

495. Construction Internship. (1 hr. per semester, to a maximum of 2)

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.

499L. Design of Civil Engineering Systems (3)

Comprehensive, creative design of a typical civil engineering project, including economic and cost analysis. Detailed study based on written proposal by student teams, both written and oral final reports required.
Prerequisites: Two technical elective D courses, one of which may be taken concurrently. 2 lectures, 3 hrs. lab. {Spring}

501. Advanced Structural Analysis. (3)

Comprehensive presentation of matrix structural analysis; displacement method; force method; energy principles. Analysis of complex framed structures by direct stiffness method. Introduction to finite element method.
Prerequisite: 308L or permission of instructor. {Spring}

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: 401 or permission of instructor. {Fall}

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.
Prerequisite: 370 {Fall}

506. Prestressed Concrete. (3)

Theoretical and practical aspects of behavior and design of prestressed concrete structures. Prerequisite: 411. {Spring}

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: 401, or 402, Math 312. {Alternate years}

510. Advanced Structural Design in Metals. (3)

Structural design of frames, bridges, cable structures, structural lattices and light gage cold formed members. Relation of code requirements to theoretical and experimental studies of elastic and inelastic structural behavior.
Prerequisite: 424. {Spring}

513. [*416.] Design of Structural Systems. (3)

Structural systems for building of various materials, including prestressed concrete, steel, and wood; codes and specifications; wind and seismic load provisions; structural failures. A design project is included.
Prerequisites: 411, 424 recommended, permission of instructor. {Spring}

515. Random Vibrations. (3)

(Also offered as ME 515.) Introduction to mathematical description of stochastic processes. Power spectral density, correlation functions, analysis of response of mechanical systems to random excitation; narrow band Gaussian distributions; applications to engineering problems.
Prerequisites: 520, M E 357, or permission of instructor. {Offered upon demand}

518. Theory of Structural Stability. [Elastic 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: 401 or 402, Math 312 or permission of instructor. {Spring}

520. [*421.] 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: 308L, M E 306L, Math 316. {Spring}

521. Design of Structures for Dynamic Loads. (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.
Prerequisites: 415, 421 or ME 414. {Offered upon demand}

530. 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: 433 or equivalent. {Fall}

531. Physical-Chemical Water and Wastewater Treatment. (3-4)

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: 435. {Fall}

532. Advanced Physical-Chemical Water and Wastewater. (3-4)

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. {Spring}

533. 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. {Fall, alternate years}

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. {Spring}

535. Open Channel Hydraulics. (3)

Surface curves in open channels; steady and unsteady flow; boundary resistance; standing waves in super-critical flow; hydraulic jump, surges and waves; slowly varied flow involving storage.
Prerequisite: 332. {Offered upon demand}

536. 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. {Fall}

538. Introduction to Hazardous Waste Management. (3)
This course considers hazardous waste within the overall framework of environmental management. Topics include hazard classification, hazardous waste generation, cradle to grave tracking, treatment, storage, and disposal. Groundwater contamination, site remediation and restoration are also covered.
Prerequisite: 435. (Fall)

539. Radioactive Waste Management. (3)
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.
Prerequisite: 538 or permission of instructor. (Spring)

540. Introduction to Hazardous Waste Risk Assessment. (3)
Topics include probabilistic and fuzzy risk assessment, epidemiology, health effects, public perceptions, pathways analysis and risk framing. Prerequisite: probability theory and calculus.

548. Fuzzy Logic and Applications. (3)
(Also offered as EECE 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.

551-552. Problems. (1-3, 1-3 hrs. each semester)
Advanced reading, analysis, design or research.

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: permission of instructor. (Fall)

561L. Advanced Soil Mechanics Laboratory. (3)
Advanced soil testing procedures, laboratory study of the mechanical and physical properties of soil, stress path testing, cyclic testing. Corequisite: 463. 1 lecture, 6 hrs. lab. (Offered upon demand)

562. Foundation Engineering II. (3)
Theoretical and practical aspects of foundation design problems; spread footings, mats, piles, piers and earth retaining structures, subsol exploration and methods of soil sampling.
Prerequisite: 463. (Fall)

563. Earth Structures. (3)
Analysis and design of earth dams, embankments, and excavations; seepage, slope stability. Buried structures, conduits and culverts. Computer applications.
Prerequisite: 463. (Spring)

564. 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.
Prerequisites: 401, 402 and 463. (Offered upon demand)

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.
Prerequisite: 474. (Spring)

582. Highway Traffic Design. (3)
Basic principles and geometric design of roadways, road-sides, interchanges, and intersections. Prerequisite: 483. (Spring)

583. 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. (Spring)

584. Transportation of Hazardous Materials. [Risk Assessment.] (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. (3)
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. Prerequisites: Advanced graduate standing and advance permission of instructor. Plan II only. (Fall, Spring)

599. Master's Thesis. (1-6 hrs. per semester)
Offered on a CR/NC basis only.

623. Random Processes in Mechanics. (3)
Probability theory and random vibration; stationary random loading; diffusion of probability of states of a dynamic system; the Fokker-Planck equation; first passage problems; random fatigue; reliability function. Prerequisite: 515 or permission of instructor. (Offered upon demand)

650. Research. (1-6, to a maximum of 12)

691. Seminar. (1) [1-3 hrs. each semester]
Offered on a CR/NC basis only.

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

COMPUTER SCIENCE

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Professors

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Bernard M. E. Moret, Ph.D., University of Tennessee
Brian T. Smith, Ph.D., University of Toronto
Robert L. Veroff, Ph.D., Northwestern University

Associate Professors

David H. Ackley, Ph.D., Carnegie Mellon University
John M. Brayer, Ph.D., Purdue University
Charles P. Crowley, Ph.D., University of Washington
Stephanie Forrest, Ph.D., University of Michigan
Arthur B. Maccabe, Ph.D., Georgia Institute of Technology
Henry D. Shapiro, Ph.D., University of Illinois

Assistant Professors

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Barak A. Pearlmutter, Ph.D., Carnegie Mellon University

Lecturer

Jeanine A. Ingber, M.S.E., University of Michigan

Professors Emeriti

Stoughton Bell II, Ph.D., University of California (Berkeley)
 Edgar J. Gilbert, Ph.D., University of California (Berkeley)
 Harold K. Knudsen, Ph.D., University of California (Berkeley)
 Donald R. Morrison, Ph.D., University of Wisconsin
 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 Sciences Accreditation Board. 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, and analysis of algorithms, computer architecture, and software engineering.

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 request is initiated through the Office of Admissions for students wishing to transfer to UNM from other institutions. Students transferring to the Computer Science program from another college at UNM should initiate the paperwork at the office of the Computer Science Department. Students transferring to the Computer Science program from another department within the School of Engineering should initiate the paperwork in their present department office. Students denied entrance to the department due to lack of sufficient credits or specific courses may enroll in computer science classes and reapply at a later time when they meet the entrance requirements. The criteria for admission to the department are:

1. 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 UNM of not less than 2.20.
2. 24 hours taken from among the communications skills, computer science, mathematics, and laboratory science graduation requirements, with an academic average of not less than 2.50 in the 24 hours. Engl 101, Engl 102, C S 151L, and Math 162L must be included in the 24 hours.

Students wishing to enter the Computer Science program and having university level credit for course work completed at another institution will have their transfer credits evaluated on an individual basis. Grades earned in equivalent courses at other institutions will be used in determining eligibility for admission to the department.

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 40 hour computer science course work graduation requirement. Courses not accepted toward the 40 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 UNM 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 Math 121. If in doubt about the applicability of a course, contact an undergraduate advisor in the Computer Science Department.

1. Completion of 130 semester hours.
2. Completion of at least 42 hours in courses numbered 300 or above.
3. Completion of 40 hours in computer science with a GPA of not less than 2.00 in the 40 hours presented. The 40 hours must include the following courses, which total 34 hours:
 - C S 151L Computer Programming Fundamentals
 - C S 201 Mathematical Foundations of Computer Science
 - EECE 238L Computer Logic Design
 - C S 251L Introduction to Data Structures
 - C S 257L Nonimperative Programming
 - C S 341L Introduction to Computing Systems
 - C S 351L Design of Large Programs
 - C S 451 Programming Paradigms
 - C S 460 Software Engineering
 - C S 461 Algorithms and Data Structures
 - C S 481 Operating Systems Principles

The remaining six 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 the C S advisor.

C S 259L may be substituted for C S 151L and C S 251L. Only five hours credit is awarded. The computer science hour requirement is reduced to 39, but the overall graduation requirement remains at 130. The following additional rules apply.

- a. Department offerings below the 300 level cannot be used as technical electives. C S 390, 420, 490, and 492 cannot be used as technical electives.
 - b. At most 3 hours of C S 499 may be used toward satisfaction of this requirement.
 - c. At least 15 credits at or above the 300 level used to satisfy this requirement must be taken from full-time University of New Mexico Computer Science Department faculty.
 - d. At least 18 credits must be taken in the Computer Science Department at UNM.
4. Completion of the mathematics sequence:
 - Math 162L and 163L (Calculus I and II)
 - Math 317 (Elementary Combinatorics)
 - Math 345 (Statistics and Probability)
 - Math 375 (Introduction to Numerical Computing)

It is recommended that students minoring in mathematics or who wish to take additional mathematics as general electives take Math 314 (*Linear Algebra with Applications*) and Math 316 (*Applied Ordinary*

Differential Equations), as these better prepare the student for Math 375.

5. Nine hours of communications skills: English 101, English 102, and one of English 219 (*Technical Writing*), English 220 (*Expository Writing*), English 290 (*Introduction to Professional Writing*), or Communication and Journalism 130L (*Public Speaking*).

Part of this requirement may be satisfied by passing an authorized proficiency examination. English 101 will be waived if the student's score on the ACT is 29 or higher or whose score on the verbal portion of the SAT is 570 or higher. While credit is not granted for English 101, the student's total credit requirement is reduced to 128, the minimum allowed by the university.

6. 21 hours in humanities, social sciences and the fine arts. The student must develop both breadth and depth. In particular:
 - a. At least 3 credits must be taken in each of humanities, social and behavioral sciences, and fine arts.
 - b. At least 6 credits must be non-introductory. Non-introductory generally means either a 200-level course with a prerequisite or a 300 or above level course.

The following general areas are considered humanities: Literature and Creative Writing, Foreign Languages and Literatures, Philosophy, American Studies, and History.

The following general areas are considered social and behavioral science: Anthropology, Communication and Journalism, Geography, Economics, Political Science, Psychology, Linguistics, and Sociology.

The following general areas are considered fine arts: Art, Music, Theater and Dance, and Architecture.

Certain courses offered by departments of the College of Arts and Sciences and the College of Fine Arts may not be used to satisfy this requirement, because they do not satisfy the spirit of the requirement, which is to broaden the perspectives of the student. In particular, Phil 156 (*Introduction to Logic and Critical Thinking*) and Phil 356 (*Symbolic Logic*) may not be used to satisfy the humanities requirement; Psych 200 (*Statistical Principles*) and numerous technical courses in the Department of Geography may not be used to satisfy the social science requirement; and numerous technical courses in the School of Architecture and Planning may not be used to satisfy the fine arts requirement. Studio courses in the fine arts are allowed. Students who speak a foreign language fluently are encouraged to take literature courses taught in the foreign language, but the applicability of basic language and grammar courses toward the humanities requirement will be decided on an individual basis after consultation with the Department of Foreign Languages and Literatures. If there is any doubt regarding applicability of a course, an undergraduate advisor in the Computer Science Department should be consulted.

7. At least 13 hours of laboratory science. One of the following sequences of laboratory science must be included in the 13 hours. 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, 271-272L, 273L
 Biology 121L-122L
 Chemistry 121L-122L
 Earth and Planetary Sciences 101-102L, 105L
 Physics 160-161, 163L

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 satisfies this requirement:

Minor in Computer Engineering: EECE 203, EECE 206L, EECE 213, EECE 321, EECE 322, EECE 338 and one of EECE 327L, 434L or 438.

Minor in Electrical Engineering: EECE 203, EECE 206L, EECE 213, EECE 314, EECE 321 and two of EECE 322, EECE 340, EECE 361, EECE 371, or EECE 445.

Mathematics minors may not use Department of Mathematics courses for Teachers and Education Students in constructing the minor.

Students enrolling in the three-two MBA program offered by the Anderson Schools of Management may satisfy this requirement with 18 hours of 500-level management courses, normally taken during their senior year. For more information contact the department or the Anderson Schools of Management.

Courses taken to satisfy this requirement may also be used to satisfy the requirements of categories 1, 2, 5, 6, and 7.

All courses taken to satisfy these 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 the requirement of 130 hours.

Students may not take elementary courses in a department after progressing past a certain point in the course offerings of that department. Some examples are: taking C S 150 after having taken C S 251L and taking Math 121 and/or Math 245 after having taken advanced mathematics courses. 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 go back and retake elementary computer science courses in order to raise their grade-point average in computer science to 2.00.

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 EECE 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 151L, C S 201, C S 251L, C S 257L, EECE 238L,
 C S 341L, and C S 351L
 (C S 259L may be taken in place of C S 151L and
 C S 251L)

No course with a grade of less than C- may be counted toward the minor.

Advising

Students are required to see an undergraduate advisor within the department each semester prior to registering for classes. The student should check with an advisor about the admissibility of classes used to satisfy graduation requirement 6, 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 as a model or 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 freshmen 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 (Advanced College Algebra). General electives include courses in humanities, social and behavioral sciences, and the fine arts. It is recommended that a student not attempt more than 12 hours of technical material in one semester.

	Credits
First Year—First Semester	
Engl 101 Comp I: Exposition	3
Math 162L Calculus I	4
General Electives	6
Laboratory Science I	4
	17

Second Semester	
Engl 102 Comp II: Analys & Arg	3
C S 151L Comp Prog Fund	3
Math 163L Calculus II	4
Gen Elective	3
Laboratory Science II	4
	17

Second Year—First Semester	
C S 201 Math Found Comp Sci	3
C S 251L Intro Data Struc	3
Comm Elective	3
Laboratory Science	3
Minor/General electives	6
	18

Second Semester	
EECE 238L Comp Logic Design	4
C S 257L Nonimp Prog	3
Laboratory Science	3
Minor/General electives	6
	16

Third Year—First Semester	
C S 351L Design of Lg Prog	3
Math 345 Elem Math Stat & Prob Theory	3
Math 317 Elem Combinatorics	3
Minor/General electives	9
	18

Second Semester	
Math 375 Num Analys	3
C S 341L Intro Comp Sys	3
C S elective	3
Minor/General electives	6
	15

Fourth Year—First Semester	
C S 451 Programming Paradigms	3
C S 481 Oper Sys Princ	3
C S elective	3
Minor/General electives	6
	15

Second Semester		
C S 460	Software Engr	3
C S 461	Algor & Data Struc	3
Minor/General electives		9
		15

Graduate Program

Graduate Advisor
Charles P. Crowley

Application Deadlines
Fall semester: June 30
Spring semester: November 15
Summer session: Applications not accepted.

NOTE: Foreign students have earlier deadlines; please contact International Admissions.

NOTE: The financial aid application deadline is April 1. Aid is usually not available in the spring semester.

Degrees Offered

M.S. in Computer Science
Ph.D. in Computer Science

The degree of Master of Science in Computer Science is offered under Plans I and II.

Admission

In addition to the requirements for regular admission to graduate study (see page 35), 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 151L, 201L, 251L, 257L, 341L, 351L, 451, 460, 461, and 481.
2. Knowledge of mathematics essential to computer science equivalent to Math 162L, 163L, 317, and 345.

Students lacking adequate undergraduate training may be admitted, at the discretion of the admissions committee, with the understanding that, except for C S 451 and 461, course work required to remove the deficiencies in undergraduate background will not be credited toward the graduate degree.

Each student should see the 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 the graduate advisor at least once a semester to review progress toward the degree.

Master's Program

The M.S. in computer science is offered under both Plans I and II.

Graduation (M.S.)

In addition to all Office of Graduate Studies requirements for the master's degree (page 47), the department also requires the following:

1. 32 semester hours of approved graduate courses.
2. Exactly 2 semester hours of C S 592 (colloquium), taken at UNM.
3. At least 18 hours must be in regularly scheduled courses offered in the Computer Science Department; this specifically excludes thesis, individual study, and special topics courses.
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 the three common core courses: C S 500 (*Introduction to the Theory of Computation*), C S 530 (*Geometric and Probabilistic Methods in Computer Science*), and C S 580 (*The Specification of Software Systems*).
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.

A brochure describing the program and requirements can be obtained from the department.

Doctoral Program

The Ph.D. in Computer Science is offered through a cooperative program involving the Computer Science Departments at UNM, New Mexico State University (Las Cruces, N.M.), and the New Mexico Institute of Mining and Technology (Socorro, N.M.). Doctoral students at UNM may specialize in areas of current interest to UNM 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 (page 50), the department also requires the following:

1. Exactly 4 (2 post M.S.) semester hours of C S 592 (*Colloquium*), taken at UNM.
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 (18 post M.S.) of the semester hours, exclusive of dissertation, must be in courses numbered 500 or above. Of these hours, at most 12 (9 post M.S.) may come from "special topics" and "individual study" courses (at UNM, C S 591/691, C S 551, etc.).
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.

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 signifi-

cance. 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.

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. (3)

An introduction to the art of computing. The objective of the course is an understanding of the relationship between computing and problem solving. Programs will be written in C++. Prerequisite: Math 150. 3 lectures, 1 hr. recitation.

190L. Topics in Computer Science for Non-Majors. (1-3) Δ

Topics in computer science of contemporary relevance, with an emphasis on application software. For the student with little or no computer science background.

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 and Math 162.

237. Introduction to Data Processing. (3)

Introduction to the COBOL programming language. Sample programming problems on inventory control, forecasting, production planning, accounting and database management; advances principles of top down, modular design of programs by applying these principles to the solution of the sample programming problems.

Prerequisite: 150L, or 151L.

251L. Introduction to Data Structures. (3)

A continuation of 151L. Topics will include pointers and recursion; elementary data structures and their implementation (stacks, queues, associative arrays; linked lists, binary search trees); data abstraction and encapsulation; program design, testing, modification, documentation, and correctness (independent compilation). Programs will be written in C++.

Prerequisite: 151L. 3 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. 3 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.

290L. Topics in Computer Science for Non-Majors. (1-3) Δ
Topics in computer science of contemporary relevance, with an emphasis on applications software. Students should have had previous experience with computers as computer users.

341L. Introduction to Computing Systems. (3)
An introduction to machine language, internal representation of instructions and data, interaction between programs and the basic components of operating systems, and computer architecture.
Prerequisites: 251L and EECE 238L. 3 lectures, 1 hr. recitation.

351L. Design of Large Programs. (3)
A projects course stressing the design, development and testing of larger programs. Use of program management and debugging tools. Programs will be written in C+.
Prerequisite: 251L. 3 lectures, 1 hr. recitation.

***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 163L and 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.
Prerequisite: permission of instructor. Course cannot apply to major or minor in Computer Science. {Offered upon demand}

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: 201

***405. Linear and Integer Programming. (3)**
(Also offered as Math 405.) Linear programming: conversion of problems to linear programs, geometrical interpretation, simplex method and duality, degeneracy and cycling. Integer programming by use of cutting planes. Advanced topics: sparse matrix implementation, problems with special methods of solution.
Prerequisites: 151L and Math 314.

****420. Immigration. (6)**
A fast paced course for well-qualified graduate students whose previous degrees were not in computer science. Material covered is equivalent to 251L and 351L. Students should contact the department one semester before planning to enroll.
Prerequisites: 151L or equivalent and departmental approval. {Fall}

***431. Cryptology in Computing. (3)**
Techniques of encryption and decryption in current use for the protection of privacy of files. Emphasis on public key encryption. Includes extensive use of modular and multiple precision arithmetic.
Prerequisites: 251L and familiarity with modular arithmetic.

***432. Introduction to Image and Pattern Analysis. (3)**
Introduction to the concepts and methods of image and pat-

tern analysis: topics include perception of images, image representation, image transformations, enhancement, restoration, feature extraction, segmentation, computer vision. Survey of applications.
Prerequisites: Math 314, 345, and two programming courses.

***433. Computer Graphics. (3)**
(Also offered as EECE 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: 351L or EECE 331.

***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: 351L; Psychology students: Psych 265.

****439L. The Science of Intelligent Systems Laboratory. (2)**
(Also offered as Psych 468L.) Laboratory projects related to topics in 438.
Corequisite: 438. 4 hrs. lab. Not for credit for computer science majors (undergraduate or graduate).

***441. Modern Computer Architecture. (3)**
(Also offered as EECE 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 EECE 437L.

***442. Introduction to Parallel Processing. (3)**
(Also offered as EECE 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.
Prerequisites: 341L or EECE 344; 351L or EECE 331.
Recommended: 481 or EECE 437L.

***448. Design of Computers. (3)**
(See EECE 438.)

***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.
Prerequisites: 257L, 351L.

***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 Math 345. Management students: Mgt 300 or 520.

***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: 451 or 461.

***454. Compiler Construction. (3)**
Syntax analysis and semantic processing for a block-struct-

tured language. Lexical analysis, symbol tables, run-time management. Students will write a compiler.
Prerequisites: 341L, 451.

***457. 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.

****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: two of 451, 461 and 481.

***461. Algorithms and Data Structures. (3)**
A survey of data structures and algorithms, emphasizing analysis. Topics include: analyzing programs using recurrence relations, sorting, hash tables, worst-case and amortized search trees and priority queues, graph search and computational geometry, greedy and divide-and-conquer paradigms.
Prerequisites: 351L and Math 317.

***462. 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.

***463. 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: 461.

***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. Operating Systems Principles. (3)**
Basic principles of modern operating systems design: emphasis on concurrency including problems (nondeterminism), goals (synchronization, exclusion) and methods (semaphores, monitors); resource management including memory management and processor scheduling; file systems; interrupt processing.
Prerequisites: 341L, 351L.

****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 and a solid knowledge of C.

***487. 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.
Prerequisite: 481.

****490. 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.
Prerequisite: permission of instructor. Course cannot apply to major or minor in Computer Science. (Offered upon demand)

491. Special Topics-Undergraduates. (1-6) Δ
Undergraduate seminars in special topics in computer science. May be repeated for a total of 12 hours.
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.)

499. Individual Study-Undergraduate. (1-3 hrs. per semester) Δ
Guided study, under the supervision of a faculty member, of selected topics not covered in regular courses. May be repeated for a total of 6 hours. 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.
Prerequisites: 461 and familiarity with basic proof methods in discrete mathematics.

504. Algorithm Heuristics. (3)
Efficient problem solving techniques. Connection, search, and tour problems. Branch-and-bound and backtracking. Dynamic programming. Developing heuristics.
Prerequisite: 461.

505. Error-Correcting Codes. (3)
(See EECE 531.)

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: 461.

507. Optimization Theory. (3)
(See EECE 506.)

509. Parallel Algorithms. (3)
(Also offered as EECE 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: 461 or EECE 537; C S 442/EECE 432.

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 pro-

gramming; queuing; information theory; pattern recognition and estimation.

Prerequisite: Math 345.

531. Pattern Recognition. (3)

(Also offered as EECE 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, Math 345 or EECE 340; and two programming classes.

532. Computer Vision. (3)

(Also offered as EECE 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: Math 345 or EECE 340, Math 317 or Math 327, and C S 351L or EECE 331.

533. Digital Image Processing. (3)

(See EECE 533.)

534. Advanced Computer Graphics. (3)

Realism in computer graphics: hidden surface removal, rendering, surface modeling, ray tracing, radiosity. Advanced modeling techniques: surface patches, solid modeling, scan conversion. Scientific visualization. Architectures for computer graphics.

Prerequisite: 433.

537. Automated Reasoning. (3)

Both theoretical foundations of and practical issues in automated reasoning will be covered. Students will read selected papers for class discussion and will be required to do a term project.

Prerequisite: 457 or permission of instructor.

538. Advanced Topics In Artificial Intelligence. (3)

Continues the topics presented in 457, 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: 457 or permission of instructor.

540. Fault Detection and Tolerance. (3)

(See EECE 530.)

548. Advanced Computer Architecture. (3)

(See EECE 538.)

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 hrs. per semester, to a maximum of 6) Δ

Guided study under the supervision of a faculty member, of selected topics not covered in regular courses. May be repeated for a total of 6 hours.

Prerequisite: permission of instructor.

552. 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, runtime support, code generation, compiler-writing systems.

Prerequisite: 454.

557. Selected Topics in Numerical Analysis. (3) †

(Also offered as Math 557.) This course will vary from time to time depending upon demand and staff availability. Possible topics include approximation theory, two point boundary value problems, quadrature, integral equations, and roots of nonlinear equations. (Offered upon demand)

562. Advanced Human-Computer Interaction. (3)

Current research in human-computer interaction. Topics include human-computer interaction design, cognitive engineering, mental and conceptual models, cognitive artifacts, advanced graphics, new interaction techniques, and computationally-based media.

Prerequisite: 462.

563. Topics in Database Management. (3)

A continuation of 463 with emphasis on query optimization, leading-edge data models, transaction management, and distributed databases. Additional topics determined by student interests.

Prerequisite: 463.

575. Introductory Numerical Analysis: Numerical Linear Algebra. (3)

(Also offered as Math 504.) Numerical solution of linear and nonlinear systems of equations; the algebraic eigenvalue problem; round-off error.

Prerequisites: Math 464 and some knowledge of programming.

576. Introductory Numerical Analysis: Approximation and Differential Equations. (3)

(Also offered as Math 505.) Approximation of functions, integration and numerical solution of ordinary differential equations.

Prerequisites: Math 316 or 361 and some knowledge of programming.

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.

587. Advanced Operating Systems. (3)

Theory of design of operating systems. Modeling, simulation, synchronization, concurrency, process hierarchies, networks and distributed systems.

Prerequisite: 481 or EECE 437.

591. Special Topics—Graduate. (1-6) Δ

Graduate seminars in special topics in computer science. May be repeated for a total of 12 hours.

Prerequisite: permission of instructor.

592. Colloquium. (1) Δ

Required of all graduate students. May be repeated, with at most two credits towards the M.S. requirements, and at most two 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 hrs. per semester)

Offered on a CR/NC basis only.

601. Mathematical Theory of Formal Languages. (3)

The Chomsky hierarchy of languages and its relationship to automata needed as acceptors. Undecidability, including extended Rice's Theorem, the Post correspondence problem and undecidable questions regarding CFLs. Abstract families of languages and closure properties.

Prerequisite: 500.

602. Complexity Theory. (3)

Review of models of computation. Complexity classes, completeness, and NP-complete problems. Analysis of subproblems and approximations. Kolmogorov complexity and single-instance complexity. Randomized complexity and parallel complexity. Interactive proof theory. Elements of structure theory, including oracles and relativized computation. Prerequisite: 500.

603. Computability Theory. (3)

Review of models of computation and basic undecidability. Recursive function theory, including degrees of unsolvability. Completeness and consistency of theories (Gödel). Information-based computability theory (Chaitin). Prerequisite: 500.

640. Fault Tolerance Computers. (3)
(See *EECE 630*.)

650. Reading and Research. (3) Δ
May be repeated for a total of 6 hours.
Prerequisite: permission of instructor.

691. Seminar in Computer Science. (1-6 hrs. per semester, to a maximum of 12) Δ
Prerequisite: permission of instructor.

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only.

**ELECTRICAL AND
COMPUTER ENGINEERING**

Kenneth Jungling, Chairperson
The University of New Mexico
EECE Department, Rm. 110
Albuquerque, NM 87131-1356
(505) 277-2436, 277-1434

Professors

- Nasir Ahmed, Ph.D., University of New Mexico
- Steven J. Brueck, (Director of the Center for High Technology Materials [CHTM]), Ph.D., Massachusetts Institute of Technology
- Julian Cheng, Ph.D., Harvard University
- Ronald C. De Vries, Ph.D., (Associate Chairperson for Computer Engineering and Graduate Coordinator), University of Arizona
- Peter Dorato, D. E. E., Polytechnic Institute of Brooklyn*
- Paul A. Fleury, Ph.D., Massachusetts Institute of Technology, Dean, School of Engineering
- Charles F. Hawkins, Ph.D., University of Michigan
- Stephen Hersee, Ph.D., Brighton Polytechnic (England)
- Stanley Humphries, Jr., Ph.D., University of California (Berkeley)
- Ravi Jain, Ph.D., University of California (Berkeley)
- Mohammad Jamshidi, Ph.D., University of Illinois
- Kenneth C. Jungling, Ph.D., (Chairperson), University of Illinois
- Shlomo Karni, Ph.D., University of Illinois
- Donald L. Kendall, Ph.D., Stanford University
- Gary Maki, Ph.D., University of Missouri-Rolla
- John R. McNeil, Ph.D., Colorado State University*
- Donald A. Neamen, Ph.D., (Associate Chairperson), University of New Mexico
- Richard H. Williams, Sc.D., University of New Mexico*

Associate Professors

- Chaouki T. Abdallah, Ph.D., Georgia Institute of Technology
- Thomas Caudell, Ph.D., University of Arizona
- Charles Fleddermann, Ph.D., University of Illinois
- John M. Gahl, Ph.D., Texas Tech University
- Gregory Heileman, Ph.D., University of Central Florida

- Rhonda Hill, M.S., Purdue University*
- Donald R. Hush, Ph.D., University of New Mexico
- Ramiro Jordan, Ph.D., Kansas State University
- Neeraj Magotra, Ph.D., University of New Mexico
- Kevin Malloy, Ph.D., Stanford University
- Marek Osinski, Ph.D., University of Warsaw
- Edl Schamiloglu, Ph.D., Cornell University

Assistant Professors

- Luke Lester, Ph.D., Cornell University
- L. Howard Pollard, Ph.D., University of Illinois
- Robert Whitman, Ph.D., University of Colorado

Additional Faculty (Current)

- John Sobolewski, Associate Professor (Assoc. Vice President for Computer and Information Resources and Technology), Ph.D., Washington State University

UNM/Sandia National Laboratories Distinguished Professors (Current)

- Robert S. Blewer, Ph.D., Louisiana State University
- Ralph L. Dawson, Ph.D., University of Southern California
- Clifford W. Mendel, Jr., Ph.D., University of Illinois

Professors Emeriti

- Lewellyn Boatwright, Ph.D., University of Illinois
- Victor W. Bolie, Ph.D., Iowa State University
- Martin D. Bradshaw, Ph.D., Carnegie Institute of Technology*
- William J. Byatt, Ph.D., University of Alabama
- Ahmed Erteza, Ph.D., Carnegie Institute of Technology*
- Wayne W. Grannemann, Ph.D., University of Texas (Austin)
- Shayam H. Gurbaxani, Ph.D., Rutgers University
- Ruben D. Kelly, Ph.D., Oklahoma State University*
- Daniel P. Petersen, D. Eng. Sc., Rensselaer Polytechnic Institute*
- Russell H. Seacat, Ph.D., Texas A&M University*
- Harold D. Southard, Ph.D., University of Texas (Austin)

* Registered Professional Engineer in New Mexico.

** Registered Professional Engineer in a state or territory outside New Mexico.

Introduction

The Department of Electrical Engineering and Computer Engineering (EECE) offers two undergraduate degree programs, one in electrical 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 freshmen year subjects, before applications can be processed for admission to the Baccalaureate Programs in Electrical Engineering and Computer Engineering. Approval from the EECE 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 Engineering 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 freshmen 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 EECE department must have grades of C- or better for satisfying both admission and graduation requirements, except a C in English 102 is required.

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 BS 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.

Course Prerequisites

No one may enroll in an undergraduate course in the EECE department without first earning a grade of C- or better in all prerequisites for the course.

Residence Policy

Students admitted to a BS degree program in the EECE department during the Fall Semester 1993 and thereafter, must complete a minimum of 30 semester credit-hours of work applicable to the BS degree in Electrical Engineering or Computer Engineering after admission to the program.

Courses Number 300 or Above (8-Hour Rule)

The policy on courses numbered 300 or above is defined by the School of Engineering (SOE) 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 eight credit-hours of meeting all requirements of the first two years and is enrolled in the remaining courses to satisfy those requirements.

EECE courses numbered 300 through 499 are designed primarily for B.S. majors in the EECE department; courses numbered 500 and above are designed primarily for M.S. and Ph.D. students in the EECE department. Therefore, students who have not been admitted to one of the degree programs in the EECE department may take a maximum of four EECE courses numbered 300 or above. This restriction will not apply to students who are taking an approved minor in the EECE 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 EECE graduate program or are engaged in continuing education will be given special consideration, but are expected to obtain advising from the EECE Graduate Coordinator each semester.

Minor Studies Requirements

Minors in Electrical Engineering and Computer Engineering are offered to students majoring in Physics, Mathematics and Computer Science. (1) For a minor in Electrical Engineering, Physics and Mathematics students must take 203, 213, 206L, 238L, 314, 321 and one of 322, 340, 361, 371, and 445. (2) For a minor in Electrical Engineering, Computer Science students must take 203, 206L, 213, 314, 321 and two of 322, 340, 361, 371 and 445. (3) For a minor in Computer Engineering, Physics and Mathematics students must take 203, 213, 238L, 331, 344L and 337L. (4) For a minor in Computer Engineering, Computer Science students must take 203, 206L, 213, 321, 322, 338, and one of 327L, 434L and 438. Substitutions for the above required

courses may be made with the approval of the designated EECE 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 uses mathematics, physics, and other sciences in the design of electrical devices and systems, including lasers, transistors, optical fibers, integrated circuits, communication systems, satellites, electronic medical systems, and electrical power systems. As such, electrical engineering is a very sophisticated, rapidly changing discipline. It is also a discipline that requires rigorous training in advanced mathematics and the basic sciences. The B.S. in electrical engineering is the basic degree offered at UNM.

Curriculum in Electrical Engineering

The Bachelor of Science Program in Electrical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Hours required for graduation: 132

	Cr	Hrs. Lect/Lab
First Year—First Semester		
Engl 101	3	(3-0)
EECE 101	1	(1-0)
C S 151L	3	(3-1)
Phycs 160	3	(3-0)
Math 162L	4	(4-0)
H&SS Elective 1	3	(3-0)
	17	

	Cr	Hrs. Lect/Lab
Second Semester		
Math 163L	4	(4-0)
C S 251	3	(3-1)
Chem 121L	4	(3-3)
Phycs 161	3	(3-0)
Phycs 163L	1	(0-3)
Engl 102	3	(3-0)
	18	

	Cr	Hrs. Lect/Lab
Second Year—First Semester		
EECE 203	3	(3-0)
EECE 238L	4	(3-3)
Math 264L	4	(4-0)
Math 316	3	(3-0)
H/SS Elective 1	3	(3-0)
	17	

	Cr	Hrs. Lect/Lab
Second Semester		
EECE 206L	2	(1-3)
EECE 213	3	(3-0)
Phycs 262	3	(3-0)
Math 314	3	(3-0)
C E 304	4	(4-0)
	15	

	Cr	Hrs. Lect/Lab
Third Year—First Semester		
EECE 314	3	(3-0)
EECE 321	3	(3-0)
EECE 344L	4	(3-3)

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EECE 361	Fields and Waves I	3	(3-0)
EECE 371	Matts/Devices	4	(4-0)
		17	

Second Semester

EECE 322	Electronics II	3	(3-0)
EECE 327L	Electr Lab II	2	(1-3)
EECE 340	Prob Methods	3	(3-0)
EECE 362	Fields and Waves II	3	(3-0)
H&SS Elective ¹		3	(3-0)
Tech Elective ²		3	(3-0)
		17	

Fourth Year³—First Semester

M/E/C E 350	Engr Econ	3	(3-0)
EECE 419L	SR Design I	3	(0-9)
EECE 445	Intro Contrl Sys	3	(3-0)
Tech Elective ²		3	(3-0)
H&SS Electives ¹		3	(3-0)
		15	

Second Semester

EECE 420L	SR Design II	3	(0-9)
-or- 434L	Microprocessor/Lab		
-or- 490	Internship		
EECE 301	Engr Ethics	1	(1-0)
Tech Elective ²		3	(3-0)
Tech Elective ²		3	(3-0)
H&SS Elective ¹		3	(3-0)
H&SS Elective ¹		3	(3-0)
		16	

- See approved list of Humanities and Social Science Electives. At least one H&SS elective must be taken after an introductory course in the same department.
- 6 hours (2 courses) must be from a listed track. The remaining 6 hours (2 courses) must be approved in writing by the EECE department, usually from 300, 400, and 500 level EECE courses. EECE 402 is not acceptable.
- Students are encouraged to take the Fundamentals of Engineering Examination (FE) during their senior year. This is in preparation for professional registration examination.

Computer Engineering

Computer Engineering is an exciting, rapidly growing field. Our high-technology society increasingly needs persons with training in computer systems. Computer engineers design computers and computer software for a variety of applications, robots and industrial automation systems, biomedical and hospital systems, business office information systems, and spacecraft, navigation, and information systems. The B.S. in computer engineering is the basic degree offered at UNM.

Curriculum in Computer Engineering

The Bachelor of Science Program in Computer Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Hours required for graduation: 132

			Hrs.
	Cr	Lect/Lab	
First Year—First Semester			
Chem 121L	Gen Chem	4	(3-3)
C S 151L	Intro to Comp Sci	3	(3-0)
Math 162L	Calculus I	4	(4-0)
Engl 101	Comp I: Exposition	3	(3-0)
H&SS Elective ¹		3	(3-0)
		17	(16-3)

Second Semester

Physcs 160	Gen Physics	3	(3-0)
C S 251	Intro Data Struct	3	(3-0)
Math 163L	Calculus II	4	(4-0)
Engl 102	Comp II: Anlys & Arg	3	(3-0)
H&SS Elective ¹		3	(3-0)
		16	(16-0)

Second Year—First Semester

EECE 203	Circuit Analysis I	3	(3-0)
EECE 238L	Comp Logic Design	4	(3-3)
Physcs 161	Gen Physics	3	(3-0)
Math 316	Diff Eq	3	(3-0)
C S 257	Nonimp Prog	3	(3-0)
Physcs 163L	Gen Phys Lab	1	(0-3)
		17	(15-6)

Second Semester

EECE 213	Circuit Analysis II	3	(3-0)
EECE 206L	Elect Engr Lab I	2	(1-3)
Math 314, 321	Lin Alg		
-or- 375	Num Anlys	3	(3-0)
Math 264L	Calculus III	4	(4-0)
Physcs 262	Gen Physics	3	(3-0)
Physcs 264L	Gen Physics Lab	1	(0-3)
		16	(14-6)

Third Year—First Semester

EECE 321	Electronics I	3	(3-0)
EECE 338 ⁴	Inter Logic Design	3	(3-0)
Math 327 ⁴	Discrete Math	3	(3-0)
EECE 344L	Microprocessors	4	(3-3)
EECE 301	Engr Ethics	1	(1-0)
H&SS Elective ¹		3	(3-0)
		17	(16-3)

Second Semester

EECE 322	Electronics II	3	(3-0)
EECE 337 ⁵	Comp Arch & Organ	3	(3-1)
EECE 331	Data Struct & Algo	3	(3-0)
EECE 314	Signals & Comm	3	(3-0)
EECE 327L	Electr Lab	2	(1-3)
H&SS Elective ¹		3	(3-0)
		17	(16-4)

Fourth Year²—First Semester

EECE 435 ⁴	Comp Engr Design Proj	3	(3-0)
EECE 437 ⁴	Operating Systems	3	(3-1)
EECE 438	Design of Comp	3	(3-0)
EECE 340	Probabilistic Meth	3	(3-0)
H&SS Electives ¹		3	(3-0)
		15	(15-1)

Second Semester

EECE 440 ⁵	Computer Networks	3	(3-0)
C/E/M E 350	Engr Economics	3	(3-0)
EECE 447L ⁵	Comp Design Lab	2	(1-3)
Tech Electives ³		6	(6-0)
H&SS Elective ¹		3	(3-0)
		17	(16-3)

- See approved list of Humanities and Social Science Electives.
- Students are encouraged to take the Fundamentals of Engineering Examination (FE) during their senior year. This is in preparation for professional registration examination.
- Technical Electives: These electives will be developed in consultation with the computer engineering advisor from EECE, C S, Math, Physics or other engineering related courses. See list of suggestions.
- Fall only.
- Spring only.

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 EECE department is well equipped with a number of computer systems, from various manufacturers, which are used for undergraduate instruction and research. These systems are continuously being upgraded. The EECE computer systems are integrated into the campus-wide network.

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 GPA of 2.50. See appropriate entry in this catalog in the School of Engineering, Co-op section.

Honors Program

Students with a B+ average in the Department of Electrical and Computer Engineering are encouraged to enroll in the Honors Program. EECE students may graduate with General Honors (honors in general studies) or with Departmental Honors or with both. Information is available from the Office of Undergraduate Studies advisors, departmental advisors, and the University Honors Center.

Graduate Program

Graduate Studies Coordinator

Ronald C. DeVries

Review of Financial Aid Applications

	Begins	Ends
Fall semester:	March 15	May 31
Spring semester:	July 15	September 30

Application Deadlines for Domestic Students:

Summer session: March 31
Fall semester: May 31
Spring semester: October 31

Application Deadlines for International Students:

Fall semester: February 15
Spring semester: June 15

NOTE: Early application is recommended.

Degrees Offered

M.S. and Ph.D. in Electrical Engineering

Areas of study are Signals, Systems, and Computers and Physical Electronics and Photonics. Tracks within the Signals, Systems, and Computers area are computer engineering, circuits and control systems, signal processing and communications, and microelectronic design.

Ph.D. in Optical Sciences

Concentration: Optical Engineering.

Manufacturing Engineering

At the M.S. level, a student interested in Manufacturing Engineering has two options. The M.S. in EECE with a Manufacturing option requires 36 semester credit hours and a 3 month industrial internship in a manufacturing setting. Half the courses in this program are manufacturing engineering courses and half are EECE courses, three of which are the core courses from one of the existing 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.

Acceptance as a regular graduate student in this department for the master's degree normally requires a bachelor's degree in electrical or computer engineering from an ABET accredited department 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 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 coordinator. A thesis defense is required under Plan I and a final oral exam is required under Plan II. In both plans at least one-half of all the course work must be in EECE courses.

Acceptance as a regular graduate student in this department for the Ph. D. program normally requires a master's degree in electrical or computer engineering from an ABET accredited department 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 EECE graduate coordinator for advisement and updated program information. Every graduate student in the EECE Department is responsible for satisfying any additional requirements specified in the EECE Department Graduate Bulletin, which may be obtained in the EECE Graduate Office.

Electrical and Computer Engineering (EECE)

101. Introduction to the Electrical Engineering Profession. [Problem Solving.] (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. [203.] Circuit Analysis I. (3)

Basic elements and sources. Energy and power. Ohm's law and Kirchhoff's laws. Resistive networks, node and loop analysis. Network theorems. First-order and second-order circuits. Sinusoidal sources and complex representations: impedance, phasors, complex power. Three-phase circuits. Prerequisites: C- or better in Math 163L, and C S 151L. Corequisites: Math 316, Physcs 161. {Fall, Spring}

206L. 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 using spice. Prerequisites: C- or better in both 203 and Engl 102. {Fall, Spring}

213. [213L.] Circuit Analysis II. (3)

General transient analysis of electrical circuits. Laplace transform with application to circuit analysis. Fourier series analysis. The network function; impulse response; convolution; frequency response. Prerequisites: C- or better in both 203 and Math 316. {Fall, Spring}

238L. Computer Logic Design. (4)

Binary number systems. Boolean algebra. Combinational, sequential, and register transfer logic. Arithmetic/logic unit. Memories, computer organization. Input-output. Microprocessors. Prerequisite: C- or better in Engr-F 120 or C S 151L or equivalent. {Fall, Spring}

301. Engineering Ethics. (1)

A seminar course on professional practice, ethics, and ethical problem solving. A case-oriented approach is used to study ethical issues facing the practicing engineer. Prerequisite: Junior standing in engineering. {Fall, Spring}

****314. Signals and Communications. (3)**

Linear systems analysis. Signal spectra: Fourier series and transform; modulation and demodulation schemes; sampling theorem; discrete-time signals; discrete-time Fourier series and transform; elements of the Z-transform. Prerequisites: C- or better in 213 and Math 264L. {Fall, Spring}

****321. Electronics I. (3)**

Introduction to diodes, bipolar and field effect transistors. Analysis, design and characterization of linear amplifiers. Analysis and design of operational amplifiers and their circuit applications. Prerequisite: C- or better in 213. {Fall, Spring}

****322. Electronics II. (3)**

Design of multistage and power amplifiers. Analysis and design of common digital integrated circuit gates, flip-flops and multivibrators. Prerequisite: C- or better in 321. {Fall, Spring}

**** 327L. [**325L., **326L.] Electronics Laboratory. [Digital Electronics Laboratory.] (2) [2, 3]**

Laboratory experiments in analog and digital electronics. Prerequisite: C- or better in 206L. Corequisite: 322. 1 hr. lecture, 3 hrs. lab. {Fall, Spring}

330. Introduction to C and C++. (1)

The C programming language and its object-oriented extension, C++. Prerequisite: one semester of a high level programming language.

331. Data Structures and Algorithms. (3)

Analysis of algorithms using recurrence relations. Algorithmic design techniques. Data structures for searching, priority queues, balanced trees, disjoint sets, and graphs. Memory management. Design and implementation

of algorithms/data structures in C++ programming language. Prerequisite: C- or better in C S 251 and Math 327. {Fall, Spring}

332. Introduction to UNIX. (1)

Introduction to UNIX. Using and programming the UNIX operating system. UNIX file structure, editors, shells, filters, pipes, processes, job control, awk, sed. Emphasis is on using the UNIX tools for efficient software development and debugging.

Prerequisite: 330 or knowledge of C.

****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. 3 lectures, 1hr lab.

Prerequisites: C- or better in 344L, knowledge of C programming language. {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 238. {Fall}

****340. Probabilistic Methods in Electrical Engineering. (3)**

Problems in electrical engineering involving the application of probabilities and statistical methods to noise in amplifiers and communication links, reliability, quality control, tolerance assignment in design, planning of tests, calibration.

Prerequisites: C- or better in both 213 and Math 264L. {Fall, Spring}

****344L. Microprocessors. (4)**

Computers and Microprocessors: architecture, assembly language programming, input/output and applications.

Prerequisite: C- or better in 238L and 206L. Pre- or corequisite: 321. 3 lectures, 3 hrs. lab. {Fall, Spring}

****361. Fields and Waves I. (3)**

Static electric fields, solution of electrostatic problems, steady electric currents, static magnetic fields, Maxwell's equations.

Prerequisites: C- or better in 213, Physics 161, Math 264L, C E/M E 304. {Fall, Spring}

****362. Fields and Waves II. (3)**

Time-varying fields and Maxwell's equations, plane electromagnetic waves, transmission lines, waveguides and cavity resonators, introduction to antennas and radiating systems.

Prerequisite: C- or better in 361. {Fall, Spring}

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 Physics 262. Pre- or corequisite: 361. {Fall, Spring}

****384. Electromechanical Energy Conversion. (3)**

Fundamentals of electromechanical energy conversion. Synchronous, induction, and D-C machines. Transformers. Prerequisite: C- or better in 361.

390. 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 75 hours of the EE or Computer

Engineering BS degree program and prior approval. (12 hour/week) (24 hours/week in a summer session). Offered on a CR/NC basis only.

***400. Methods in Continuous and Discrete Systems Analysis. (3)**

Matrices and linear systems: calculations, rank, Gauss elimination, inversion, factorization. Transform methods in linear systems: Laplace, Fourier, Z, DFT. Applications in circuits, solid-state, and other systems.

Prerequisites: C- or better in 314, programming knowledge.

***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.

Prerequisites: 437 or C S 481.

****402. Electrical Engineering Principles for Advanced Students. (3)**

Accelerated studies in circuit analysis, systems, and signal processing for non-majors wishing to enter EECE graduate program.

Pre- or corequisites: Math 316 and Physcs 161.

419L. Senior Design I. [Senior Design Projects Laboratory 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.

Prerequisite: Senior standing in electrical or computer engineering and completion of all required 300-level EECE courses except 301 and 340. {Fall}

420L. Senior Design II. [Senior Design Projects Laboratory II.] (2-4)

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. {Spring}

***421. Electronics III. (3)**

Circuit configuration used in VLSI logic design are considered. CMOS, BiCMOS, ECL, and TTL implementations of sequential circuits, timing issues, and overall system design are covered.

Prerequisite: C- or better in 322. {Fall}

***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: 344 or C S 341; 331 or C S 351L. Recommended: 437 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 vector and raster devices. Description and manipulation of two and three dimensional objects. Hidden surface removal. Term project required.

Prerequisite: 331 or C S 351L. {Fall, alternate years}

***434L. Microprocessor Design Laboratory. (3)**

Computers and Microprocessors: architecture, assembly language programming, I/O interfacing, real time programming considerations. Hands-on approach to hardware and

software design, testing, trouble shooting and experimentation. A final written report with oral presentation is required for design projects.

Prerequisite: C- or better in 344L

****435. Computer Engineering Design Project. (3)**

Management and technical issues including business conduct and ethics related to the design of large software projects. Student teams will complete the design, specification, implementation, testing, and documentation of a large software project.

Prerequisites: C- or better in both 331 and 337L. {Fall}

***437L. Digital Computer Operating Systems. (3)**

Analysis of modern operating systems principles and mechanisms with emphasis on resource management.

Real-time interaction with stand alone computer systems. 2 1/2 hrs. lecture, 1/2 hrs. lab.

Prerequisites: C- or better in both 331 and 337L. {Fall}

***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 322, 337, 344L and 338 or permission of instructor. {Fall, Spring}

***439. Introduction to Digital Filtering. (3)**

Review of Fourier series, Fourier transform, and Laplace transform. Development of Z transform, Discrete Fourier transform, and FFT. Analysis and design of nonrecursive and recursive digital filters. Computer projects included.

Prerequisite: C- or better in 314.

***440. Introduction to Computer Networks. (3)**

Principles of digital communication systems. Basic signal types, communication channels, channel capacity, modulation techniques, impairments, data compression and multiplexing. Introduction to computer networks and distributed systems. The ISO reference model. Network topologies, protocols, and services. Routing, error and flow control techniques. Design, implementation, operation and management.

Prerequisites: 314, 340, 331, 344, or permission of instructor.

***441. Introduction to Communication Systems. (3)**

Principle types of communication systems, including amplitude, phase, frequency and pulse modulation; single, double and vestigial sideband transmission; synchronous and asynchronous demodulation; phase-lock loops; noise; channel capacity; spread-spectrum communication systems.

Prerequisites: C- or better in 314 and 340.

***444. Computer Aided Robotics. (3)**

Introduction and history of robotics, kinematics of robots, homogeneous and DH transformations, forward and inverse kinematics; computer-aided kinematics; dynamics of robots: Lagrange-Euler and Newton-Euler equations, computer-aided dynamics; trajectory and computer-aided planning. Control of robots, single, two and multiple-link cases. Force and hybrid control; adaptive control of robots, computer-aided control design. Robot sensors and introduction to low-level vision.

Prerequisites: C- or better in both 445 and M E 306L.

***445. Introduction to Control Systems. (3)**

Introduction to the control problem. Block diagrams. Advantages and problems with feedback control. Modeling of plants, sensors, and actuators. Elements of AC and DC machines. Design specification for control systems. Routh-Hurwitz and Nyquist stability criteria. Compensator design via Bode plots and Nichols charts. Z-transform analysis of discrete-time systems. Introduction to digital control.

Prerequisite: C- or better in 314. {Fall, Spring}

***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 and describing function design for non-linear systems.

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 (Spring)

***461. Antennas and Propagation. (3)**

Aspects of antenna theory and design; radiation from dipoles, antenna arrays and apertures; propagation of radio waves and cold plasma waves in the ionosphere and magnetosphere.

Prerequisite: C- or better in 362 or equivalent.

***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: 362 or Physics 406.

***471. Semiconductor Devices. (3)**

An advanced study of the p-n junction and the more advanced concepts in transistors and optoelectronics.

Prerequisite: C- or better in 371

***472L. Microelectronics. (4)**

This lecture/laboratory course is a comprehensive introduction to the major silicon microelectronics process tools and technologies. Topics include: microelectronics trends, silicon wafers fabrication, oxidation, diffusion ion-implantation, etching, lithography, CVD, metalization, packaging, yield. The lab project provides hands on experience of real MOS-FET fabrication and characterization using EECE's NMOS process.

Prerequisite: 371 (or equivalent). 2 lectures, 3 hrs. lab. per week. (Spring)

475. Introduction to Electro-Optics and OptoElectronics. (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.

Prerequisites: C- or better in 371.

***480. Power Systems Analysis. (3)**

Generation and distribution of electrical power; computer modeling of power distribution systems.

Prerequisite: Permission of instructor.

***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; mag-

nets; and ICF drivers. Students will design a fusion reactor. Prerequisite: Ch-NE 330L or senior standing in engineering or physical sciences.

486. 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. (Spring)

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 BS 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 hrs. per semester)††

Registration for more than 3 hours requires permission of department chairperson. (Fall, Spring)

493. Honors Seminar. (1-3)

A special seminar open only to honors students. Registration requires permission of department chairperson. (Fall, Spring)

494. Honors Individual Study. (1-6)

Open only to honors students. Registration requires permission of the department chairperson and of the supervising professor. (Fall, Spring)

***495. Special Topics. (1-3) Δ**

Prerequisites: senior standing and permission of instructor.

500. Theory of Linear Systems. (3)

State space representation of dynamical systems. Analysis of linear models in control systems, network theory, signal processing. Continuous, discrete, and sampled representations. This course is fundamental for students in the system areas.

Prerequisite: 314, and Math 321 or Math 464. (Fall)

506. Optimization Theory. (3)

Introduction to the topic of optimization by the computer. Linear and nonlinear programming. The simplex method, Karmakar method, gradient, conjugate gradient, and quasi-Newton methods, Fibonacci/Golden search, Quadratic and Cubic fitting methods. Penalty and Barrier methods.

509. Parallel Algorithms. (3)

(Also offered as 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 461; C S 442/EECE 432.

512. Modern Circuit Theory. [Modern Network Theory.] (3)

Classifications, postulates and methods of analysis in circuit theory. Positive real functions and energy function. Synthesis of canonic networks filter approximation problem. Design of passive and active analog filters.

Prerequisite: 314 or permission of instructor. (Spring)

513. Modern Filter Theory and Design. (3)

Approximation for network functions. All-pole Butterworth and Chebyshev filters. Frequency transformations. Basic passive realizations. Active filters. Sensitivities.

Prerequisite: 213 or permission of instructor.

514. Nonlinear and Adaptive Control. (3)

Linearization of nonlinear systems. Phase-plane analysis. Lyapunov stability analysis. Hyperstability and Popov stability criterion. Direct and indirect adaptive control systems. Adaptive estimation. Stability of adaptive control systems. Prerequisite: 446, 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 Math 345, 331, or C S 351L, and Math 317, or Math 327.

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. Introduction to sequential, hierarchical, and syntactic methods. Prerequisites: 340, or Math 345 and 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. (Spring)

523. Analog Electronics. (3)

Nonlinear electronic elements, tuned amplifiers, modulators, demodulators, and noise. Prerequisite: 322.

530. Fault Detection and Tolerance. (3)

Test generation for combinational and sequential circuits, logic simulation, and reliable design. Prerequisite: 238L.

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.

532. Theory of Automata. (3)

Classes of automata, their characteristics, and design methodologies. 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. Prerequisites: 446 or permission of instructor. 539 recommended. (Fall)

534. Plasma Physics I. (3)

(Also offered as Astr, Physics, Ch-NE 534.) Plasma parameter, adiabatic invariants, orbit theory, plasma oscillations, hydromagnetic waves, plasma transport, stability, kinetic theory, nonlinear effects, applications. Prerequisite: permission of instructor. (Fall)

535. Plasma Physics II. (3)

(Also offered as Physics, Ch-NE 535.) Derivation of fluid equations; CGL, MCD; equilibrium in the fluid plasma; ener-

gy 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. 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.

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. (Fall)

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: 344. (Spring)

539. Digital Signal Processing I. (3)

Discrete-time signals. Sampling theory. Fourier and Z-transform of discrete-time signals. Z-transform analysis of discrete-time systems. Design fundamentals of discrete-time filters. Prerequisite: 314 and 340. (Spring)

541. Random Signal Processing. (3)

Statistical description of signals. Correlation and power spectrum analysis. Introduction to Wiener and Kalman filtering. Prerequisites: 314 and 340.

542. Statistical Communication Theory. (3)

Statistical theory of signal transmission. Markov chain processes and systems, information measures, channel capacity, and coding theorems. Detection and extraction of signals in noise background based on statistical decision theory. Discrete-time signals and systems. Performance and stability criteria. Design approaches for digital control of analog plants. Sampling and signal quantization. Optimal and adaptive control. Microprocessor implementation of digital control algorithms. Prerequisite: 541 or equivalent.

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 and 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. (Spring)

547. Neural Networks. (3)

A study of neuron models, basic neural nets and parallel distributed processing.
Prerequisite: 500.

548. 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. Special Topics in Software Engineering.

549. Special Topics in Software Engineering. (3)

Advanced topics in software engineering. Consult department graduate office for current offering and prerequisites. May be repeated.

551. Problems. (1-3 hrs. per semester) ††**553L. Experimental Techniques in Plasma Science. [Experimental Plasma Physics and Pulsed Power.] (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.

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: 362 or permission of instructor. {Fall}

557. Charged Particle Accelerators. (3)

(Also offered as Ch-NE 545.) Principles of charged particle accelerators and transport systems. Single particle dynamics, transfer matrices, periodic focusing systems, RF cavities and waveguides. Induction linacs, RF linacs, synchrotrons and other types of accelerators.

Prerequisites: preparation in classical mechanics and fields and waves. (361 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.

561. Electrodynamics. (3)

Maxwell's equations, wave propagation in material media; wave energetics; polarization, reflection and transmission; vector potentials and field theorems; waveguides and resonators; radiation; scattering by surfaces and charge distributions. Prerequisites: 362 and Math 466 or equivalent. {Fall}

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 Fiber Communication and Information Technology. (3)

Optical waveguiding in uniform optical fibers having step and graded-index profiles. Effects of bends, core nonuniformities and other perturbations. Communication system architectures: direct, heterodyne and homodyne detection. System measurements and optical fiber sensing.

Prerequisite: permission of instructor.

567. Advanced Optics II. (3)

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. {Spring}

568. Nonlinear Optics. (3)

General concepts, microscopic approach, transient response and pulse propagation, nonlinear processes.

Prerequisites: 567 or Physcs 554 and EECE/Physcs 464. {Spring}

570. Quantum Theory of Solids I. (3)

Schroedingers equation, eigenfunctions and eigenvalues of the bound state with application to particle in a well, potential barriers, harmonic oscillator and hydrogen atom. Perturbation theory. Periodic lattices and energy bands, plane wave, tight binding, OPW, LCAO, and other cellular methods.

Prerequisite: 371.

572. Semiconductor Properties. (3)

Quantum mechanics and statistical mechanics concepts. Equilibrium and nonequilibrium carrier statistics. Carrier recombination processes. Drift and diffusion. Elemental and compound semiconductors.

Prerequisite: 371. {Spring}

574L. Microelectronics Processing I. [Process Technology for Microelectronics.] (3)

Materials science of semiconductors, microelectronics technologies, device/circuit fabrication, parasitics and packaging. Lab project features small group design/fabrication/testing of a simple MOS circuit.

Prerequisite: EECE 371. {Fall}

575. Junction Devices. (3)

The development of physical descriptions of junction theory, diodes, Schottky barriers, bipolar junction transistors, and thyristors.

Prerequisite: 371 or equivalent.

576. Field Effect Devices. (3)

Semiconductor device physics applied to junction and surface field-effect transistors.

Prerequisite: 371 or equivalent. (Note: EECE 575 is helpful but not required.) {Spring}

577. Semiconductor Lasers and LEDs. (3)

Prerequisite: Permission of instructor.

578. Advanced Semiconductor Lasers. (3)

Quantum well, wire and dot materials and lasers, coupled mode theory, distributed feedback and distributed Bragg reflector lasers, phased arrays, spectral hole burning and nonlinear gain, line width, noise, injection locking, picosecond pulse generation, external cavities.

Prerequisite: permission of instructor.

580. Advanced Plasma Physics. (3)

(Also offered as Physcs 580, Ch-NE 580.)

Prerequisite: 534 or Physcs 534. {Spring 1996 and alternate years}

585. Modern Manufacturing Methods. (3)

(Also offered as M E 585.) Study of business of manufacturing, emphasizing modern approaches. Topics include: US manufacturing dilemma; JIT, kanban, pull manufacturing, quality; modeling; design for production; manufacturing economics; management issues; DIM; case studies.

Prerequisite: permission of instructor. {Fall}

586. Design for Manufacturability. (3)

(Also offered as ME 586.) Introduction to methods of design for manufacturability (DFM). Emphasis is on teamwork and designing your customers needs. This is achieved through statistical methods and computer based systems.

- 595. Special Topics. (1-3) Δ**
Prerequisite: permission of instructor.
- 599. Master's Thesis. (1-6 hrs. per semester)**
Offered on a CR/NC basis only.
- 613. Special Topics in Networks and Systems. (3)**
Recent advances in networks and systems. Check with graduate advisor for details.
- 630. Fault Tolerant Computers. (3)**
Reliability, availability, and fault-tolerant techniques and their evaluation. Examples of fault-tolerant systems.
Prerequisites: 340 and 530.
- 639. Digital Signal Processing II. (3)**
Continuation of 539.
Prerequisite: 539.
- 641. Information Theory and Coding. (3)**
Prerequisite: 541.
- 647. Introduction to Artificial Intelligence. (3)**
Feature extraction, discriminant functions, supervised/unsupervised learning, statistical decision theory.
Prerequisite: 500 or permission of instructor.
- 649. Special Topics in Control Systems. (3)**
Prerequisite: 546.
- 651. Problems. (1-3 hrs. per semester) ††**
- 695. Special Topics. (3)**
- 699. Dissertation. (3-12 hrs. per semester)**
Offered on a CR/NC basis only.

MECHANICAL ENGINEERING

David E. Thompson, Chairperson
The University of New Mexico
Mechanical Engineering Department
M E Room 202A
Albuquerque, NM 87131-1361
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Professors

William E. Baker, Ph.D., University of Texas *
Marc S. Ingber, Ph.D., University of Michigan
Ronald Lumia, Ph.D., University of Virginia
Arsalan Razani, Ph.D., Purdue University
Charles G. Richards, Ph.D., University of Michigan
Howard L. Schreyer, Ph.D., University of Michigan *
Mo Shahinpoor, Ph.D., University of Delaware *
Gregory P. Starr, Ph.D., Stanford University
David E. Thompson, Ph.D., Purdue University
Maurice W. Wildin, Ph.D., Purdue University
John E. Wood, Ph.D., Massachusetts Institute of Technology

Associate Professors

James R. Leith, Ph.D., University of Texas
C. Randall Truman, Ph.D., Arizona State University

Assistant Professor

Nader D. Ebrahimi, Ph.D., University of Wisconsin
(Madison)
Yu-Lin Shen, Ph.D., Brown University

Professors Emeriti

Bohumil Albrecht, Ph.D., Yale University

William A. Gross, Ph.D., University of California
(Berkeley) *
Frederick D. Ju, Ph.D., University of Illinois
Joe H. Mullins, Ph.D., California Institute of Technology

* Registered Professional Engineer in New Mexico

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.

The goal of the Mechanical Engineering educational program is to give our students a thorough understanding of the basic principles of mechanical engineering, the ability to apply these principles to practical applications for the benefit of society, and the ability to communicate their results and ideas orally, and in writing. The curriculum is designed to offer our students broad and comprehensive training in the fundamentals of mathematics, physics, chemistry and the engineering sciences supplemented by professional courses which incorporate creative design, functioning as part of a team, an understanding of professional ethics and individual responsibility, and the means for evaluating their work in the context of societal needs and humanistic concerns.

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, tribology, combustion, HVAC and solar energy, instrumentation, and a computer laboratory to which all students have access.

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. 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.

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: 133

	Hrs.	Cr	Lect/Lab
First Year—First Semester			
Chem 121L General Chemistry	4		
Math 162L Calculus I	4		
Engr-F 122L Intro Engr Methods	3		
Engl 101 Comp I: Exposition	3		
H/SS Elective 1	3		
	17		

Second Semester			
C S 151L Comp Prog Fund	3		
Physcs 160 General Physics	3		
Math 163L Calculus II	4		
Engl 102 Comp II: Analysis and Arg	3		
Chem 122L General Chemistry	4		
	17		

Second Year—First Semester			
Math 264L Calculus III	4	(4-0)	
Physcs 161 General Physics	3	(3-0)	
Econ 105 Intro Macroeconomics	3	(3-0)	
M E 201L Intro to Mech Engr	2	(2-4)	
C E 202 Engr Statics	3	(3-0)	
H/SS Elective 1	3	(3-0)	
	18	(18-4)	

Second Semester			
Math 311 Vector Analysis	3	(3-0)	
Physcs 262 General Physics	3	(3-0)	
M E 301 Thermodynamics	3	(3-0)	
M E 306 Dynamics	3	(2-3)	
H/SS Elective 1	3	(3-0)	
	15	(14-3)	

Third Year—First Semester			
Math 316 Appl Ord Diff Equas	3	(3-0)	
M E 314 Analys/Des Mechanism	3	(3-0)	
M E 317 Fluid Mechanics	3	(3-0)	
EECE 203 Circuit Analysis I	3	(3-0)	
C E 302 Mech of Materials	3	(3-0)	
H/SS Elective 1	3	(3-0)	
	18	(18-0)	

Second Semester			
M E 302 Thermodynamics II	3	(3-0)	
M E 318L M E Lab I	2	(3-6)	
M E 320 Heat Transfer	3	(3-0)	
M E 357 Intro to Mechanics Vibration	3	(3-0)	
M E 370 Engr Materials Science	3	(3-0)	
H/SS Elective 1	3	(3-0)	
	17	(18-6)	

Fourth Year²—First Semester			
M E 351L M E Lab II	2	(3-6)	
M E 358 Machine Component Design	3	(3-0)	
M E 380 Analys/Des Mech Cont Sys	3	(3-0)	
Technical Electives	9	(9-0)	
	17	(18-6)	

Second Semester			
M E 352 M E Lab III	2	(2-3)	
M E 359 Mech Engr Design	4	(2-3)	
M E 363 Analys of Engr Systems	3	(2-3)	
Technical Electives	5	(5-0)	
	14	(11-9)	

- 1 See approved list of Humanities/Social Science electives.
- 2 Students are encouraged to take the Fundamentals of Engineering Examination (FE) during their senior year. This is in preparation for professional registration examination.

NOTE: Technical electives taken for degree requirements must be approved by the Department. They may be selected from M E 273L, 350, 355, 356, 365, 373, 401, 402, 404, 414, 425, 430, 451-452, 455, 456, 461-462, 465, 470, 471, 475, 480, 481, 482, 483, 484, 486 and other engineering, mathematics, and science courses. Technical electives may not be taken on the CR/NC option.

Graduate Programs

Graduate Advisor
Gregory P. Starr

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: June 30
Spring semester: November 15
Summer session: April 15

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 mechanics, dynamic systems and control, energy/thermodynamics, fluid mechanics, 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 must 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 advisor 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 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) are required for both programs. Six credit hours (M E 599) may be counted for a thesis, and three credit hours (M E 559) for a project. There is a required seminar course which must be taken for two semesters.

The Master of Science (Manufacturing Emphasis) degree requires 36 semester credit hours and a 3 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 3 month industrial internship in a manufacturing setting.

The M.Engr. supports options in Computers in Manufacturing, Semiconductor and Electronics Manufacturing (normally taken through the EECE Department) and Mechanical Manufacturing.

The Doctor of Philosophy degree requires 54 semester credit hours subsequent to the bachelors 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. A breadth component, which may be a foreign language, is required. Details of all special requirements are subject to departmental policy.

The Mechanical Engineering building houses most department facilities, including the Biomechanics, Controls, Fluid Mechanics, Heat Transfer, Material Science, Materials Test, Microprocessor, Robotics, and Vibrations Laboratories, and the Artificial Muscles Research Institute (AMRI). Other facilities supporting research are the High Performance Computing, Educational, and Research Center (HPCERC), which manages the Maui High Performance computing center, and the new Manufacturing Technology and Training Center (MTTC).

The Department of Mechanical Engineering has close collaboration with the UNM School of Medicine, nearby Los Alamos and Sandia National Laboratories, plus the Air Force Phillips 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 advisor or the chairman.

Mechanical Engineering (M E)

201L. Introduction to Mechanical Engineering. (2)

Lectures, demonstrations and simple experiments on mechanical systems to introduce the student to concepts of mechanical engineering.

Prerequisites: Math 162L, C S 151L. Corequisites: Engr-F 122L, C E 202. {Fall, Spring}

273L. [273.] Engineering Shop Practice. (1)

Principles of and practice with hand and machine tools of the mechanical engineering metal shop. Measurements; drilling; welding; sawing; benchwork; grinding and sheet metal operations are covered. Lathe and milling machine operations are emphasized. Course designed to meet the needs of engineering students for future course projects.

Prerequisite: sophomore standing.

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, and Math 264L. {Summer, Fall, Spring}

**302. Thermodynamics II. (3)

Thermodynamic relations, equations of state, thermodynamic properties of mixtures, psychrometrics, thermodynamics of chemical reactions, phase and chemical equilibrium, power, refrigeration and heat pump cycles.

Prerequisite: 301 or permission of instructor. {Fall, Spring}

304. Engineering Mechanics. (4)

(Also offered as C E 304.) Accelerated course combining fundamentals of statics and dynamics of rigid bodies. Principles of kinematics and kinetics for particles and rigid bodies, in two and three dimensions, using vector notation. Not intended for C E or M E students.

Prerequisites: Physcs 160, Math 264L.

306. Dynamics. (3)

Principles of dynamics. Kinematics and kinetics of particles, systems of particles, and rigid bodies.

Prerequisite: C E 202; corequisite: Math 311. {Fall, Spring}

314. Analysis and Design of Mechanisms. (3)

Graphical and analytical techniques in kinematics and kinetics of linkages. Synthesis of linkages. Cam design.

Prerequisites: 306. {Fall, Spring}

**317. Fluid Mechanics. (3)

Basic concepts and principles of fluids, including fluid statics, control volume forms of continuity, momentum, and energy principles. Introduction to boundary layers and turbulent flow. Applications to incompressible flow inside tubes and around objects.

Prerequisite: 306, Math 311. Corequisites: 301. {Fall, Spring}

318L. Mechanical Engineering Laboratory I. (2)

Experiments on measurement of common variables used in mechanical engineering including principles of instrumentation, and transducer types and their characteristics.

Prerequisites: 301, 317, C E 302, EECE 203. Corequisite: 357. {Fall, Spring}

**320. Heat Transfer. (3)

Principles and engineering applications of heat transfer by conduction, convection and radiation.

Prerequisites: 301, 317, Math 316. {Fall, Spring}

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. {Summer, Fall, Spring}

351L. Mechanical Engineering Laboratory II. (2)

Experimental and analytical studies of simple physical systems. Applications of error analysis, including measurement uncertainty and statistical description of experimental data. Formal report preparation.

Prerequisites: 318L, 320, 357. {Fall, Spring}

352L. Mechanical Engineering Laboratory III. (2)

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. Both written experimental reports and literature reviews on related topics are required.

Prerequisite: 370. {Fall, Spring}

355. Probability and Statistics for Engineers. (3)

Basic concepts of probability, probability distributions, parameter estimation, and statistical modeling are developed. Applications to quality improvement, statistical process control and design of experiments are given.

Prerequisite: junior standing in engineering. {Offered upon demand}

356. Industrial Engineering. (3)

A survey of industrial engineering principles, methods, and techniques used to assist management in making sound operational decisions.

Prerequisite: senior standing or permission of instructor. {Fall}

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.

Prerequisites: 314 or permission of instructor. {Fall, Spring}

358. Machine Component Design. (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: 314, 357, 370, C E 302 (Fall, Spring)

359. Mechanical Engineering Design. (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: 320, 358, 380, Engl 102. (Fall, Spring)

363. Analysis of Engineering Systems. (3)

Engineering analysis of systems based on the principles of fluid mechanics, heat transfer, thermodynamics, and mechanics.
Prerequisites: 302, 317, 320, 357, C E 302 or permission of instructor. (Fall, Spring)

****365. Heating, Ventilating, and Air Conditioning Systems. (3)**

Methods of analysis and design of systems for conditioning of spaces for people and equipment.
Prerequisite: 320. (Fall)

370. Engineering Materials Science. (3)

(Also offered as Ch-NE 370, C E 370.) The structure of matter and its relation to mechanical properties. Mechanical behavior of structural materials; metals, ceramics, and polymers.
Corequisite: C E 302. (Summer, Fall, Spring)

373. Manufacturing Processes. (3)

Introduction to mechanical and thermal processes used to form and join metallic and nonmetallic materials, and CNC programming projects. Discussions, demonstrations, field trips and projects.
Prerequisite: junior standing in engineering or equivalent. (Spring or upon demand)

380. Analysis and Design of Mechanical Control Systems. (3)

System dynamics and modeling; transfer functions; concept of feedback and system stability; transient and steady-state response; control system analysis and design using root locus and frequency response methods.
Prerequisite: Math 316, senior standing or permission of instructor. (Fall)

***401. Advanced Mechanics of Materials. (3)**

(Also offered as C E 401.) 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.
Prerequisites: C E 302 and senior standing. (Spring)

***402. Introduction to Continuum Mechanics. (3)**

(Also offered as C E 402.) 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.
Prerequisites: Math 311 or senior standing in engineering, physics or mathematics. (Fall)

***404. Introduction to Computational Mechanics. (3)**

Terminology and concepts associated with weak formulations and the finite element approach; time integrators; stiffness and mass matrices; internal force approach; problems include static and transient analysis of heat conduction, torsion, wave propagation, beam deflection, and applications in design.
Prerequisite: senior standing in M E or Math 312. (Fall)

***414. Intermediate Dynamics. (3)**

Review of Newtonian mechanics applied to particles, dynamic analysis in non-Newtonian reference frame, Lagrangian equations of motion. Three-dimensional dynamics of rigid bodies.
Prerequisites: 306, 358, Math 311, 316, or equivalent, and senior standing, or permission of instructor. (Spring)

***425. Solar Thermal Energy System Components. (3)**

Introduction to solar thermal energy system analysis and design, with emphasis on components. This course extends the application of the principles of thermodynamics, heat transfer and fluid mechanics to systems that deliberately employ solar energy as a source.
Prerequisite: 320. (Fall)

***430. Intermediate Fluid Mechanics. (3)**

Derivation of the Navier-Stokes equations. Introduction to two and three dimensional potential flow theory, viscous flow theory, including the development of Prandtl's boundary-layer equations and the momentum integral approach, and compressible flow theory, including thermodynamics of shock waves, friction and heat addition.
Prerequisites: 301, 317, and Math 316. (Spring)

451-452. Undergraduate Problems. (1-3, 1-3 hrs. per semester, 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. (Spring)

***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. (Fall, Spring)

***461-462. Special Topics. (1-4, 1-4 hrs. per semester)**

Formal course work on special topics of current interest.
Prerequisites: senior standing and permission of instructor. (Offered upon demand)

***465. Tribology. (3)**

Surface statistics, theories of friction and wear, sliding and rolling element bearings, hydrodynamic and hydrostatic bearings.
Prerequisite: senior standing or permission of instructor. (Offered upon demand)

***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 standing or permission of instructor. (Fall)

***471. Advanced Materials Science. (3)**

Further developing of the concepts of materials science starting where M E 370 leaves off. Including: crystal structure and symmetry operators, structure and energy of defects such as dislocations and interfaces, thermodynamic basis of phase diagrams, and kinetics of phase transformations. These concepts will be applied to explain the mechanical, electronic, optical, etc. properties of solid materials.
Prerequisite: 370. (Fall)

***475. Numerical Methods in Mechanical Engineering. (3)**
Applications of solution procedures for linear and non-linear systems of equations, numerical differentiation and integration, eigenvalue problems and finite-difference methods to specific problems in Mechanical Engineering including one- and two- dimensional, steady and time-dependent heat transfer, fluids, and solid mechanics problems.
Prerequisites: 357, 380; a knowledge of linear algebra is desirable. (Spring)

***480. Linear Dynamic Systems. (3)**
Writing differential equations for engineering systems; standard signals and signal representation; mathematical descriptions of systems; analysis of the state equations; controllability, observability, and stability.
Prerequisite: 357, 380; a knowledge of linear algebra is desirable. (Fall)

***481. Digital Control of Mechanical Systems. (3)**
Analysis and design of systems using digital computers in the real-time control of dynamic processes. Design methods will include classical techniques based on the Z-transform and modern techniques based on the state-space approach.
Prerequisite: 380. (Spring)

482L. Robot Engineering. (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, hands-on robotic projects.
Prerequisite: senior standing. (Fall)

****483. Power Generating Systems. (3)**
Analysis and design of conventional systems for converting energy into useful work, including experimental performance, control and economics. Systems covered include various vapor power cycles, power plant equipment, and internal and external gas combustion cycles such as Brayton, Diesel, and others.
Prerequisites: 302 and 320. (Fall)

484. [484.] Computer Aided Design. [Computer Aided Design and Computer Aided Manufacturing.] (3)
Computer-aided implementation of mechanical design projects using AUTOCAD.
Prerequisites: 201, 358, senior standing. (Spring)

486. Design for Manufacturability. (3)
(Also offered as EECE 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. (Spring)

500. Numerical Techniques in Mechanical Engineering. (3)
Numerical techniques for solving ordinary and partial differential equations in M.E. Emphasis on applications of implicit, explicit, and iterative methods.
Prerequisite: at least one semester of 400- or 500-level course work in solid or fluid mechanics. (Fall)

504. Computational Mechanics. (3)
Weak formulations of governing equations in solid mechanics, fluid mechanics, and heat conduction. Finite element equations in two and three-dimensions. Numerical algorithms for static and time-dependent cases.
Prerequisites: 404 or equivalent, a graduate course in heat conduction, fluid mechanics or solid mechanics. (Spring)

512. Continuum Mechanics. (3)
Matrix, indicial and direct notation, tensor calculus, deformation analysis; general principles of stress, motion and objectivity; curvilinear coordinates.
Prerequisite: graduate standing or permission of instructor. (Fall)

514. Variational Mechanics. (3)
Variational method, energy principles, direct methods for mechanical problems, advanced topics.
Prerequisite: at least one semester of graduate study or permission of instructor. (Spring)

515. Random Vibrations. (3)
(Also offered as C E 515.) Introduction to mathematical description of stochastic processes, Fourier transforms, power spectral density and auto-correlation functions, analysis of mechanical systems with random excitation. Properties of narrow band Gaussian distributions. Applications.
Prerequisites: 357, C E 520 or permission of instructor. (Offered upon demand)

516. Applied Dynamics. (3)
Kinematics and Kinetics of material systems, reference frames, Lagrangian equations of motion in generalized coordinates. Application to dynamic systems, including computational methods.
Prerequisites: 306, 357, Math 311, 316 or equivalent. (Spring)

518L. Principles of Measurement in Mechanical Engineering. (3)
Generalized performance characteristics of instruments, principles of electromechanical transducers, study of circuit and recording instrument characteristics, introduction to digital data systems, and applications to measurement of quantities such as strain, force, temperature, flow, acceleration, and others.
Prerequisites: 301, 317, 318L, 357. (Fall)

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. (Fall)

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, and variational methods. Computer required.
Prerequisites: 320, Math 312, or permission of instructor. (Spring)

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.
Prerequisites: 320, 430, or permission of instructor. (Alternate Fall with 515)

524. Radiant Heat Transfer. (3)
Principles of thermal radiation, thermodynamic and electromagnetic bases of material property relations, basic equations of radiative transfer, techniques of analysis, including approximate methods.
Prerequisite: 320. (Alternate Fall semester with 515)

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's boundary-layer equations and the momentum integral approach, and compressible flow theory, including thermodynamics of shock waves, friction and heat addition.
Prerequisite: 317. (Fall)

532. Gas Dynamics. (3)

Two-dimensional flow of ideal gases including shock waves, friction, and heat transfer.

Prerequisites: 520, 530. {Offered upon demand}

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. {Offered upon demand}

540. Elasticity I. (3)

Field theory of elasticity; Saint Venant's problems; introduction to plane theory of elasticity.

Prerequisites: Math 311 and 316. {Fall}

541. Elasticity II. (3)

Muskhelishvili method in plane theory of elasticity, plane elastodynamics, advanced topics.

Prerequisite: 540; corequisite: Math 313. {Offered upon demand}

542. Theory of Shells. (3)

Theory of surfaces, general theory of elastic shells with small displacements, membrane and bending theories, various approximate theories, special topics.

Prerequisites: 512 or 516 and Math 312, permission of instructor. {Offered upon demand}

543. Analysis of Thermal Stresses. (3)

Continuum theory of thermodynamics; coupled theory of thermoelasticity; plane problems of thermoelasticity; special topics.

Prerequisite: 540. {Spring or upon demand}

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. {Offered upon demand}

545. Fracture Mechanics. (3)

Criteria for the onset of fracture and yielding, local and global crack instabilities, orientations for crack extension, crack branching and kinking, void growth model in ductile fracture, dynamic effect and terminating crack velocity, fatigue crack growth.

Prerequisite: 540. {Spring}

551-552. Problems. (1-3, 1-3 hrs. per semester)

Prerequisites: 6 hrs. of 500-level M E courses and permission of instructor. {Fall, Spring}

555. Advanced Quality Control. (3)

This course is designed to give manufacturing engineering program candidates background in quality control and quality improvement. It covers statistical quality control methods as well as other analytical approaches.

Prerequisites: Graduate standing and permission of instructor.

559. Design Project. (3) Δ

Prerequisite: permission of instructor. {Offered upon demand}

561-562. Special Topics. (1-4, 1-4 hrs. per semester)

{Offered upon demand}

570. Microcontrollers. (3)

Introduction to microcontroller organization, interfacing, and programming. Machine, assembler, and high level languages. Several projects involving the use of a microcomputer in various mechanical systems.

Prerequisite: permission of instructor.

572. Creep Plasticity. (3)

High temperature plastic deformation of metals discussed from materials science perspective. Relevant crystal defects and their relation to plastic deformation explored. Topics: phenomenological laws for creep and their connection with microscopic mechanisms.

Prerequisite: 471 or permission of instructor.

579. Material Technology and Manufacturing Science. (3)

(Also offered as Ch-NE 579.) Material properties for advanced manufacturing technologies, product design and performance problem solving. Topics include: ceramics, polymers, metals, composites, electronic and protonic materials.

Prerequisite: M E, Ch-NE or C E 370, or equivalent materials background. {Fall}

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. Design of linear feedback systems.

Prerequisite: 380 or permission of instructor. {Fall}

581. Computer Control. (3)

Modeling, identification, and design of closed-loop computer-controlled dynamic systems using both classical and state-space techniques.

Prerequisite: 380 or equivalent and graduate standing.

582L. Robot Engineering II. (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, hands-on robotic projects.

Prerequisite: 480 or permission of instructor.

583. Automation. (3)

Essence of manufacturing automation, designing for parts assembly, flexible manufacturing systems (FMS, using CAD/CAM, CNC machines and robots, CIM networking, laboratory CAD/CAM work, familiarity with automatic control is recommended.

Prerequisite: 480. Corequisite: 484 or permission of instructor. {Spring}

584. Computer Aided Design. [CAD/CAM Systems.] (3)

Implementation of CAD/CAM in automated manufacturing systems, laboratory work on CAD solid modeling software. Prerequisite: knowledge of AUTOCAD, 358, graduate standing. {Spring}

585. Modern Manufacturing Methods. (3)

(Also offered as EECE 585.) Study of business of manufacturing, emphasizing modern approaches. Topics include: US manufacturing dilemma; JIT, kanban, pull manufacturing, quality; modeling; design for production; manufacturing economics; management issues; DIM; case studies.

Prerequisites: permission of instructor. {Fall}

586. Design for Manufacturability. (3)

(Also offered as EECE 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. {Spring}

591-592. Seminar. (0-1)

{Graduate Students only.}

Offered on a CR/NC basis only.

593. Advanced Robot Engineering. (3)

Extended treatment of manipulator kinematics, dynamics and control. Subject matter will be relevant to current research in robotics.

Prerequisite: 482 or permission of instructor. {Spring}

599. Master's Thesis. (1-6 hrs. per semester)
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 hrs. per semester)
Offered on a CR/NC basis only.

Bachelor of Engineering Option

Manufacturing Engineering and Robotics Option

The widespread realization of the declining competitive position of American industry has led to renewed interest in and increasing importance of Manufacturing Engineering. To respond to this nationwide concern and to increase the human and technological resources of the state, a Bachelor of Engineering Degree Program in Manufacturing Engineering and Robotics has been established.

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: 135

	Cr	Hrs. Lect/Lab
First Year—First Semester		
Chem 121L General Chemistry	4	
Math 162L Calculus I	4	
Engr-F 122 Intro Engr Methods	3	
Engl 101 Comp I: Exposition	3	
H&SS Elective 1	3	
	17	
Second Semester		
C S 151L Comp Prog Fund	3	
Physcs 160 General Physics	3	
Math 163L Calculus II	4	
Engl 102 Comp II: Analysis and Arg	3	
Chem 122L General Chemistry	4	
	17	
Second Year—First Semester		
Physcs 161 General Physics	3	(3-0)
Math 264L Calculus III	4	(4-0)
C E 202 Engineering Statistics	3	(3-0)
Communication Skills Elec 1	3	(3-0)
H&SS Elective 2	3	(3-0)
	16	(16-0)

Second Semester			
Math 345	Math Stat&Prob Theory	3	(3-0)
EECE 203L	Circuit Analysis I	3	(3-0)
M E 306	Dynamics	3	(2-3)
C E 302	Mechanics of Materials	3	(3-0)
Science Elective 3		3	(3-0)
H&SS Elective 2		3	(3-0)
		18	(17-3)

Third Year—First Semester			
Math 316	Appl Ord Diff Equas	3	(3-0)
M E 380	Analys/Des Mech Cont Sys	3	(3-0)
EECE 238L	Comp Log Design	4	(3-3)
M E 301	Thermodynamics	3	(3-0)
M E 317	Fluid Mechanics	3	(3-0)
		16	(15-3)

Second Semester			
M E 370	Engr Materials Science	3	(3-0)
M E 314	Analys Des Mechanism	3	(3-0)
M E 318L	M E Lab I	2	(0-6)
M E 373	Manufacturing Processes	3	(3-0)
Technical Elective 4		6	(6-0)
		17	(15-6)

Fourth Year 5—First Semester			
M E 358	Machine Component Design	3	(3-0)
M E 480	Linear Dynamic Sys	3	(3-0)
M E 470	Microproc-Mech System	3	(3-0)
H&SS Elective 2		3	(3-0)
Technical Elective 4		6	(6-0)
		18	(18-0)

Second Semester			
M E 350	Engineering Economy	3	(3-0)
M E 359	Mech Engr Design	4	(2-3)
M E 482	Robot Engineering	4	(4-0)
H&SS Elective 2		3	(3-0)
Technical Elective 4		3	(3-0)
		17	(15-3)

- 1 Communication skills electives may be chosen from English, or Communication & Journalism. Other courses may be approved on an individual basis.
- 2 See approved list of Humanities/Social Science Electives.
- 3 Science electives may be chosen from E&PS 101 and 105L, E&PS 225, Biol 121L, 122L, Physics 262, Astr 270, 271. Other courses may be approved on an individual basis.
- 4 Tech electives: These electives will be developed in consultation with an option committee advisor to comprise a meaningful sequence for specialization. Technical electives in the manufacturing Engineering and Robotics Options may be chosen from the following areas of emphasis: Management, computer software, computer hardware, engineering or robotics.
- 5 Students are encouraged to take the Fundamentals of Engineering Examination (FE) during their senior year. This is in preparation for the professional registration examination.

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.

****321. Technology and Society. (3)**

(Also offered as Am St 321.) Surveys the history of technological development in America, transfer from Europe, and new transfer to other countries. Identifies ways in which technology has impacted and been impacted by culture. Examines current and potential trends.

****322. Special Topics. (1-3)**

Selected topics in technologies of current interest. (Offered upon demand)

II. General Courses for Engineering Majors (ENGR-F)

116. Introduction to Engineering. (1-3)

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. 2 hrs. lecture and demonstrations. (Offered upon demand)

122L. Introduction to Engineering Methods. (3)

Engineering graphics, technical sketching, and introduction to Computer Aided Design.

Prerequisite: Eligibility for admission to Math 150. 2 hrs. lecture, 2 hrs. lab. (Summer, Fall, Spring)

III. Cooperative Education Program (E COOP)

To enroll in the following courses, please contact:

UNM Career Services
Cooperative Education
Student Service Center, Room 262
(505) 277-2605

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.

105. Cooperative Education Work Phase. (0)
\$10. 00 annual fee. Offered on a CR/NC basis 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.

309. Evaluation of Cooperative Education Work Phase 5. (1) Offered on a CR/NC basis only.

310. Evaluation of Cooperative Education Work Phase 6. (1) Offered on a CR/NC basis only.



COLLEGE OF FINE ARTS

Thomas A. Dodson, Dean
The University of New Mexico
College of Fine Arts, Center for the Arts 1101
Albuquerque, NM 87131-1396
(505) 277-2111, FAX (505) 277-0708

Introduction

This section of the catalog is designed to provide information about the College of Fine Arts and to be of help to the student who plans to major in art history, art studio, media arts, music, theatre, or dance.

The nature of the arts is such that people choose to enter these fields for a variety of reasons and with many goals in mind. Recognizing this, we have designed a number of different programs. Our basic approach is to describe alternatives rather than to state requirements. Some programs are necessarily more structured than others. An example would be the major in music education, in order to qualify to teach in the public schools, a number of specific courses must be taken. Other programs are entirely open and flexible. Your choice of a curriculum will determine the degree you receive when you complete it. The name of the degree thus serves to describe the kind of program you have taken.

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 your department chairperson or to an advisor in the College of Fine Arts Advisement Center, Center for the Arts 1103, (505) 277-4817.

You should also read carefully the section on general academic regulations of the university and the listing of courses offered by the College. These are under eight headings:

Art History	Media Arts
Art Studio	Music
Dance	Music Education
Fine Arts	Theatre

In reading the course descriptions, note carefully the prerequisites that are specified because these determine the sequence in which courses may be taken. Also note that not all courses are offered every semester. The listings in this catalog indicate the general pattern in which the courses are offered, but you will still need to consult the current *Schedule of Classes* in order to find out specifically what is to be given each 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

Majors: Art Studio, Theatre

Bachelor of Arts in Fine Arts

Majors: Art History, Art Studio

Bachelor of Arts

Majors: Dance, Media Arts, Music, Theatre

Bachelor of Music

Major: Music with emphasis in performance and in composition and theory

Bachelor of Music Education

Major: Music Education in instrumental track or vocal track (Level 1 Licensure in Music, K-12, in New Mexico)

Graduate Degrees Offered

Master of Arts

Art History, and Theatre and Dance

Master of Music

Concentrations: music history and literature, composition and theory, performance, conducting, piano accompanying, and music education

Master of Fine Arts

Art Studio

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, and selection of successful applicants is made on a competitive basis.

Admission from Undergraduate Studies. To be eligible for transfer to the College of Fine Arts, you must meet the requirements listed:

- Completion of 26 hours of earned credit.
- A grade-point average of at least 2.50 on all hours attempted, or
 - A grade-point average of at least 2.50 on the last 30 hours attempted.
- Competency in English writing as demonstrated by
 - Achieving a score of 29 or higher on the English section of the ACT examination, or 650 SAT Verbal, or
 - Completion of English 101 with a grade of C or better, or
 - A score of 51 or better plus a passing essay on the English Composition CLEP subject examination.
- Completion of 12 credit hours of course work in the major area.
- 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 the 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 Undergraduate Studies.

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 Undergraduate Studies. 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 UNM.
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 non-professional physical education courses may be counted toward a degree.
6. All degrees in the College of Fine Arts require the following general education requirements from the College of Arts and Sciences:
9 hrs. English 101*, 102 and an English elective (above 102)
6 hrs. History 101 and 102, *Western Civilization*
9 hrs. including one course chosen from each of the following three groups:
 - 1) Communications, Foreign Language or Humanities (Includes American Studies, Communication and Journalism, Speech and Hearing Sciences, Foreign Languages and Literatures, Linguistics, Philosophy, Religious Studies and Spanish and Portuguese.)
 - 2) Math or Natural Science (Includes Math 121, 145, 150 or above, Biology, Chemistry, Earth and Planetary Sciences, Physics and Astronomy.)
 - 3) Social or Behavioral Sciences (Includes Anthropology, Economics, Geography, Political Science, Psychology and Sociology.)
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 room 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 General Academic Regulations 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.)

* If you received an ACT English score of 29 or better or an SAT verbal score of 650 or better (570 if the SAT was taken before April, 1995), you are exempt from taking English 101 and may substitute any 3-hour course in Arts and Sciences.

Major and Minor Studies. A student may choose a minor or a second major from among those majors under 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 require 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 General Academic Regulations section.

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.

Departmental Honors

Students interested in graduating with departmental honors should read carefully the guidelines on honors in the General Academic Regulations section of the catalog and should visit the College of Fine Arts Advisement Center to request a copy of specific departmental honors guidelines and 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 for the departmental honors program in the College of Fine Arts, the applicant must have achieved an overall 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 senior 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 UNM 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 sus-

pension period, see the Scholastic Regulations section in the General Academic Regulations in this catalog.

Scholastic Standards

The curricula that lead to the degrees of Bachelor of Fine Arts and Bachelor of Music are **preprofessional** 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 closely 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 and Rodey Theatre; a Fine Arts Library containing more than 105,000 volumes and a listening center with an extensive collection of CDs, tapes, and records; and the Bainbridge Bunting Memorial Slide Library, containing 300,000 fine arts slides.

Fine Arts Graduate Advisors

Ona Savage, Art and Art History
Larry Lavender, Associate Professor, Theatre and Dance
Karl Hinterbichler, Professor, Music

Students wishing to pursue graduate programs in art history, art studio, music, and theatre and dance must meet both minimum requirements for admission to graduate study and to the departmental programs listed below.

Graduate degrees offered in the fine arts include the Master of Arts, with majors in art history, and theatre and dance; Master of Music; Master of Fine Arts, the terminal degree in studio art; and the Doctor of Philosophy in art history.

Fine Arts (FA)

151. Artistic Traditions of the Southwest. (3)
(See *Art HI 251*.)

229. Topics. (1-3) †
Not acceptable toward a major in Fine Arts. (Offered upon demand.)

284. Experiencing the Arts. (3)
Presents to a large audience the relationships, connections and differences in artistic media by means of interdisciplinary investigation and critical discussions with artists of collaborative works. (Fall, Spring)

384. Interdisciplinary Process in the Arts. (3)
Exploring creative processes across the arts through a structured sequence of creative problems.
Prerequisite: permission of instructor. (Spring)

***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)** Sippel
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

Elen Feinberg, Chair
The University of New Mexico
Department of Art and Art History, Art 204
Albuquerque, NM 87131-1401
(505) 277-5861, FAX (505) 277-5955

Associate Chair
Joyce Szabo

Professors

Nick Abdalla, M.A., University of New Mexico
Thomas F. Barrow, M.S., Institute of Design, Illinois
Institute of Technology
Flora Clancy, Ph.D., Yale University
David Craven, Ph.D., University of North Carolina
Elen Feinberg, M.F.A., Indiana University
Betty Hahn, M.F.A., Indiana University
Christiane L. Jost-Gaugier, Ph.D., Harvard University
Christopher Mead, Ph.D., University of Pennsylvania
Patrick Nagatani, M.F.A., University of California (Los Angeles)

Associate Professors

Steve Barry, M.F.A., Hunter College
Geoffrey Batchen, Ph.D., University of Sydney
Michael D. Cook, M.F.A., University of Oklahoma
Constance DeJong, M.F.A., University of New Mexico
Martin Facey, M.F.A., University of California (Los Angeles)
Douglas R. George, M.A., University of Minnesota
William T. Gilbert, M.F.A., University of Montana
Basia Irland, M.F.A., University of Massachusetts
Lydia Madrid, M.F.A., Indiana University
Howard D. Rodee, Ph.D., Columbia University
José Rodríguez, M.F.A., Indiana University
O. Joseph Rothrock, Ph.D., Princeton University
Joyce Szabo, Ph.D., University of New Mexico
John H. Wenger, M.F.A., University of Arizona

Assistant Professors

Margery Amdur, M.F.A., University of Wisconsin
Holly Barnet-Sanchez, Ph.D., University of California (Los Angeles)
Gina Bobrowski, M.F.A., University of Georgia
Dennis Farber, M.F.A., Claremont Graduate School
Charlene Villaseñor Black, Ph.D., University of Michigan
Carla Yanni, Ph.D., University of Pennsylvania

Adjunct Professors

James Moore, Ph.D., Indiana University
Anne Noggle, M.A., University of New Mexico
Donna Pierce, Ph.D., University of New Mexico
Richard Rudisill, Ph.D., University of Minnesota
Mary E. Smith, Ph.D., Yale University
Steven A. Yates, M.F.A., University of New Mexico

Lecturer

James L. Jacob, M.A., University of New Mexico

Professors Emeriti

Jane Abrams, Printmaker
Clinton Adams, Editor, Tamarind Papers
Garó Antreasian, Printmaker
J. J. Brody, Historian
Edward Bryant, Historian

Van Deren Coke, Photographer, Historian
 Robert M. Ellis, Painter
 Wayne R. Lazorki, Photographer
 Ralph Lewis, Jeweler, Painter
 Sam Smith, Painter

Major Study Requirements

The majors in Art Studio and Art History offered by the College of Fine Arts are described below. The major and minor in art offered by the College of Arts and Sciences are 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.

Preprofessional Curriculum. The preprofessional 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 emphasis (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. 30 hours selected from courses offered by departments of the College of Arts and Sciences including general education requirements (see Fine Arts <i>Graduation Requirements 6.</i>)	30
-and-	
b. 6 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. 12 additional hours selected from courses outside the major offered by any college, including Fine Arts.	12
Subtotal	48
2. Major in art:	
a. 18 hours in art history including 201, 202, and 250, to be taken in the freshman and sophomore years; 3 hrs. of upper-division; and a 400 level of late modern.	18
-and-	
b. 52 hours in studio courses. Required courses are art studio 106, 121, and 122. Also required are 4 courses chosen from 157, 168, 187, 207, 213, and either 205 or 274; plus 9 additional hours at the	

400 level 6 of which must be chosen from the following: 405, 407; 413, 457, 468, 474, or 487. Many areas of special study require specific sequences of courses and corequisites which you must observe. The department advisor can inform you of these.

3. Additional courses in any field, including art.	52
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 preprofessional (B.F.A.) curriculum. These two programs, both of which lead to the Bachelor of Arts in Fine Arts, are as follows:

Art History Emphasis

1. Courses outside the major:	Credits
a. 39 hours selected from courses offered by departments of the College of Arts and Sciences including general education requirements (see Fine Arts <i>Graduation Requirements 6.</i>) Specific requirements include 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;	39
-and-	
b. 6 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. 15 additional hours selected from courses outside the major offered by any college, including Fine Arts.	15
Subtotal	60
2. Major in art history:	
a. 39 hours in art history courses including 201, 202 and 250; also required are 3 courses in art history chosen from 315, 320, 331, 332, 340, 352, and 261 or 262 or 263; and a course taken from among the following: 251, 252, 303, 343, 401, 402, 403, 411, and 412. A minimum of 18 hours must be taken in courses numbered 300 or above in art history;	39
-and-	
b. 9 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 Emphasis

1. Courses outside the major:	Credits
a. 39 hours selected from courses offered by departments of the College of Arts and Sciences including general education requirements (see Fine Arts <i>Graduation Requirements 6.</i>);	39
-and-	
b. 6 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.	15 additional hours selected from courses outside the major offered by any college, including Fine Arts.	15
	Subtotal	60
2.	Major in art:	
a.	15 hours in art history courses, including 201, 202 and 250, and 3 hrs. upper-division.	15
	-and-	
b.	33 hours in studio courses, including Art Studio 106, 121, and 122; also required are 2 courses with one chosen from 187, 205, 207, or 274, and the other chosen from 157, 168, or 213, plus 9 additional hours at the 400 level.	33
3.	Additional courses in any field, including art.	20
	Total	128

Curricula In Teacher Education. If you are planning to become a teacher of art in the public schools, it is essential that you consult with the advisor in Art Education as soon as possible.

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 an emphasis either in studio or art history. Of these hours, at least 12 must be in courses numbered above 300.

The major with an emphasis in studio is as follows:
9 hours of art history: Art Hi 201, 202 and 250.
24 hours in art studio including Art St 106, 121, and 122.

The major with an emphasis in art history is as follows:
Communication and foreign language must be selected as 2 of the 7 group requirements in Arts and Sciences.
27 hours in art history courses, including:
Art Hi 201, 202 and 250. Also, one selected from 261, 262, 263, 315, 320, 331, 332 or 340. Also, one selected from 251, 252, 303, 343, 401, 402, 403, 411, or 412. 12 of the 27 hours must be upper division art history.
6 hours in art studio fundamentals:
Art St 106. Also, one selected from 121 or 122.

Minor Study Requirements

The minor in art, either art studio or art history, consists of 24 semester hours with at least 6 hours at the 300 level or above, distributed as follows,

Art studio emphasis:
Art St 106, 121, 122 and 15 hours of art studio and art history electives

-or-
Art history emphasis:
Art Hi 201, 202, 250 and 15 hours of art history and/or art studio electives.

Consult the Undergraduate Art Advisor in the Center for the Arts, Room 1103, for a suggested course of study.

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 UNM 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
James Jacob, M.A.

Application Deadlines

Fall Admission:	January 15
Spring Admission:	November 15

NOTE: Spring admissions are only allowed for UNM 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.
Concentration: Art History
M.F.A.
Concentration: Studio Art
Ph.D.
Concentration: Art History

The department offers degrees in two fields: studio art and art history. In studio the degree is the Master of Fine Arts with an emphasis in painting and drawing, photography, printmaking or 3D; in art history the degrees are the Master of Arts and the Doctor of Philosophy with an emphasis in either the Art of the Americas or the Art of the Modern Age.

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 credit hours during this appointment.

Studio Degree, M.F.A.

NOTE: For the most part, the degree requirements for the M.F.A. in studio art are the same as for the Ph.D. (see page 49 of this Catalog). Major differences for the M.F.A. are summarized as follows:

1. Transfer credits are limited to 12 hours rather than 30 hours.
2. There is no language requirement.
3. Minimum dissertation requirements are 12 hours rather than 18 hours.
4. Minimum total credits are 60 hours rather than 66 hours.

The degree of Master of Fine Arts (M.F.A.) is offered by the Department of Art and Art History under Tracks I and II.

The M.F.A. degree is offered under two separate program options, Track I and Track II. While the two tracks are very similar, Track I is designed to afford the student an opportunity to demonstrate his or her creative and scholarly ability and Track II is designed to afford the student an opportunity to amplify his or her abilities as a professional artist.

The M.F.A. is the terminal degree in studio art. 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 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 concentration, 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.

The M.F.A. degree is offered under two separate program options, Track I and Track II. While the two tracks are very similar, Track I is designed to afford the student an opportunity to demonstrate his or her creative and scholarly ability, and Track II is designed to afford the student an opportunity to amplify his or her abilities as a professional artist.

The M.F.A. under Track I requires a balanced concentration of work among creative, critical, analytical, and historical research, culminating in a written dissertation and an exhibition of creative work.

Track II requires a concentration on 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.

The choice of a specific dissertation program option, either Track I or Track II, should be done in consultation with, and the approval of the student's Committee on Studies.

Course Work Requirements

The M.F.A. degree requires a minimum of 48 hours of course work. 24 of these hours must be completed at UNM, of which at least eighteen, 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 UNM

extension courses. These credits may be applied or transferred provided that:

1. the course work has been 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 in the student's Application for Candidacy;
5. the application/transfer of these credits is approved by the Dean of Graduate Studies.

Admission to the Studio Program

NOTE: Studio areas of emphasis are: Painting and Drawing, 3D, Printmaking, and Photography. Applicants concerned with mixed media and new media are welcomed; however, they should identify one of the above areas of emphasis for admission purposes.

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. 3-D student must also have completed a course in shop foundations which includes the proper use of shop machinery and equipment and related safety practices. Any deficiencies in the required preparation must be removed during the first year of course work for the degree. As part of the application for admission to graduate study, the student must submit materials as follows:

1. Application for Admission, Registration Information, and application fee.
2. Two sets of official transcripts from all institutions previously attended.
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. information about the field of proposed 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. or a B.F.A. degree;
 - d. a statement of goals while attending and after completing graduate study;
 - e. reasons for choosing the University of New Mexico as a place for graduate study. In evaluating this written statement, both its form and content will be carefully considered.
5. Slides/Portfolio. Fifteen to twenty 2" X 2" color slides of work must be sent in a standard 80 slide carousel tray. Also expected are:
 - a. an identifying list with information on the date, medium, and dimensions of each work. Each slide must be labeled with the applicant's name;
 - b. a check or money order (no stamps) to provide sufficient funds for the return of the carousel/portfolio via U.S. Postal Service.

NOTE: Photo applicants are encouraged to submit original prints. However, if the uniqueness, size, or nature of the work makes this difficult, slides or a combination of prints and slides are acceptable. Items 1-4 should be sent with the self-managed application to the Office of Graduate Studies, University of New Mexico, 107 Humanities Bldg., Albuquerque, NM 87131-1401. Phone: (505) 277-2711.

Item 5 should be sent to the Graduate Office, Department of Art and Art History, University of New Mexico, Albuquerque, NM 87131-1401. Phone: (505) 277-6672.

M.F.A. Degree Requirements

Art St 502	Interdisciplinary Seminar	3
Art Hl 503	Introduction to Graduate Studies	3
(to be taken concurrently, offered Fall only)		

Art St 593 Seminar in Studio Art (offered Spring Semester)	3
Art St (in addition to 502 and 593)	21
Art Hi (in addition to 503)	12
Electives (normally taken outside the Department of Art & Art History)	6
Art St 699 Dissertation	12
Total	60

Track I

Art St 699 Dissertation (exhibition)	6
Art Hi 699 Dissertation	6
-or-	

Track II

Art St 699 Dissertation (solo exhibition)	9
Art Hi 699 Dissertation (catalog)	3

Transfer Credits

A maximum of 12 hours of graduate work at another institution or from non-degree status at UNM 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 49) 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*, and Art History 503, *Introduction to Graduate Studies*.

Creative work is undertaken through graduate courses, topics courses, and one-on-one tutorial instruction.

Art History 503 and the 12 additional art history hours constitute a prescribed minor in art history for all M.F.A. students. Elective course work will be determined by the student's particular needs and shall be undertaken only with the advice and approval of the 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 related to their area of emphasis.
- 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. 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 takes place in the semester in which the student completes 18 hours of graduate course work.

Duties of a Committee on Studies:

- to conduct the M.F.A. Qualifying Review;
- 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 option.

- to conduct the Advancement to Candidacy/Comprehensive Examination and to certify that the residency requirement has been met.
- 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 Chair. The process begins with the student finding a qualified faculty member (all full-time, continuing faculty are qualified), normally in the student's area of emphasis, who is willing to serve as Committee Chair. Together they select three additional willing members, one of whom must be from Art History and one of whom may be from outside the Department. A Committee on Studies Approval Form is submitted to the Department Director of Graduate Studies for approval by the Department Chair 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 Chair.

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:

- Chair of the student's Committee on Studies
- Department Director of Graduate Studies
- Department Graduate Committee
- Chair of the Department
- College Graduate Committee
- Dean of the College
- Dean of the Office of Graduate Studies
- Faculty Senate Graduate Committee

M.F.A. Qualifying Review

- The four-member Committee on Studies will comprise the Qualifying Examination Committee.
- The exam will be given during the 12th week of the regular semester immediately after the student completes 18 graduate credits, and has had two successful graduate reviews.
- This examination consists of three parts:
 - a review of a comprehensive selection of the student's work.
 - presentation of a formal typed essay of 7-12 pages (2400-4200 words) on the work to be reviewed (to be distributed to each committee member and the Department Graduate Office at least three days prior to the review).
 - an oral defense of the work by the candidate.
- The candidate will be informed at the conclusion of the exam of the results, which must be one of the following:
 - Pass, granted by the exam committee.
 - Fail with option granted by the review committee for a single retake. The second exam will be given following completion of at least a three-credit tutorial with the Chair of the Committee on Studies. A second failure will result in being dropped from the program for unsatisfactory progress toward the degree.
 - Fail with no retake. 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 24 hours of course-work completed at UNM, 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 or after the filing of the Application for candidacy. In any event, the examination must be held no later than the semester before the student registers for dissertation.

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 the student's creative work, in quantity and quality, is of sufficient maturity and that the student can begin work on a dissertation.
 - 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.
 - c. that, in the case of Track I students, an outline or prospectus of the student's dissertation topic indicates that the student has the necessary background to undertake this research.

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).

Tentative approval of candidacy can be obtained if the program of studies is approved by the student's Committee on Studies, the Department Chair and the OGS.

Final approval of candidacy will be granted by the Dean of OGS only after the Residency Requirement is met and confirmed and the Committee on Studies certifies that the student has passed the Comprehensive Examination.

NOTE: Approval of the Application for Candidacy form 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 is accepted by the Committee on Studies and the Dean of OGS. In extraordinary circumstances, the Dean of OGS may waive the requirement for continuous enrollment upon presentation of a written request from the dissertation director and the graduate unit.

M.F.A. candidates must be enrolled during the semester in which they graduate, including the summer session.

Dissertation Format (Track I). Guidelines regarding the format for Dissertations are available from the department and the OGS and are reprinted on page 53 of this Catalog.

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 culminating requirement under Track I consists of:

1. an exhibition of studio work and;
2. a written paper of substantial length (50-100 pp.) with primary emphasis on critical and historical considerations, demonstrating evidence of sound research capability. Students should choose topics generally related to their own creative interests. Equal weight shall be given to the evaluation of the studio work and the written paper, and;
3. some permanent record of a substantial representation of the creative work in the exhibition, i.e., slides, video tape, etc.

The dissertation under Track II 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);
3. some permanent record of a substantial representation of the creative work in the exhibition, i.e., slides, video tape, etc. and;
4. 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 OGS. 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 Chair, and approved by the Dean of OGS.

Notification of Intent to Graduate

By September 22, February 16, or June 15, respectively, the student should inform the Department Graduate Office and, through it, OGS, 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 OGS may require to be present will conduct the examination.

For candidates under Track I, it will cover both the written dissertation and the studio work and the relation of both to the candidate's major field. This examination may be divided into two parts, one dealing with the visual material and the other dealing with the written.

For candidates under Track II, it will cover the exhibition (the studio work and its installation), 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 OGS.

At the conclusion of the examination, the voting members shall confer in camera and vote their recommendations. The Committee may (1) recommend that the dissertation be approved without change, (2) recommend that the dissertation be approved subject only to minor corrections, editorial or otherwise, or (3) require the dissertation to be revised before approval. In the case of (1) or (2), no further meeting of the Committee will be required, although in the case of (2) for Track I candidates, the Chair of the Committee will be responsible for seeing that the corrections are made before the dissertation goes through the Department Graduate Office to OGS via the Certification of Final Form. In the case of (3), the full Committee must determine if their recommendations have been fulfilled.

For Track I candidates, two copies of the completed unbound dissertation, each with an abstract of not more than 600 words, all in final form and approved by at least three members of the Committee on Studies, shall be submitted for approval by the Dean of Graduate Studies by the published dates in November, April, and July. A third copy of the dissertation and one set of slides of the creative work shall be deposited with the Department Graduate Office. The Certification of Final Form, which must accompany the dissertation, indicates that the Chair of the Committee on Studies has proofread the final manuscript.

For Track II candidates, one original copy of the catalog, and one set of slides of the visual work 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 and the dissertation under Track I and the solo exhibition, catalog, and public presentation under Track II. The Department Director of Graduate Studies will verify to the Dean of OGS on designated forms the departmental approval of this aspect of Track I and Track II work.

Art History

The Art History graduate program is organized into two areas of concentration, each of which integrates several fields of specialization: Art of the Americas and Art of the Modern Age.

- 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 specialization: Pre-Columbian art and architecture, ancient and modern Native American

arts, Spanish Colonial art and architecture, and 19th- and 20th-century Latin American art and architecture.

- II. Art of the Modern Age 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 a specialization within either of the preceding areas of concentration. While focusing on a specialized field in preparation for their M.A. theses 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, archeology, 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.

Items 1-4 should be sent with the self-managed application to the Office of Graduate Studies, University of New Mexico, 107 Humanities Bldg., Albuquerque, NM 87131-1410.

M.A. Degree Requirements

(Also see the Master's Degree general requirements described in this Catalog (see page 47), Plan I.

Course Work

- A. A minimum of 24 hours of graduate 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 specialization)	9
Minimum course work	24

- Art Hi 599 Thesis 6
- Total 30

- B. *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 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 chair of the Committee and the Department Director of Graduate Studies, and with the approval of the Department Chair. Changes in membership are also made in this manner.

Advancement to Candidacy

Students must apply for candidacy soon after completing 12 graduate hours. Prior to advancement to candidacy and commencement of the thesis, a student must:

1. Successfully complete Art History 500 (Philosophy and Methods of Art History) during the first year of residence.
2. Successfully participate in the Fall Review. The student presents a research work in progress to peers and faculty during the first fall semester in the program.
3. Successfully participate in the Spring Symposium. Prior to advancement to candidacy each student will present a satisfactory 20-minute formal paper in a

departmental symposium normally scheduled in spring. This may or may not extend the research presented in the Fall Review.

4. 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).

NOTE: Tentative approval of candidacy can be obtained if the program of studies is approved by the student's Committee on Studies, the Department Director of Graduate Studies, and the Department Chair. Final approval of candidacy will be granted by the Dean of OGS. Approval of candidacy in no way implies successful completion of the M.A. degree.

Comprehensive Examination

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 in which Advancement to Candidacy is to occur.

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, including transfer work from another institution.

Ph.D. Degree Requirements

Also see the Ph.D. Degree general requirements described in the Catalog (see page 51). 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 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 UNM.
 - At least 18 hours completed in residence at the University.

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 OGS.

Students seeking the Ph.D. degree must demonstrate, beyond a general mastery of the discipline, comprehensive knowledge of their fields of specialization 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 Chair of the Committee and the Department Director of Graduate Studies, and with the approval of the Department Chair, 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 by the regular, full-time UNM faculty appointments. A third committee member, the external member, must hold a regular, full-time faculty appointment outside the student's unit/department at UNM. This member may be from UNM or another accredited institution. The fourth committee member may be a regular UNM faculty member or non-faculty expert in the student's major research areas. The chair must be a regular UNM 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, Graduate Review (Fall semester) and Spring Symposium (see M.A. Degree Requirements, page 48). 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 51, 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. {Spring}

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. Introduction to Film. (3) Jaffe

(See MA 210.)

211. Film Comedy. (3) Jaffe

(See MA 211.)

250. Modern Art. (3)

Major stylistic developments of European and American painting and sculpture from Impressionism to approximately World War II. {Fall, Spring}

251. Artistic Traditions of the Southwest. (3) George

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. {Spring}

252. Ethnographic Art. (3)

(Also offered as Anth 202.) Traditional arts of non-urban, non-industrial, small societies from Africa, Europe, Asia, Oceania, and the Americas. {Offered upon demand}

261. World Architecture I: Ancient Cultures. (3) Mead, Yanni

(Also offered as Arch 261.) Survey of the architectural traditions of ancient or indigenous Old and New World cultures. {Fall}

262. World Architecture II: Medieval and Renaissance Cultures. (3) Mead, Yanni

(Also offered as Arch 262.) Survey of the architectural traditions of medieval and Renaissance Europe, of Islam, of the Colonial Americas, and of China and Japan. Prerequisite: 261 or permission of instructor. {Spring}

263. World Architecture III: Modern Cultures. (3) Mead, Yanni

(Also offered as Arch 263.) Survey of the architectural traditions tracing the rise of the modern cultures around the world during the last three centuries. Prerequisites: 261 and 262 or permission of instructor. {Offered upon demand}

303. Asian Art. (3)

An introduction of prominent visual forms in Asia known over time (neolithic to modern periods). The slide lectures survey different artistic media according to region in historical and cultural contexts. {Offered upon demand}

315. Ancient Art. (3) Clancy, Rothrock

Architecture, painting, and sculpture from 1800 B. C. to sixth century A. D. {Fall}

320. Medieval Art. (3)

Architecture, painting, and sculpture from Early Christian through Gothic. {Spring}

*326. History of the Film I. (3) Jaffe

(See MA 326.)

***328. History of the Film II.** (3) Jaffe
(See MA 328.)

330. Studies in Film. (3 hrs. to a maximum of 6) Δ
(See MA 330.)

***331. Early Renaissance Art in Italy.** (3) Joost-Gaugier
Fourteenth century art in Florence and Sienna; fifteenth century painting, sculpture and architecture in Italy with emphasis on the Florentine, Venetian, and Umbrian schools. {Fall}

***332. Art of the High Renaissance in Italy.** (3) Joost-Gaugier
Painting, sculpture, and architecture in Florence, Rome, and Venice. Emphasis on the formation of the classical style developed by Leonardo da Vinci, Michelangelo, Raphael, Giorgione, and Titian. {Spring}

***340. Baroque Art.** (3) Rothrock
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. {Spring}

***343. Pre-Columbian Architecture.** (3) Clancy
(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) Rodee
Northern European art from the late fourteenth century through the sixteenth century. {Fall}

***400. Museum Practices.** (3) Salvador, Szabo
(Also offered as Anth 402.) History, philosophy, and purposes of museums. Techniques and problems of museum administration, education, collection, exhibition, conservation, and public relations. {Offered upon demand}

***401. African and Oceanic Art.** (3)
Traditional media of painting, sculpture, and architecture, as well as such nontraditional media as mud sculpture, costumeing and body decoration studied in their cultural contexts. {Offered upon demand}

***402. Native American Art I.** (3) Szabo
(Also offered as Anth 406.) Prehistoric and historic art forms of the Arctic Northwest coast and the eastern woodlands of North America. {Fall}

***403. Native American Art II.** (3) Szabo
(Also offered as Anth 407.) Prehistoric and historic art forms of the Plains, Southwest, and western regions of North America. {Spring}

404. The Minor Arts. (3) Rodee
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. {Spring}

***405. Pre-Historic Art.** (3)
Prehistoric art and architecture of the Mediterranean Basin from the Paleolithic Period to the Bronze age. {Alternate Springs}

***411. Pre-Columbian Art: Mesoamerica.** (3) Clancy
The art of Mexico and Central America prior to the sixteenth century. {Fall}

***412. Pre-Columbian Art: South America.** (3) Clancy
Arts of the Andean region prior to the sixteenth century. {Spring}

***420. History of Graphic Arts I.** (3) Rothrock
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. {Fall, alternate years}

***421. History of the Graphic Arts II.** (3) Rothrock
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. 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 thirty years.
Prerequisite: permission of instructor. {Offered upon demand}

423. 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. 19th-Century Photography.** (3)
Historical development and aesthetic character of photography in the nineteenth century. {Fall}

***426. 20th-Century Photography.** (3)
Historical development and aesthetic character of photography in the twentieth century. {Spring}

***427. Photography Since 1950.** (3) Barrow
Recent photographic styles, mediums and aesthetic concepts in America and Europe. {Fall}

***428. Topics in Film History.** (3) Δ Jaffe
(See MA 428.)

429. Topics in Art History. (1-3) Δ
Course work determined by specific students' request or by the professor's current research. {Offered upon demand}

***433. Italian Mannerism.** (3) Joost-Gaugier
A study of the end of the Renaissance, the post-classical style leading to Baroque and Modern Art. {Offered upon demand}

***449. Art of Spain.** (3)
Survey of Spanish art and civilization. {Offered upon demand}

***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. {Spring}

***461. Architecture in Europe from 1750 to 1914.** (3) Mead, Yanni
(Also offered as Arch 461.) European architecture from Neoclassicism to Protomodernism.
Prerequisites: 261, 262 or permission of instructor. {Offered upon demand}

***462. Architectural Theory and Criticism.** (3) Mead, Yanni
(Also offered as Arch 464.) Seminar on the theoretical and critical significance of a selected architect or architectural movement.
Prerequisites: 261, 262 or permission of instructor. {Offered upon demand}

***463. 20th Century Architecture. (3)** Mead, Yanni
(Also offered as Arch 463.) Modern architecture in Europe and America.
Prerequisites: 261, 262 or permission of instructor. {Offered upon demand}

***464. European Art 1750-1848. (3)** Rodee
Painting, sculpture, and architecture in France, England, Spain and Germany from the twilight of Absolutism through the Industrial and French Revolutions. {Fall}

***472. American Art: 1675-1875. (3)** George
Painting and sculpture from 1675-1875. {Fall}

***477. American Architecture. (3)** Mead, Yanni
(Also offered as Arch 477.) Architecture in America from the colonial period to 1914. Prerequisites: 261, 262 or permission of instructor. {Offered upon demand}

***479. American Art: 1876-1940. (3)** George
Painting and sculpture from the Centennial Exhibition to World War II. {Spring}

***481. European Art 1848-1900. (3)** Rodee
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. {Spring}

***482. Early 20th-Century Art. (3)**
Painting and sculpture from 1900 to 1940.
Prerequisite: 250 or permission of instructor. {Fall}

***484. Evaluating the Arts. (3)**
(Also offered as Theatre, Music, Dance 484.) Explores in a seminar format the practice of criticism, with emphasis on critical processes that penetrate a variety of contemporary arts. Aesthetic theories and cultural outlooks that underpin practical criticism are examined.
Prerequisite: 6 hours in the College of Fine Arts, 3 of which have Fine Arts designations.

485. Seminar in Museum Methods. (3) 1
(Also offered as Anth 485.) Theoretical and practical work in specific museum problems.
Prerequisite: 400, Anth 402 or equivalent. {Offered upon demand}

486. Practicum: Museum Methods. (3)
(Also offered as Anth 486.) Practicum in museum methods and management. Prerequisite: Anth 485 or Art Hi 485 {Offered upon demand}

***487. Contemporary Issues in the Arts. (3)**
(Also offered as Dance, Music, Thea 487.) Explores the range of personal and social issues embedded in artistic choices. Lecture/discussion format. Artistic form, function and ethical guidelines are examined from economic, psychological, ideological, and gender perspectives.
Prerequisite: for undergraduates, 9 hrs of courses in the College of Fine Arts, 3 of which have Fine Arts designation. {Spring}

***488. [*483.] The Arts of Mexico, 1810-1945. [Latin American Art of the 19th and 20th Centuries.] (3)**
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. The Arts of Mexico, 1945-1990. (3)**
Post-war developments in modernism and post-modernism. Established and innovative artistic practices, organizations, and movements. {Alternate Springs}

***490. Muralism in the Americas, 1920-1995. (3)**
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. Late 20th-Century Art. (3)**
Painting and sculpture, 1940 to the present.
Prerequisite: 250 or permission of instructor. {Spring}

***492. Art Criticism. (3)**
Principles of criticism in the visual arts with emphasis on critical approaches to contemporary art.
Prerequisite: 6 hours upper division in art history, literature, and/or philosophy. {Offered upon demand}

***493. The Art of Latin America, 1820-1945. (3)**
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. The Art of Latin America, 1945-1990. (3)**
Central and South American post-war modernism and post-modernity examined through issues of theme, style, and medium, including contemporary artistic practices such as conceptual and installation art. {Alternate Springs}

496. Undergraduate Tutorial. (3) Δ
Individual investigation or reading under faculty direction.
Prerequisite: 6 hours upper-division art history. {Fall, Spring}

499. Honors Thesis. (3-6) Honors 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)
Open to graduate students in art history.
Prerequisite for others: permission of instructor. {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. Corequisite: Art St 502. {Fall}

504. Seminar in Minor Arts. (3) Rodee
Investigates the historical development and techniques of numismatics, jewelry, silver-smithing, ceramics, armor and other topics. {Offered upon demand}

522. 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 thirty years.
Prerequisite: permission of instructor. {Offered upon demand}

523. 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}

529. Topics in Art History. (1-3) Δ
{Offered upon demand.}

551-552. Problems. (2-3, hrs. each semester) Maximum 6 hours.
{Fall, Spring}

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.)

Prerequisites: 402 and/or 403. {Offered upon demand}

560. Seminar in Pre-Columbian Art. (3) Δ Clancy

Aspects of Pre-Columbian art, architecture, and culture in Mesoamerica and South America are examined in depth. Prerequisites: *411, *412 or equivalent, and a reading knowledge of Spanish. {Offered upon demand.}

561. Seminar in Ancient and Medieval Art. (3) Δ

Prerequisite: permission of instructor. {Offered upon demand}

571. Seminar in Renaissance and Baroque Art. (3) Δ

Prerequisite: permission of instructor. {Offered upon demand}

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

(Also offered as Arch 560.)

Prerequisite: 450. {Offered upon demand.}

581. Seminar in Early Modern Art 1750-1900. (3) Δ Rodee

Prerequisite: 481. {Offered upon demand.}

582. Seminar in 20th-Century Art. (3) Δ

Prerequisite: 482 or 491. {Offered upon demand}

583. Seminar in Modern/Contemporary Latin American Art History. (3) Δ

Prerequisite: permission of instructor. {Fall}

584. Problems in Interdisciplinary Studies. (1-3)

(Also offered as Music, Thea, Dance 584.) {Fall, Spring}

585. Seminar in Museum Methods. (3) ¹

(Also offered as Anth 585.)

Prerequisite: Anth 402 or Art Hi 400 or equivalent. {Offered upon demand}

586. Practicum: Museum Methods. (3) ¹

(Also offered as Anth 586.)

Prerequisite: Anth 585 or Art Hi 585. {Offered upon demand}

592. Seminar in Art Since 1950. (3) Δ Barrow

Prerequisite: 427, 491 or equivalent. {Offered upon demand}

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only. {Fall, Spring}

699. Dissertation. (3-12 hrs. per semester)

Offered on a CR/NC basis only. {Fall, Spring}

¹ May be taken twice for credit.

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 corequisite: 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 corequisite: 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}

157. Small Scale Metal Construction I. (3)¹

Introduction to basic fabrication methods as they relate to object-making and small-scale sculpture.

Corequisite: 122 {Fall, Spring}

168. Ceramics I. (3)¹

Introduction to clay forms, hand built and wheel-thrown techniques, slips, glazes and stoneware.

Suggested corequisites: 106, 122 {Fall, Spring}

187. Photography I. (3)

Introduction to photographic vision and photographic techniques.

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 and 121. {Fall, Spring}

207. Painting I. (3)

Painting materials and techniques, integrating basic drawing concepts with color theory and composition. Emphasis on descriptive and perceptual skills through assigned problems which explore aspects of still life, landscape, portraiture and/or the figure.

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 and 123. Corequisite: 214. {Fall, Spring}

257. Small Scale Metal Construction II. (3) ¹ DeJong

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)

Continuation of 168 with emphasis placed on the mastery of ceramic processes and the development of a personal aesthetic.

Prerequisites: 122, 168. {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.

270. Ceramics Lab. (3) Bobrowski

Familiarizes art students with the technical aspects of ceramics and the safe operation of equipment in the ceramics lab and prepares them to do independent research in ceramic processes.

Prerequisite: 168. {Fall, Spring}

274. Introduction to Printmaking. (3)

Fundamental techniques, methods and expressive potentials of the major printmaking processes, including monotype, etching, lithography, woodcut and xerography. Instruction includes lecture, demonstrations, practice and critique.

Prerequisites: 106, 121; corequisite: 205 or 207. {Fall, Spring}

277. Graphic Design I. (3)

An exploration of the history, techniques and imagery of visual communication.

Prerequisites: 106, 121, and 187. {Fall}

287. Photography II. (3)

Continuation of 187, with concentration on photographic techniques and the formal aspects of photographic vision.

Prerequisite: 187; Pre-or corequisite: 121. {Fall, Spring}

288. Introduction to Color Photography. (3)

The techniques and aesthetics of color photography.

Prerequisites: 121, 187, 287. {Fall, Spring}

293. Beginning Watercolor Painting. (3) 1

Painting on site with emphasis on landscape using basic techniques of various water soluble media. Includes lecture, demonstration, practice and critique.

Prerequisites: 106, 121, and 207. {Offered upon demand}

305. Drawing III. (3) 1

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}

306. Drawing IV. (3) 1

Extension of the concepts presented in 305 emphasizing experimentation with materials including color media. Individual in-depth projects are assigned to encourage independent thinking with regard to contemporary drawing issues.

Prerequisite: 305. {Fall, Spring}

307. Painting II. (3) 1

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) 1

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; corequisite: 306. {Fall, Spring}

309. Intermediate Watercolor Painting. (3) 1

Extension and refinement of techniques presented in 293. Continued emphasis on the landscape including its structural and expressive potential.

Prerequisite: 293. {Offered upon demand}

310. Figure Drawing. (3) 1

Study of the human figure as the primary vehicle for addressing formal and conceptual drawing problems.

Prerequisite: 205.

313. Intermediate Sculpture. [Sculpture II.] (3) 1

This class encourages the student to develop personal direction with an emphasis on expanding sculptural possibilities.

Typically appropriate assignments will be given according to the instructor's individual expertise as well as the current theoretical discourse.

Prerequisite: 123, and 213. {Fall, Spring}

320. The Phenomena of Color. (3) 1

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.

335. Intaglio Printmaking I. (3) 1 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 or 287. {Fall, Spring}

336. Intaglio Printmaking II. (3) 1 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) 1

Introduction to techniques, history, aesthetics and creative aspects of screen printing.

Prerequisite: 274 or 287. {Fall, Spring}

357. Small Scale Casting. (3) 1 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.

Prerequisites: 122 and permission of instructor.

368. Porcelain Vessels. (3) 1 Srubek

(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, 270 or permission of instructor. {Fall, Spring, Summer}

369. Ceramics III: Sculpture. [Ceramic Sculpture.] (3) 1 Bobrowski

Use of ceramic materials and methods to explore sculptural issues.

Prerequisites: 122, 268, 270. {Fall, Spring}

374. Lithography I. (3) 1 Rodriguez

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) 1 Rodriguez

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}

377. Graphic Design II. (3) 1

Expanded applications of visual communication theory used in solving specific graphic problems which emphasize words and images into print.

Prerequisite: 277. Suggested corequisites: 205, 287. {Spring}

385. Introduction to Non-Silver Photography. (3) Hahn

The techniques and aesthetics of cyanotype and gum bichromate printing (non-silver photography) and related processes.

Prerequisites: 121, 187, 287. {Fall}

387. Photography III. (3)¹ Barrow, Hahn, Nagatani

Concepts of photography as applied to the development of personal vision. Students are encouraged to repeat this course with a different instructor.

Prerequisites: 287; Pre- or corequisites: Art Hi 425, 426 or 427. (Fall, Spring)

389. Topics in Studio Art. (1-3) Δ^2

Concentrated practical and historical study of specified concerns in studio art.

Prerequisites: 15 hours of studio art, 6 hours of art history. (Offered upon demand)

390. Elements of Film making. (3, to a maximum of 9)

(See *MA 390*.) Practicum in basic conceptual aspects of independent filmmaking. Each student creates cinematic work in this course. Course fee required.

405. Advanced Drawing. (3) Δ^2

Emphasis on contemporary drawing issues. Students are encouraged to initiate their own projects and to develop a personal direction. Individual and group critiques.

Prerequisite: 306. (Fall, Spring)

407. Advanced Painting. (3) Δ^2

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) ^{1, 2} Wenger

Outdoor studio work in various media with emphasis on landscape.

Prerequisite: 6 credits of 300-level or above in specified media. (Fall, Spring)

413. Advanced Sculpture. (3, to a maximum of 12) Δ^2

Allows students to pursue their own individual concepts and techniques. Emphasis will be on independent projects.

Prerequisite: 313. (Fall, Spring)

414. Metal Fabrication. (3) ^{1, 2}

Additive processes of welding and steel fabrication.

Prerequisites: 123, 213. (Offered upon demand)

423. Theory and Aesthetics. (3) ²

Seminar in the aesthetic theories underlying 20th century art movements, with special emphasis on issues relating to studio majors.

Prerequisites: Art St 106, 121, 122, Art Hi 201, 202, 250; a minimum of 12 hours in one area of studio art; and an overall 3.00 GPA. (Offered upon demand)

429. Undergraduate Topics in Studio Art. (1-6) Δ^2

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)

457. Advanced Casting and Construction. (3, to a maximum of 12) Δ^2 DeJong

Students must develop an individual program of studies in consultation with the instructor. Group critiques are scheduled regularly. Prerequisites: 357 and permission of instructor. (Spring)

468. Ceramics IV. [Advanced Ceramics.] (3, to a maximum of 12) Δ^2 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: 368, 369. (Fall, Spring)

469. Pueblo Pottery. (3) ²

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 investiga-

tion of material culture and ethnoaesthetics.

Prerequisite: Permission of instructor. (Fall)

474. Advanced Printmaking. (3) Δ^2 Madrid, Rodriguez

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) Δ^2 Barrow, Hahn, Nagatani

Advanced concepts of photography and the development of personal expression.

Prerequisites: 387, Art Hi 425, 426, 427. (Fall, Spring)

493. Seminar in Studio Art. (3) Δ^2

(Fall, Spring)

495. Independent Study. (3) ^{1, 2}

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 and 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. (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.

Corequisite: Art Hi 503. (Fall)

505. Graduate Drawing and Painting. (3) Δ

Prerequisite: 405, 407 and permission of instructor. (Fall, Spring)

508. Graduate Outdoor Studio. (1-3) ¹

An outdoor excursion course with an emphasis in studio. Projects concerning interrelationships between outdoor drawing, sculpture, and photography will be assigned and developed at various sites visited by the class throughout the semester. (Fall, Spring)

513. Graduate Sculpture. (3, to a maximum of 12) Δ

Student is required to produce four projects, an artist's state-

ment, a portfolio of the semester's work, and give a slide lecture on a contemporary topic. (Fall, Spring)

514. Graduate Metal Fabrication. (3) ¹

Additive processes of welding and steel fabrication. (Offered upon demand)

529. Graduate Topics in Studio Art. (1-6) Δ

Course work determined by specific student need or by the professor's current research. (Fall, 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 pagination. Prerequisite: permission of instructor. (Fall, Spring)

569. 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) Δ
Prerequisite: 474. {Fall, Spring}

587. Graduate Photography. (3) Δ
Concentration on student's individual image production with special attention given to the development of critical and theoretical acuity.
Prerequisite: 487. {Fall, Spring}

593. Seminar in Studio Art. (3) 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}

595. Graduate Tutorial. (1-9) Δ
Advanced, individually directed study. Open to graduate students only. {Fall, Spring}

699. Dissertation. (3-12 hrs. per semester)
Offered on a CR/NC basis only. {Fall, Spring}

- 1 May be taken twice for credit.
- 2 Open only to undergraduates enrolled in the Preprofessional curricula of the College of Fine Arts. Students in Art Education curricula and majors in Art enrolled in the College of Arts & Sciences may enroll with permission of the department chairperson.

MEDIA ARTS

Ira Jaffe, Head
The University of New Mexico
Media Arts Program
Center for the Arts, Rm 2431
Albuquerque, NM 87131-1396
(505) 277-6262, FAX (505) 277-6314

Professor
Ira Jaffe, Ph.D., University of Southern California

Assistant Professor
Scott Bukatman, Ph.D., New York University

Lecturer
Susan Dever, M.A., Occidental College

Fees
Course fees support film rentals in history and criticism courses, and the purchase, maintenance and replacement of equipment used in the film and video production courses.

Introduction

The Media Arts Program in the College of Fine Arts is dedicated to the study and practice of film and video as art. In the hope of understanding and enhancing the immense role of film and video in the modern world, the program offers the student a broad foundation in the purposes of art and culture. Although one may study film and video for commercial purposes with little commitment to artistic and cultural standards, in the Media Arts Program, as in the College of Fine Arts, aesthetic criteria prevail.

Media Arts students establish ties to disciplines in Arts and Sciences as well as in Fine Arts. One reason is that a number of disciplines contribute to current practices in the history, criticism, and theory of the media arts. These disciplines include cultural and literary theory, critical analysis of the visual and performing arts, philosophy, psychology, and political theory.

Furthermore, the Media Arts Program fosters in the student an outlook that is international as well as interdisciplinary. Major films arise in every region of the globe. To learn about these films is to explore diverse cultures. The Media Arts curriculum includes courses devoted to various national and regional cinemas. Here and in other courses, the Media Arts Program seeks to collaborate with other academic units that have strong transcultural interests.

Students who major in Media Arts are expected to maintain a grade-point average in the major 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:
 - a. 48 hours selected from courses offered by departments of the College of Arts & Sciences, including general education requirements. (See Fine Arts Graduation Requirements 6.) These 48 hours include as many hours in one foreign language as are necessary to complete the fourth semester course in that language. 48

-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 66 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 & Literatures, History, Philosophy, and Psychology. 18

-and-

- c. 14 additional hours selected from courses outside Media Arts, offered by any college, including Fine Arts 14
- 80**

2. Courses in Media Arts
 - a. 18 hours in history, criticism and theory: 210, 212, 326, 328, 331, and 428. 18

-and-

- b. 9 hours in production courses from 111, 216, 217, 218, 390, 409, 429, and 496. 9

-and-

- c. 21 hours in history, criticism and theory electives from 110, 211, 330, 332, 410, 412, 428, 433, 434, 435, 436, and 497. 21
- 48**

Total **128**

Students judged by the Media Arts faculty to be exceptionally promising in production may substitute up to 6 hours in production courses for 6 hours in category 2.

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 328. | 6 |
| -and- | |
| b. 12 hours in history, criticism, and theory from 110, 211, 212, 330, 331, 332, 410, 412, 428, 433, 434, 435, 436, and 497. | 12 |
| -and- | |
| c. 6 hours in production courses from 111, 216, 217, 218, 390, 409, 429, and 496. | 6 hours |
| Total | 24 hours |

Media Arts (M A)

110. [F/TV 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. (Fall, Spring)

111. [F/TV 111.] Technical Introduction to Video Production. [Technical Introduction to Television.] (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. (Fall, Spring)

210. [F/TV 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. Will not count toward the major in art history or art studio. Course fee required. 210 is a prerequisite to 300 and 400 level Media Arts courses. (Fall, Spring)

211. [F/TV 211.] Film Comedy. (3)

A critical study of the nature of comedy and laughter, with screenings of major works. Will not count toward the major in art history or art studio. Course fee required. (Fall, Spring)

212. Beyond Hollywood. (3)

An introduction to marginalized and Third World cinemas, with screenings and discussions of major films. Course fee required. (Fall)

216. [F/TV 216.] Field Production. [Television Field Production.] (3 to a maximum of 6) (3) 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. Prerequisite: 111 and 210, or permission of instructor. (Fall)

217. [F/TV 217.] Video Art in the Studio. [Television Studio Production.] (3 to a maximum of 6) (3) Δ

Students in this course learn to use the production studio as a tool of personal artistic expression. Specific processes and techniques include single-camera work and the intricacies of editing. Course fee required. Prerequisites: 111 and 210, or permission of instructor. (Fall)

218. Guerrilla Video. (3 to a maximum of 6) (3) Δ

This course examines relations between broadcast television, video art, politics, and ideology. Students jointly create video works that analyze or challenge the prevailing form and content of broadcast television and other dominant media. Course fee required. Prerequisites: 111 and 210, or permission of instructor. (Spring)

326. [F/TV *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. (Fall)

328. [F/TV *328.] 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 and 326, or permission of instructor. (Spring)

330. [F/TV 330.] Studies in Film. (1-3) Δ

Studies in various types of film, including the Hollywood Musical and the Western. Studies also in various regional and national cinemas, including cinema of Spain. Screening and analysis of major films. Course fee required.

Prerequisite: 210 or permission of instructor. (Fall)

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. (Fall)

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. (Spring)

390. [F/TV 390.] Elements of Filmmaking. (3 hrs. to a maximum of 9) (3) Δ

Practicum in basic conceptual aspects of independent filmmaking. Each student creates cinematic work in this course. Course fee required.

Prerequisite: Permission of instructor. (Spring)

*409. [F/TV 409.] Advanced Video Art. [Advanced Television Production.] (3 hrs. to a maximum of 6) (3) Δ

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)

*410. Latin American Cinema. (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. (Fall)

*412. "Third World" Cinemas: Cultures in Contact. (3)

Considering cultures in (uneasy) contact, this course examines cinematic representations of political, economic, or social subordination and resistance to domination. Course fee required.

Prerequisites: 212 plus 210, or permission of instructor. (Spring)

*428. [F/TV *428.] Topics in Film History. (3) Δ

Seminar in various topics in the history, criticism, and theory of film and video. Course fee required.

Prerequisite: Permission of instructor. (Spring)

*429. Topics in Production. (1-3)

Workshops in specific production topics conducted by guest artists in film and video as their schedules permit. Course fee required.

Prerequisites: 111 and 210, or permission of instructor. (Fall, Spring)

***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. {Spring}

***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. {Spring}

***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. {Fall}

***436. Science Fiction. (3)**

The course examines the American science fiction film's exploration of space and of human perception. Also considered are the implications in our technological age of science fiction's representation and deformation of the human body. Course fee required. Prerequisite: 210 or permission of instructor. {Spring}

496. [F/TV 496.] Student Production Project. (1-3) Δ

Prerequisite: Permission of instructor. {Fall, Spring}

497. [F/TV 497.] Independent Study. (2-3) Δ

Individual investigation or reading, plus the writing of an essay, under faculty direction. Prerequisite: Permission of instructor. {Fall, Spring}

596. Student Production Project. (1-3) Δ

Prerequisite: Permission of instructor. {Fall, Spring}

597. Independent Study. (2-3) Δ

Individual investigation or reading, plus the writing of an essay, under faculty direction. Prerequisite: Permission of instructor. {Fall, Spring}



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John M. Clark, M.A., Ball State University
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Thomas A. Dodson, D.M.A., University of Southern California
Bradley Ellingboe, M.M., Eastman School of Music (Arizona)
Leonard Felberg, M.M., Yale University
Karl Hinterbichler, D.M.A., North Texas State University
Joanna de Keyser, B.M., University of Southern California
Ellen C. McCullough-Brabson, D.M.A., University of Arizona
Jorge Perez-Gomez, D.M.A., Eastman School of Music
Jeffrey Piper, M.M., University of Michigan
Christopher L. Shults, Ph.D., University of New Mexico
Marilyn Tyler, M.M., Manhattan School of Music
Nancy J. Uscher, Ph.D., New York University
William F. Wood, D.M.A., Eastman School of Music

Associate Professors

Steven Block, Ph.D., University of Pittsburgh
Bruce Dalby, Ed.D., University of Illinois

Keith M. Lemmons, M.M., Michigan State University
Susan B. Patrick, Ph.D., University of North Carolina
Eric Rombach, M.M., University of Michigan

Assistant Professors

Tadeu Coelho, D.M.A., Manhattan School of Music
Richard Hermann, Ph.D., Eastman School of Music
Patrick Hughes, M.M., University of Wisconsin (Madison)
Glenn Kostur, M.M., De Paul University

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Arlette Felberg, M.M., University of Miami
Leslie Umphrey-Perez Gomez, M.M., Eastman School of Music
Kevin Vigneau, M.M., Yale School of Music

Lecturer

Glen A. Adsit, M.M., University of Michigan

Professors Emeriti

John Batcheller, Ph.D., University of Southern Carolina
Artemus L. Edwards, Dipl., Curtis Institute
Kurt Frederick, Graduate of State Academy of Music (Vienna)
Donald McRae, M.M., University of New Mexico
George Robert, Student of Edward Stevermann 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
James Whitlow, M.M., University of New Mexico
A. Scott Wilkinson, M.M., University of Arizona

Introduction

NASM Membership. The University of New Mexico is a member of the National Association of Schools of Music. Requirements for entrance and graduation as set forth in this catalog are in accordance with published regulations of the National Association of Schools of Music.

Admission from Other UNM 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 a concentration in the appropriate instrument or voice for the degrees Bachelor of Music and Bachelor of Music Education.

Music Majors and Music Minors are described below. In addition to stated course requirements, one must satisfy general college and university requirements for graduation.

Major Study Requirements

Preprofessional Curriculum

Programs in music performance and composition and theory are available leading to the Bachelor of Music Degree and comprising a total of 128 hours. 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 majoring in music who do not consult their assigned advisor prior to registering each semester. Not doing so may result in disqualification from further pursuit of the B.M. degree.

A handbook describing specific departmental requirements relating to recitals, special examinations, auditions, and similar matters 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. Courses outside the major:
 - a. 30 hours selected from courses offered by departments of the College of Arts and Sciences including general education requirements (see Fine Arts *Graduation Requirements* 6.) Specific requirements include Physics 108 (composition majors only); and majors in vocal performance must complete 18 hours in some combination of French, German, and Italian. These will partially satisfy the college requirements for courses outside the major.

	30
Subtotal	30
 - b. 6 hours selected from other departments of the College of Fine Arts (art, art history, dance, media arts, fine arts, and theatre) or from the School of Architecture and Planning;

	6
Subtotal	6
 - c. 12 additional hours selected from courses outside the major offered by any college, including Fine Arts.

	12
Subtotal	48
2. Courses within the major, music performance only:
 - a. six semesters of 101 *Concert Music* with a grade of CR;
 - b. 24 hours in applied music (22 hours in voice performance);
 - c. 24 hours in music theory, including¹ 150, 152, 250, 252, 309, 325, 453, and either 405 or 406;
 - d. 8 hours in music history, including 261, 262, and 449;
 - e. 2 hours in conducting;
 - f. 8 hours in ensemble (see department handbook); and
 - g. additional hours (the distribution of these hours will vary according to your major, such as keyboard performance, instrumental performance, etc.; specific requirements are given below).

	80
Total	128

Keyboard performance:
 4 hours in applied music
 2 hours in music theory (counterpoint)
 6 hours in music electives
 2 hours in pedagogy

Instrumental performance:
 8 hours in applied music
 2 hours in ensemble
 2 hours in music electives
 2 hours in pedagogy

Vocal performance:
 4 hours in applied music (voice)
 4 hours in applied music (piano)
 2 hours in diction for singers
 4 hours in Opera Studio
 2 hours in pedagogy

3. Courses within the major, composition and theory:
 - a. six semesters of 101 *Concert Music* with a grade of CR;
 - b. 16 hours in applied music that includes 2 hours of Music 155;
 - c. 40 hours of theory, including¹ 150, 152, 250, 252, 304, 305, 306, 309, 325, 404, 405, 406, 409, 410, and 453;
 - d. 12 hours in music history including 261 and 262;
 - e. 4 hours in conducting;
 - f. 8 hours in ensemble (see department handbook).

Total	80
	128

¹ If you start with Music 115 (*Fundamentals of Music Theory*) during the Fall semester, you will take Music 150 in Spring. To remain in sequence you must take Music 152 the following Summer session.

Music Major Requirements Bachelor of Arts

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 B.A. in Music.

Music B.A.

1. Courses outside the major:
 - a. 39 hours selected from courses offered by the departments of the College of Arts and Sciences, including general education requirements (see Fine Arts Graduation Requirements 6);

	39
--	----
 - b. 6 hours selected from programs other than Music Education in the College of Fine Arts (Theatre and Dance, Art and Art History, Film/Television, and Fine Arts) or from the School of Architecture and Planning;

	6
--	---
 - c. 21 additional hours selected from courses offered by any college, including Fine Arts, but not including any courses in Music or Music Education.

	21
Subtotal	66
2. Courses within the major:
 - a. six semesters of Music 101, *Concert Music*, with a grade of CR;

	16
--	----
 - b. 16 hours in music theory: 150, 152, 250, 252;

	16
Subtotal	16
 - c. 6 hours in music history: 261 and 262

	6
Subtotal	6
 - d. 4 hours of music ensemble

	4
Subtotal	4
 - e. 4 hours of applied music;

	4
Subtotal	4
 - 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 for ensemble credit nor an additional

12 hours of applied music can be applied toward the degree.	18
Subtotal	48

3. Additional courses in any field, including music (but not including courses for non-majors) selected with advisement of appropriate faculty. 14

Total 128 hours

Curriculum in 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 only after successful completion of the following:

1. admission to the College of Fine Arts as a Music Education Major (see College of Fine Arts Admission).
2. admission to a Teacher Education Program as a Music Education Major (see Admission to College of Education Programs).

Applications for Admission to the College of Fine Arts and Admissions to a Teacher Education Program must be submitted simultaneously. Students may be eligible upon completion of two semesters; early application is encouraged.

Students seeking only endorsement for music teacher certification must be admitted to a Teacher Education Program (see Admission to College of Education Programs).

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.

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.

Before completing 64 hours, students following the Instrumental Track must attempt the Piano Proficiency Examination and students following the Vocal Track must attempt both the Voice Proficiency Examination and the Piano Proficiency Examination (consult Department of Music Handbook). Should a student fail any portion of either examination, he or she must enroll in the appropriate voice or piano course the subsequent semester.

To be eligible for the student teaching program, the student must accomplish the following:

1. completion of all prerequisite courses (see Department of Music Handbook).
2. a GPA in music courses of 2.50 and an overall GPA of 2.00.

The required recital will normally be given during the last semester in residence.

Students majoring in music education must consult their assigned advisor prior to registering each semester. Failure to do so may result in disqualification from further pursuit of the B.M.E. degree.

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.

Bachelor of Music Education Degree

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 Track and a Vocal Track.

Vocal Track

General Education (54 Hours)

English (12)		
Engl 101	Comp I: Exposition	3
Engl 102	Comp II: Analysis & Arg	3
Engl Literature	Elective	3
C & J 130L	Public Speaking	3
	-or- C & J 270 Communication for Teachers	3
History (12)		
Hist 101	Western Civilization	3
Hist 102	Western Civilization	3
Hist 161	History of the United States	3
Hist 162	History of the United States	3
Psychology (6)		
Psych 105	General Psychology	3
Psych 220	Child Psychology	3
Math (6)		
Electives (any course listed in the university catalog except Math 100 and 120.)		
Science (12)		
Physcs 108	Introduction to Musical Acoustics	3
Physcs 118L	Musical Acoustics Laboratory	1
Electives (to be selected from Astronomy, Biology, Chemistry, Physics, Earth and Planetary Sciences.)		8
Fine Arts (6)		
Music 261	History of Music I	3
Music 262	History of Music II	3

Teaching Field: Music (35 Hours)

Music Theory (20)		
Music 150	Music Theory I	4
Music 152	Music Theory II	4
Music 250	Music Theory III	4
Music 252	Music Theory IV	4
Music 309	Form and Analysis	2
Music 453	Orchestration	2
Conducting (2)		
Music 363	Conducting	2
Ensemble (1)		
Music 236	Introduction to Improvisation	1
Applied Music (8)		
Voice, Piano or Guitar Music 119, 120, 219, 220, 319, 320, 419, 420		8
Applied Music (2)		
Piano or Voice 119, 120 (2) (Guitar concentrates must take 2 hours each of Piano and Voice)		
Diction (2)		
Music 209	Diction for Singers	2
Music 101 Concert Music (0)		
Six semesters with a grade of CR		

Professional Education: Music Education (35 Hours)

Ensemble (8)			
Mus Ed 243 Concert Choir		8	
Teaching Instruments (5)			
Mus Ed 155 Orchestral Instruments (Guitar plus two of the following: Brass, Woodwinds, Strings) (Guitar concentrates are not required to take Music Ed 155 Guitar)			
Methods (13)			
Mus Ed 313 Choral Music Methods	4		
Mus Ed 346 Teaching Music in the Elementary Schools	3		
Music 388 Music Pedagogy	2		
Mus Ed 446 Secondary School Music	3		
Foundations (4)			
Mus Ed 194 Introduction to Music Education	1		
Mus Ed 451 Found of Musical Behavior	3		
Student Teaching (6)			
Mus Ed 400 Student Teaching in the Elementary Schools	3		
Mus Ed 461 Student Teaching in the Secondary Schools	3		
Electives (12 Hours)			
Fine Arts	6		
Courses to be selected from Art History, Art Studio, Theatre, Dance, or Media Arts.			
Other	6		
Courses to be selected by the student.			

Instrumental Track**General Education (54 Hours)**

English (12)			
Engl 101 Comp I: Exposition	3		
English 102 Comp II: Analysis & Arg	3		
English Literature Elective	3		
C & J 130L Public Speaking	3		
-or- C & J 270 Communication for Teachers	3		
History (12)			
Hist 101 Western Civilization	3		
Hist 102 Western Civilization	3		
Hist 161 History of the United States	3		
Hist 162 History of the United States	3		
Math (6)			
Electives (any course listed in the university catalog except Math 100 and 120.)			
Psychology (6)			
Psych 105 General Psychology	3		
Psych 220 Child Psychology	3		
Science (12)			
Physcs 108 Introduction to Musical Acoustics	3		
Physcs 118L Musical Acoustics Laboratory	1		
Electives (8) (to be selected from Astronomy, Biology, Chemistry, Physics, Earth and Planetary Sciences.)			
Fine Arts (6)			
Music 261 History of Music I	3		
Music 262 History of Music II	3		
Teaching Field: Music (33 Hours)			
Music Theory (20)			
Music 150 Music Theory I	4		
Music 152 Music Theory II	4		
Music 250 Music Theory III	4		
Music 252 Music Theory IV	4		
Music 309 Form and Analysis	2		
Music 453 Orchestration	2		
Conducting (2)			
Music 363 Conducting	2		
Ensemble (1)			
Music 236 Introduction to Improvisation	1		
Applied Music (8) in major instrument			
Music 119, 120, 219, 220, 319, 320, 419, 420,	8		
Voice (2)			
Music 109 Group Voice I			
-or- Ap Mus 119 Voice	1		
Music 143 Chorus			
-or- 243 Choir	1		

Music 101 Concert Music (0) Four semesters with a grade of CR

Professional Education: Music Education (37 Hours)

Ensemble (8)*			
Mus Ed 233 or 241 (Orchestra or Band)		8	
Teaching Instruments (8)			
Mus Ed 155 Orchestral Instruments		8	
Methods (11)			
Mus Ed 215 Instrumental Lab Two semesters with a grade of CR		0	
Mus Ed 315 Instrumental Music Methods		3	
Mus Ed 317 Jazz Methods		1**	
Mus Ed 346 Teaching Music in the Elementary Schools		3	
Mus Ed 415 Instrumental Repertory		1	
Mus Ed 446 Secondary School Music		3	
Foundations (4)			
Mus Ed 194 Introduction to Music Education		1	
Mus Ed 451 Found of Musical Behavior		3	
Student Teaching (6)			
Mus Ed 400 Student Teaching in the Elementary Schools		3	
Mus Ed 461 Student Teaching in the Secondary Schools		3	

Electives (12 Hours)

Fine Arts (6)			
Courses to be selected from Art History, Art Studio, Theatre, Dance, or Media Arts.			
Other (6)			
Courses to be selected by the student.			

* All instrumental Track majors must enroll in a major ensemble for eight consecutive semesters. Wind and percussion concentrates must enroll in Music Education 241 *Marching Band* for two fall semesters. No more than four semesters of Marching Band may be counted toward the degree.

** String instrument concentrates are not required to take Jazz Methods.

Ensemble Requirements:**All Music Majors**

Ensemble performance is a vital part of every music student's experience. The course numbers for ensemble music are found in the course listing under *Music* in the catalog. One (1) credit-hour represents from two to six hours of rehearsal per week.

All music majors (except keyboard performance and guitar performance) in the Department of Music will participate in a major ensemble each semester of their residence, beginning with their first semester of matriculation, until the minimum requirements outlined below are fulfilled. No student may enroll for more than three ensembles per semester while in residence. Transfer students will be credited with a maximum of one semester of ensemble participation at UNM for each semester they participated in a major ensemble at their former institution(s). No more than four such semesters may be counted.

Organ Performance major
Six semesters in a major ensemble
Two semesters of accompanying

Piano Performance majors
Two to four semesters in an appropriate major ensemble
Four to six semesters in accompanying and/or chamber music

Instrumental Performance (other than keyboard)
Eight semesters in a major ensemble (band or orchestra)
Two semesters in chamber music

Guitar Performance majors

- Six semesters in an appropriate ensemble
- Four semesters in a major choral ensemble

Vocal Performance

- Eight semesters in a major choral ensemble
- (Voice majors are normally allowed to participate in only one major choral ensemble each semester of residence. Participation in other choral ensembles must be approved by your applied teacher.)

Music Education

Major ensemble appropriate to applied concentration each semester of residence for eight semesters. Wind players must audition for the Wind Symphony or Symphony Orchestra and participate in the ensemble to which they are assigned. String players must be in orchestra. Vocal concentrates must audition for Concert Choir and participate in the choral ensemble to which they are assigned. Keyboard concentrates and guitar concentrates following the vocal curriculum must participate in choir; keyboard concentrates and guitar concentrates following the instrumental curriculum must participate in the ensemble appropriate for wind and percussion players.

NOTE: Bachelor of Music Education majors who have completed the major ensemble requirements are encouraged to continue performing in a major ensemble until finishing the degree. Making music should be a lifetime commitment. Students in marching band will be required to fulfill their complete obligation to this ensemble. All wind and percussion concentrates, as well as keyboard and guitar concentrates, enrolled in the Music Education Instrumental Curriculum, will participate in the marching band for two semesters.

Theory and Composition

- Eight semesters in an appropriate major ensemble of which two semesters must be in a major choral ensemble.

Music Minor Requirements

For a minor in music: 20 hours, including a total of 8 hours in theory (115 will apply); 3 hours selected from 139, 140, 172, and 271; 3 hours selected from 371, 373, and 374; 4 hours in applied music (group classes will apply); and 2 hours in electives in music.

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 voice proficiency examination (consult the Department of Music Handbook for details). For a minor in music education: 24 hours, including 8 hours in theory (150 & 152); 4 hours in piano; 2 hours in voice; 1 hour in a major choral ensemble; 2-3 hours of music education electives; 3 hours of electives in music history or music appreciation to be selected from 139, 140, 371, or 373; and 3-4 hours of free electives in music or music education.

Departmental Honors

A Music major may work toward departmental honors if the student meets the College of Fine Arts requirements listed under the Departmental Honors heading in the College of Fine Arts section of this catalog. Projects under the 6 hours of Music 499, Senior Thesis, may be a written thesis, a theoretical document, an original composition or a special recital. The department honors project is beyond normal degree and graduation requirements. Pick up the information on Music departmental honors from the College of Fine Arts Advisement Center, Center for the Arts 1103.

Fees

Students are reminded that charges for classroom supplies and services in certain music courses must be paid to the

UNM Cashier during the first three weeks of each semester. Refunds will be given according to the refund schedule in the Student Expenses section of this catalog, page 68.

Applied Music Fee Policy

(Does not apply to Group Piano, Group Voice, or Orchestra Instruments 155, all sections)

Undergraduate Policy. Students enrolled in Applied Music must pay an applied music charge of \$75 for one semester credit-hour or \$150 for two or more semester credit-hours in addition to tuition. Students enrolled in a **major ensemble** and performing on the instrument for which they are receiving the applied lessons will have this fee waived. Students who are majoring or minoring in music with organ, piano, or guitar as a concentrate may have the fee waived by substituting accompanying or, in some cases, chamber music. Major ensembles include: *Symphony Orchestra 233*, *Wind Symphony 241*, *Marching Band 241*, and *Concert Choir 243*. Students who are assigned to another large ensemble as a result of a *major ensemble audition* will receive the waiver.

Graduate Policy. Graduate students enrolled in Applied Music must pay an applied music charge of \$75 for one semester credit-hour or \$150 for two or more semester credit-hours in addition to tuition. The fee will be waived for students playing in the New Mexico Brass Quintet, accompanying, or enrolled in any music ensemble listed in the graduate catalog.

Graduate Program

Graduate Advisor
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: December 1
- Summer session: April 15

To be eligible for financial aid one must submit all application materials by April 15.

NOTE: Early application is recommended.

Degrees Offered**Master of Music**

Concentrations: music history and literature, composition/theory, performance, conducting, piano accompanying, and music education.

Applied Music Charge Policy

Graduate students enrolled in Music 501 or 502 (*Applied Music*) in fall/spring must pay an applied music charge of \$75 for one semester credit hour and \$150 for two or more semester credit hours unless they are participating in the New Mexico Brass Quintet or are enrolled in University Band, Symphony Orchestra, Chamber Singers, Opera Studio, Jazz Band, Early Music Ensemble (music history and guitar majors only), Accompanying, or Chamber Music (piano, organ, and guitar majors only).

(Final authority regarding any interpretation of this policy rests with the Music Department Administrative Committee.)

General Requirements

A candidate for the Master of Music degree must have a bachelors degree, or the equivalent, in music or music education from an approved institution. After admission, every

applicant will take a placement test in music theory and music history and, if the degree is to be in music education, voice, conducting, composition/theory, and music history/literature majors will take a piano proficiency test. A Graduate Handbook and a letter, sent upon application, will advise further concerning this test. Also before admission, a prospective student should send materials pertinent to her/his particular program (see special requisites below).

All students will be required to pass a final written and/or oral comprehensive examination.

Maximum workshop credit allowed under Plan I is five hours; under Plan II, eight hours.

A candidate for a graduate minor in music should consult the chairperson of the department before declaring this minor.

The Master of Music Concentration in Music History and Literature (Plan I-with thesis)

Special Prerequisites. A student emphasizing music history and literature must submit, with the application, a research or analysis paper that shows a knowledge of research techniques and satisfactory ability in written English. The paper may be one that was submitted for courses that occurred during the students undergraduate experience.

Program of Study (26 hours plus thesis)

Required Course (3 hrs.)

Music 531	Bibliography and Research	3
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Other Required Courses (14 hrs.)

Music 560	Ensemble Performance	1+1
Graduate level electives outside of Music		6
Music 599	Masters Thesis	6

Music Electives (12 hrs.)

Must be chosen from among the following courses:

Music 414	Studies in Baroque Music	3
Music 415	Studies in Classic and Romantic Music	
Music 416	Studies in Twentieth Century Music	
Music 437	Selected Topics in Music Literature	
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 528	Musical Styles Before 1750	3
Music 529	Appl of Tech of 20th Cent Comp	3

Free Electives

May be taken outside of Music and may include 2 hours of applied instrument or voice other than concentrate.

Additional requirement: reading ability in a 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 (for example, see French 365 and 366, *French Reading for Graduate Students*, UNM).
3. For those already fluent in a foreign language, preferably German or French, who lack the appropriate undergraduate course work, the Music Graduate Committee will recommend the method by which one can satisfy the foreign language requirement.

The Master of Music Concentration Composition/Theory

Special Prerequisites. A student emphasizing composition/theory must submit, with the application, either a theoretical research paper or three original compositions, one of which is of substantive 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 hours plus thesis)

Required Core (9 hrs.)

Music 531	Bibliography and Research	3
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Music Electives (9 hrs.)

Must be chosen from among the following courses:

Music 414	Studies in Baroque Music	
Music 415	Studies in Classic and Romantic Music	
Music 416	Studies in Twentieth Century Music	
Music 437	Selected Topics in Music Literature	
Music 525	Post-Tonal Theory	3
Music 528	Musical Styles Before 1750	3
Music 529	Appl of Tech of 20th Cent Comp	3

Other Required Courses (13 hrs.)

Ap Mus 501	Applied Music-Composition	2
Ap Mus 502	Applied Music-Composition	2
Music 527	Theory Pedagogy	3
Music 599	Masters Thesis (at least 6 hours)	6

As a culmination to study in Theory/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 and 502.

Electives (7 hrs.)

Electives must be in music, and it is recommended that these electives include 2 hours of applied piano. Graduate students are encouraged to enroll in Music 560: *Ensemble Performance*; two hours of ensemble credit will apply toward the degree. Two hours from Music 405 or 406 are required unless the student has taken counterpoint as an undergraduate.

The Master of Music Concentration in Applied Music-Performance

Special Prerequisites. At the time of application, all students must audition for an appropriate faculty jury or provide an audition tape; a performance about 15 minutes in length and made up of works or excerpts from the standard repertory is sufficient. Please see the Chair of the Music Department for audition appointments; early auditions are encouraged.

Special Prerequisite-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 hours)

Required Course (9 hrs.)

Music 531	Bibliography and Research	3
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Other Required Courses (12-16 hrs.)

Ap Mus 501	Applied Music	4
Ap Mus 502	Applied Music	4
Music 388	Music Pedagogy*	2
(M.M. in Voice Performance only)*		
Music 389	Music Pedagogy*	2
(M.M. in Voice Performance only)*		
Music 591	Graduate Recital	4

* Voice students may substitute electives for the above only with the approval of the Voice Faculty

Music Electives (9 hrs.)

Must be chosen from among the following courses:

Music 414	Studies in Baroque Music	
Music 415	Studies in Classic and Romantic Music	
Music 416	Studies in Twentieth Century Music	
Music 437	Selected Topics in Music Literature	
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 528	Musical Styles Before 1750	3
Music 529	Appl of Tech of 20th Cent Comp	3

Free Electives (4-8 hrs.)

May be taken 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.

Graduate Recital

No graduate student may enroll for the required graduate recital prior to advancement to candidacy. (Admission to candidacy means that you have removed deficiencies, have completed 12 hours of graduate work satisfactorily, including Music 531: *Bibliography and Research*; and have filed an Application for Degree Candidacy with the Dean of Graduate Studies.) See Department of Music Student Handbook for further information.

One must:

- perform the recital program for the approval of a departmental faculty committee not less than two weeks before the proposed recital date;
- at least one month prior to the recital, submit a program, complete with program notes, for the approval of the Music Graduate Committee. The program notes must indicate significant investigation and must have received the approval of the appropriate faculty members (usually the applied teacher and the students advisory committee) before being submitted. The final approved draft must be presented to the recital pre-view committee;
- duplicate these program notes and distribute them to the graduate recital audience;
- deposit a tape recording of the graduate recital with the Department of Music.

Master of Music Concentration in Applied Music-Conducting

Program of Study (32 hours)

Required Course (9 hrs.)

Music 531	Bibliography and Research	3
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Music Electives (9 hrs.)

Must be chosen from among the following courses:

Music 414	Studies in Baroque Music	
Music 415	Studies in Classic and Romantic Music	
Music 416	Studies in Twentieth Century Music	
Music 437	Selected Topics in Music Literature	
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 528	Musical Styles Before 1750	3
Music 529	Appl of Tech of 20th Cent Comp	3

Other Required Courses (16 hrs.)

Ap Mus 501	Applied Music-Conducting	4
Ap Mus 502	Applied Music-Conducting	4
Ap Mus 519/520	Applied Music-Voice or Instrument	1+1
Music 560	Ensemble Performance	1+1
Music 591	Graduate Recital	4

Electives (4 hrs.)

The Graduate Coordinator and the major professor will recommend courses appropriate to the student's degree emphasis, vocal or instrumental.

Additional requirement

Conducting majors will be asked to assist with various ensembles.

NOTE: The master's recital is a conducting performance of major proportions. A conducting practicum is required for the recital. The student is responsible for developing such a group. The thesis project 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. A short research document relating to the music and a review of the practicum experience prior to and including the performance is required. At least one month before the recital preview, students must submit a program, complete with program notes, for the approval of the Music Graduate Committee; once approved, these notes must be duplicated for distribution to the recital audience. Students must deposit a tape recording of the recital with the Department of Music.

The Master of Music Concentration in Applied Music-Piano Accompanying

Special Prerequisites. All students who wish to work for this degree must perform selections from the standard repertory for the piano faculty. Qualifying performances will be played at the time of application. If diction for singers and at least one year of French, German, or Italian have not been included in the undergraduate program, the student may be considered deficient in these areas, and may be required to make up the deficiencies.

Program of Study (32 hours)

Required Course (3 hrs.)

Music 531	Bibliography and Research	3
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Music Electives (3 hrs.)

Music 414	Studies in Baroque Music	
Music 415	Studies in Classic and Romantic Music	
Music 416	Studies in Twentieth Century Music	
Music 437	Selected Topics in Music Literature	
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 528	Musical Styles Before 1750	3
Music 529	Appl of Tech of 20th Cent Comp	3

Other Required Courses (14 hrs.)

Ap Mus 501	Applied Music-Piano	4
Ap Mus 502	Applied Music-Piano	4
Music 449	Music Repertory for Accompanists (or substitute course)	2
Music 591	Recital	4

(Four recitals are required, two vocal accompaniments and two instrumental accompaniments.)

Electives (6 hrs.)

May be taken in areas outside music and music education. Graduate students are encouraged to enroll in Music 560: *Ensemble Performance*; four hours of ensemble credit will apply toward the degree.

Master of Music Concentration in Music Education (Plan I-with Thesis)

Recommended for students anticipating doctoral study.

Special Prerequisites. Graduate students seeking the Master of Music Concentration in Music Education degree should possess an undergraduate degree in music education that included an internship (i.e., practice teaching).

Program of Study (32 hours)**Required Core (15 hrs.)**

Mus Ed 532	Research in Music Ed	3
Mus Ed 534	Seminar in Music Ed	3
Mus Ed 550	History and Philosophy of Music Ed	3
Mus Ed 599	Masters Thesis	6

Music History Electives (3 hrs.)

Must be chosen from the following:

Music 414	Studies in Baroque Music	3
Music 415	Studies in Classic and Romantic Music	3
Music 416	Studies in 20th-Century Music	3
Music 437	Selected Topics in Music Literature	3
Music 528	Musical Styles before 1750	3

Music Theory Elective

Course to be selected from:

Music 405/406	Counterpoint	2+2
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 529	Techniques of 20th Century Music	3
Music 437	Selected Topics in Music Literature	3

Electives in Music (6 hrs.)

Any courses in music, music education, or applied music offering graduate credit (not including workshops and Ensemble Performance)

Free Electives (5 hrs.)

These may be chosen from music, music education, applied music, workshops, or courses from areas outside music. Graduate students are encouraged to enroll in Music 560 - Ensemble Performance; up to two hours of ensemble credit will apply towards the degree.

Master of Music Concentration in Music Education with Project

Recommended for students who do not plan to pursue doctoral study.

Special Prerequisites. Graduate students seeking the Master of Music - Concentration in Music Education degree

should possess an undergraduate degree in music education that included an internship (i.e., practice teaching).

Program of Study (32 hours)**Required Music Education Courses (13 hrs.)**

Mus Ed 532	Research in Music Ed	3
Mus Ed 534	Seminar in Music Education	3
Mus Ed 550	History and Philosophy of Music Ed	3
Mus Ed 598	Music Education Project	4

Music History Elective (3 hrs.)

Course to be selected from:

Music 414	Studies in Baroque Music	3
Music 415	Studies in Classic and Romantic Music	3
Music 416	Studies in 20th-Century Music	3
Music 437	Selected Topics in Music Literature	3
Music 528	Musical Styles Before 1750	3

Music Theory Elective (3 hrs.)

Music 405/406	Counterpoint	2+2
Music 525	Post-Tonal Theory	3
Music 527	Theory Pedagogy	3
Music 529	Techniques of 20th Century Music	3
Music 437	Selected Topics in Music Literature	3

Electives in Music (6 hrs.)

Any courses in music, music education, or applied music offering graduate credit (not including workshops and Ensemble Performance)

Free Electives (7 hrs.)

These may be chosen from music, music education, applied music, workshops, (maximum of five hours) or

courses from areas outside music. Graduate students are encouraged to enroll in Music 560 - Ensemble Performance; up to two hours of ensemble credit will apply towards the degree.

Music (Music)**Courses for Non-Majors****102. Music Theory for the Non-Major. (3)**

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.

113. Mexican Guitar. (1)

Group instruction. (Fall, Spring)

114. Mexican Guitar. (1)

Continuation of 113. (Fall, Spring)

139. Music Appreciation. (3) Staff

A nontechnical course designed to expand the student's ability to listen actively. Repertoire includes compositions from chamber music and symphonic literature. Listening lab required. (Fall)

140. Music Appreciation. (3) Staff

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 course 139. Listening lab required. (Spring, Summer)

172. Jazz History. (3)

A study of the evolution of jazz in the United States from its beginnings to the present. (Summer, Fall, Spring)

271. Music Today. (3)

A survey of how Western art music and popular music developed during the 20th century especially as regards the effect that social and economic forces had upon the art. Attendance at several on-campus concerts is required; discussion and live performance by guest musicians is included. (Fall, Spring)

371. General History of Music. (3) Staff

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

A survey of important types of folk music in North America (Canada, Mexico, and the United States). Music reading ability not required. (Summer, Spring)

374. Music of the Southwest. (3) Wright

Survey of the musical tradition of the Southwest, with special emphasis on New Mexico. Presents history, performance practice, and effect acculturation has had upon the music. Open to major and non-major. Features field work, live performance, and guest lecturers. (Summer, Spring)

Conducting**363. Conducting. (2) † Perez-Gomez**

Basic theory and techniques of conducting. Prerequisites: 252, junior standing in the major field. (Fall)

364. Choral Conducting. (2) † Clark

Conducting, choral methods, and techniques. Prerequisite: 363. (Spring)

365. Instrumental Conducting. (2) Perez-Gomez
Instrumental conducting techniques, score reading, interpretation.
Prerequisite: 363. {Spring}

565. Advanced Instrumental Conducting. (2) Perez-Gomez
Prerequisites: 363 and 453 or the equivalent. {Fall}

Ensemble

143. University Chorus. (1)† 2 Ellingboe
Large mixed chorus. Open to all university students; no audition required. {Fall, Spring}

230. Opera Studio. (1)† Tyler
Basic training in music theatre. Open by audition to singers, conductors, pianists, stage directors, and producers. {Fall, Spring}

231. Chamber Music. (1)†
Practice, performance, and study of chamber music. Includes various combinations of strings, brasses, woodwinds, percussion, guitars, and the Contemporary Chamber Ensemble. Preference given to music majors. {Fall, Spring}

232. Early Music Ensemble. (1)† Patrick
An ensemble, vocal and instrumental, specializing in the performance of music of the Middle Ages, Renaissance, and early Baroque. {Fall, Spring}

233. Symphony Orchestra. (1)† 2 Perez-Gomez
(Also offered as Music Ed 233.) Study and public performance of symphonic literature. Auditions required. {Fall, Spring}

234. Jazz Band. (1)† Dalby, Kostur
Modern jazz ensemble of twenty or more that performs music representing various styles of big band jazz, rock, and pop. Auditions required. {Fall, Spring}

235. Collegiate Singers. (1)† Clark
Show choir. Performs selections from musical theatre, jazz, and popular repertoire; these are staged and choreographed. Open to all university students. Auditions required each spring for following academic year. {Fall Spring}

236. Introduction to Improvisation. [Jazz Improvisation.] (1)† 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.
Prerequisites: 236 or permission of instructor. {Spring}

241. University Band. (1)† 2 Rombach, (Includes Wind Ensemble, Wind Symphony, Concert Band, Marching Band.)
(Also offered as Music 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)† 2 Clark
(Also offered as Music 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}

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.
Prerequisites: 237 or permission of instructor. {Fall}

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.
Prerequisites: 336 or permission of instructor. {Spring}

***395. Accompanying. (1)† 1, 3** Felberg
Study and performance of accompaniments for other students. {Fall, Spring}

***430. Advanced Opera Studio. (1)† 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)
{Fall, Spring}

History and Literature

101. Concert Music. (0)† Clark
Students working toward the B.M., B.A. in Music, or B.M.E. must attend 15 recitals in each of 6 semesters in order to gain these degrees. Transfer students with at least 60 hours of credit must attend 15 recitals in each of 2 semesters. Offered on a CR/NC basis only. {Fall, Spring}

261. History of Music I. (3) Hinterbichler
Forms, styles, schools, principal composers, and representative master works from antiquity through Baroque. Music majors only or permission of instructor. {Fall}

262. History of Music II. (3) Hinterbichler
Continuation of Music 261, from Baroque to the present. Music majors only.
Prerequisite: 261 or permission of instructor. {Spring}

***413. Studies in Medieval and Renaissance Music. (3)** Patrick
Music of Western Europe from the Christian Era to the close of the sixteenth century.
Prerequisites: 261, 262; music major or permission of instructor.

***414. Studies in Baroque Music. (3)** Patrick
Music of Western Europe, 1600-1750 with emphasis on forms, styles, principal composers, and performance practices.
Prerequisites: 261, 262, music major or permission of instructor. {Spring 1997}

***415. Studies in Classic and Romantic Music. (3)** Patrick
Music of Western Europe from 1750-1900.
Prerequisites: 261, 262; music major or permission of instructor. {Spring 1996, 1998}

***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.
Prerequisites: 261, 262; music major or permission of instructor. {Fall 1997}

***437. Selected Topics in Music Literature. (3)**
{Offered upon demand, Summer, Fall, Spring}

***449. Music Repertory. (2) † 1**

Comprehensive study of solo repertory for voice or individual instruments. Specific area is announced in the class schedule when the course is offered.

Prerequisites: 261, 262. {Fall, Spring}

528. Music Styles Before 1750. (3) Patrick

This course expects students to analyze the music of the eras being studied. {Summer 1997, Spring 1998}

530. Man and Music. (3)

The basic interactions between man and music including the physics of musical sound, the nature of musical events, relationships between the brain and music, memory and attention in music, and what is meant by musical understanding.

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. {Summer 1998, Fall}

Music Theory

All beginning students in music must register for Music 115. Theory and ear-training courses must be taken in this order: 115, 150, 152, 250, 252.

115. Fundamentals of Music. (4)

Notation, scales, key signatures, intervals, triads, and sevenths. Aural apprehension of the same material. Dictation of simple rhythmic and melodic patterns. Credit not allowed toward a major in Music or Music Education. {Fall, Spring}

150. Music Theory I. (4)

Part-writing and harmonic analysis: introduction to diatonic theory. Perception through sound of diatonic materials with special emphasis on melodic, rhythmic, and harmonic dictation and the singing of simple melodies and intervals.

Prerequisites: adequate score on music placement test or completion of Music 115 with a grade of C or better. {Fall, Spring}

152. Music Theory II. (4)

Further part-writing using diatonic materials; modulation and tonicization. Perception through sound diatonic materials with more advanced singing and dictation. Greater emphasis on musicianship.

Prerequisite: 150 with a grade of C or better. {Summer, Spring}

250. Music Theory III. (4)

Introduction to chromaticism and modulation to remote key areas. Advanced singing and dictation correlated with the above materials.

Prerequisite: 152 with a grade of C or better. {Fall}

252. Music Theory IV. (4)

Continuation of chromatic harmony and analysis with advanced ear-training, mastering chromatic melodies and clefs.

Prerequisite: 250 with a grade of C or better. {Spring}

304. Introduction to Electro-Acoustic Music. (3)

For composition majors; basic skills in operating electronic music instruments (e.g., synthesizers). Study techniques and history of electronic music through landmark compositions. Students spend considerable outside time in the electronic studio.

Prerequisites: Physics 108; composition majors or by permission of instructor. {Fall}

305. Composition I. (2) Block

Beginning compositional techniques, introducing 20th century harmony.

Prerequisite: 152 with a grade of C or better. {Fall}

306. Composition II. (2) Block

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}

325. Post-Tonal Theory. (2) Block, Hermann

Twentieth-century theoretical techniques applied analytically to all music of the century. Scales, modes, set-theory, twelve-tone theory, minimalist techniques, timbral design, and specific compositional methods (Messiaen, Cage, Carter, Stockhausen) will be discussed with some rudimentary ear-training.

Prerequisite: Music 152 with a grade of C or better. {Spring}

***404. Digital Synthesis in Composition. (3) 1**

Introduction to MIDI, digital sampling, and additive synthesis using the Macintosh computer and various synthesizers.

***405. Counterpoint. (2) 1 Wood**

Analysis and writing in the style of the sixteenth century.

Prerequisite: Music 309, 325 with a grade of C or better. {Fall}

***406. Counterpoint. (2) 1 Wood**

Analysis and writing in the style of the eighteenth century.

Prerequisite: Music 325. {Spring}

***409. Composition. (2) 1 Wood**

Techniques and procedures in the composition of music.

Prerequisite: 306, 325. {Fall}

410. Composition. (2) 1 Wood

Continuation of 409. Composition majors only.

Prerequisite: 409. {Spring}

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.

Prerequisites: 152 with a grade of C or better. {Fall}

525. Post-Tonal Theory. (3) Block, Hermann

20th-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.

Prerequisite: 152 with a grade of C or better. {Spring}

529. Techniques of Twentieth-Century Composition. (3)

Wood

Devoted to the music of the twentieth century, the course spans the gulf between traditional academic training (i.e., common practice harmony) and current practice. Students survey techniques of twentieth-century composition and then imitate these in composed works of their own. {Spring 1999}

Pedagogy***388. Music Pedagogy. (2) 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.

Prerequisite: junior standing. {Fall, Spring}

***389. Music Pedagogy. (2) 1**

Continuation of 388, treating problems in teaching intermediate and moderately advanced students. Specific area is announced in class schedule when course is offered.

Prerequisites: 388 and junior standing. {Spring}

527. Theory Pedagogy. (3)

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 twentieth-century techniques, will be studied. {Alternate Springs}

Problems

351-352. Undergraduate Problems. (1-3, 1-3 hrs. each semester) †

Prerequisite: junior standing. {Fall, Spring, Summer }

551-552. Problems. (1-3, 1-3 hrs. each semester)

Specialized Courses

109. Group Voice I. (1) †

Open to beginners in voice except voice performance majors. {Fall, Spring}

110. Group Voice II. (1) †

Music education students in the vocal track must continue to enroll in this course until a grade of C or better is obtained. Prerequisite: 109. {Fall, Spring}

111. Group Piano I. (1) †

Not open to keyboard majors. Primarily for music majors and minors, but open to all students. Prerequisites: 115 or permission of instructor. {Fall, Spring}

112. Group Piano II. (1) †

Not open to keyboard majors. Primarily for music majors and minors, but open to all students. Prerequisite: 111 or permission of instructor. {Fall, Spring}

209. Diction for Singers. (2) Staff

The International Phonetic Alphabet and its application. {Fall}

211. Group Piano III. (1) †

Not open to keyboard majors. Primarily for music majors and minors, but open to all students. Prerequisites: 112 or permission of instructor. {Fall, Spring}

212. Group Piano IV. (1) †

Not open to keyboard majors. Primarily for music majors and minors, but open to all students. Music education majors must continue to enroll in this course until the piano proficiency examination is passed. Prerequisites: 211 or permission of instructor. {Fall, Spring}

***484. Evaluating the Arts. (3)**

{Also offered as Art Hi, Dance, Thea *484.} Explores in a seminar format the practice of criticism, with emphasis on critical processes that penetrate a variety of contemporary arts. Aesthetic theories and cultural outlooks that underpin practical criticism are examined.

Prerequisites: for undergraduates, 6 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation. {Fall}

***487. Contemporary Issues in the Arts. (3)**

{Also offered as Art Hi, Dance, Thea *487.} Explores the range of personal and social issues embedded in artistic choices. Lecture/discussion format. Artistic form, function, and ethical guidelines are examined from economic, psychological, ideological, and gender perspectives.

Prerequisite: for undergraduates 9 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation. {Spring}

584. Problems in Interdisciplinary Studies. (1-3 hrs. each semester)

{Also offered as Art Hi, Dance, Thea 584.} {Fall, Spring}

Thesis Courses

499. Senior Thesis. (3-6) †

Open to seniors approved by the departmental honors committee. {Summer, Fall, Spring}

591. Graduate Recital. (2-4 hrs. per semester)

{Fall, Spring}

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CRNC basis only.

- 1 Open only to graduate students and to undergraduates enrolled in preprofessional curricula of the College of Fine Arts. 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 B.U.S. in the College of Fine Arts, or in the College of Education, 4 hours in other colleges.
 - 3 Qualified sophomores may enroll with Piano faculty approval.

Applied Music (Ap Mus)

Group Instruction. Class instruction in applied music is provided for students whose experience and background do not qualify them for private instruction. Course numbers are:
 Piano 111-112, 211-212
 Voice 109-110
 Other instruments 155

Private Instruction—By Audition.

Two series of course numbers are available here:

1. Courses carrying 1 or 2 hours credit: 119-120, 219-220, 319-320, and 419-420. If your major program is in theory and composition, liberal arts, or music education, follow this series of numbers beginning with your freshman year.
2. Courses carrying 2 or 4 hours credit. If your major program is in performance enroll for 119-120 your first year and then follow this series of numbers for your major instrument: 201-202, 301-302, and 401-402.
3. Transfer students must enroll in 119 for their first semester at UNM. Upon audition for the applied instructor, usually during the first weeks of the initial semester, this level may be changed.

NOTE: If you study a secondary instrument or instruments, use the series of numbers under paragraph 1 above.

118. Basic Applied Skills. (2)

For music majors who do not yet possess skill to be admitted to Music 119 (private lessons). Scales, arpeggios, etudes, technical drills. Credit not applicable to a degree in Music. Prerequisite: permission of instructor. {Fall, Spring}

119-120. Applied Music. (1 or 2 hrs. each semester)

Freshman major, secondary or elective course. {Fall, Spring}

201-202. Applied Music. (2 or 4 hrs. each semester)

Major sophomore course. {Fall, Spring}

219-220. Applied Music. (1 or 2 hrs. each semester)

Sophomore secondary or elective course. {Fall, Spring}

301-302. Applied Music. (2 or 4 hrs. each semester) †

Major junior course. {Fall, Spring}

***319-320. Applied Music. (1 or 2 hrs. each semester) †**

Junior secondary or elective course.

Prerequisite: 4 hrs. credit or equivalent in the instrument to

FINE ARTS

be studied. Maximum allowable graduate credit 4 hrs. or equivalent. {Fall, Spring}

401-402. Applied Music. (2 or 4 hrs. each semester) ¹
Major senior course. {Fall, Spring}

***419-420. Applied Music. (1 or 2 hrs. each semester) §**
Senior secondary or elective course.
Prerequisite: 4 hrs. credit or equivalent in the instrument to be studied. Maximum allowable graduate credit 4 hrs. or equivalent. {Fall, Spring}

501-502. Applied Music. (2 or 4 hrs. each semester)
Major graduate course. {Fall, Spring}

519-520. Applied Music. (1 or 2 hrs. each semester)
Graduate secondary or elective course. {Fall, Spring}

569-570. Applied Music. (1 or 2 hrs. each semester)
Graduate secondary or elective course. {Fall, Spring}

¹ Open only to graduate students and to undergraduates enrolled in preprofessional curricula of the College of Fine Arts. Exceptions may be made with permission of the chairperson of the department. Graduate credit allowed only when asterisk appears.

Music Education (Music Ed)

155. Orchestral Instruments. (1-2) [1] †

Group instruction in orchestral instruments and guitar. Music education majors and composition majors only. {Fall, Spring}

194. Introduction to Music Education. (1) Rombach
Will assist the student in discovering personal strengths and weaknesses relative to a career as a professional music educator. {Fall}

215. Instrumental Lab (0)

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, and two semester of Music 101. {Spring}
Offered on a CR/NC basis only.

233. Symphony Orchestra (1)† 2 Perez-Gomez
(Also offered as Music 233.) Study and public performance of symphonic literature. Auditions required. {Fall, Spring}

241. University Band. (1)† 2 Rombach
(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)† 2 Clark
(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) McCullough-Brabson
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. {Fall, Spring}

298. Music for the Elementary Teacher. (3) McCullough-Brabson
Will prepare elementary classroom teachers to teach music

education in a self-contained classroom in traditional and open situations. {Summer, Fall, Spring}

313. Choral Music Methods. (2) Clark
Administration, organization, literature, teaching, and conducting techniques appropriate for public school choral programs.
Prerequisites: 346 and 446. {Fall}

315. Instrumental Music Methods. (3) [2] Dalby
Administration, organization, teaching, and conducting techniques appropriate for public school instrumental programs.

317. Jazz Methods. (1)

Teaching the jazz ensemble, including style and harmony, methods, literature, organization, and administration appropriate for school jazz programs.
Prerequisite: 194. {Fall}

346. Teaching Music in the Elementary Schools. (3) McCullough-Brabson

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 and successful completion of Music Ed screening. {Fall}

400. Student Teaching in the Elementary School. (3-6-9, to a maximum of 15) McCullough-Brabson

See the *Department of Music Handbook* for prerequisites. {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}

***429. Workshop. (1-4)**

Carries graduate credit when specifically approved by the Graduate Committee. For degree restrictions consult the *Department of Music Graduate Student Handbook*. {Summer}

***438. Selected Topics in Music Education. (3) Dalby, Dodson, McCullough-Brabson**

This course allows permanent or visiting faculty to focus a course structured around their expertise or research activities.

441. Teaching Marching Band. (2) Rombach
Methods of teaching, organizing and administering the marching band. Charting, arranging, movement, drill, and dealing with percussion and support units (e.g., flags, twirlers) are included.

***443. Music for the Pre-school Child. (3) McCullough-Brabson**

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**
Will familiarize student with role of music in secondary school. Materials for student and teacher, methods of teaching, classroom management, curricula, testing, scheduling, and how these areas can be brought together for a successful teaching experience.
Prerequisite: 346. {Spring}

451. Foundations of Musical Behavior. (3)
Acoustics, perception, learning, and affective response in musical behavior.
Prerequisite: junior standing. {Fall}

461. Student Teaching in the Secondary Schools. (3-6-9, to a maximum of 15) Dalby.

See the *Department of Music Handbook* for prerequisites. {Fall}

462. Student Teaching in the Secondary Schools. (3-6-9, to a maximum of 15) Dalby, McCullough-Brabson

See the *Department of Music Handbook* for prerequisites. {Fall, Spring}

***493. Reading in the Content Area—Music. (3) Van Dongen**

(Also offered as CIMTE 490.) Discovering the ways music education can be employed as a positive influence in teaching verbal reading. The similarities that exist in note and verbal reading are covered. The necessity of a workable means of integrating the teaching of reading with other content areas (e.g., music) will be given attention. {Spring}

532. Introduction to Research in Music Education. (3) Dalby

Interpretation and critical analysis of recent research. Techniques and procedures for writing research proposals, reports, theses along with instruction that will enable students to understand and evaluate research in music education. {Summer, 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. {Summer, Spring}

550. Philosophy of Music Education. (3) Dalby

An examination of relevant topics and issues in music education philosophy, aesthetics, and history. {Summer, Spring}

551-552. Problems. (1-3, 1-3 hrs. each semester)

{Summer, Fall, Spring}

598. Music Education Project. (1-4) Dalby, McCullough-Brabson, Seymour

{Summer, Fall, Spring}

599. Master's Thesis. (1-6 hrs. per semester)

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. This course may be repeated for credit. Consult the Department of Music Graduate Student Handbook for total credit requirements. **Offered on a CR/NC basis only.** {Summer, Fall, Spring}

² Maximum of 8 hours credit allowed toward degrees in the B.U.S. in the College of Fine Arts or in the College of Education, 4 hours in other colleges.

THEATRE AND DANCE

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Professors

Judith Chazin-Bennahum, (Dance), Ph.D., University of New Mexico
Bill Evans (Dance), M.F.A., University of Utah

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., University of New Mexico

Digby Wolfe, (Theatre), Extensive Professional Experience

Associate Professors

Eva Encinias (Dance), Extensive Professional Experience
Gordon Kennedy, (Design) M.F.A., University of California (Los Angeles)

Larry Lavender, (Dance) Ph.D., New York University
Kestutis Nakas, (Theatre) M.F.A., New York University
Denise Schulz, (Theatre) M.F.A., University of Texas

Assistant Professor

Dorothy Chansky, (Theatre), Ph.D., New York University

Lecturer

Richard Hess, (Design), M.A., Kent State University

Professors Emeritus

Brian Hansen, (Theatre) Ph.D., University of Minnesota
Robert Hartung, 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

Preprofessional Curriculum:

Bachelor of Fine Arts (B.F.A.)

The department offers two separate degree emphases leading to the Bachelor of Fine Arts degree (B.F.A.): 1) Acting

and 2) Design for performance. The majors offered under this curriculum, which is designated as the preprofessional curriculum, are designed for students who anticipate further study at the graduate level in a university or conservatory or as apprentice to a professional company.

(B.F.A) Theatre in Acting

Students choosing this degree will receive a more focused concentration on the practice and application of the art and craft of acting. Admission and continuation in the Acting B.F.A degree program is by audition/review at the end of each year of the four year acting program. Advance placement auditions are held in the Fall semester on the Saturday after the first week of classes for entrance into the 200 level acting courses.

Bachelor of Fine Arts-Actor Training

1. Courses outside the major:
 - a. 30 hours selected from courses offered by departments of the College of Arts and Sciences
 1. 6 hours of English 101 and 102
 2. 6 hours of History 101 and 102
 3. 6 hours chosen from English 352, 353, or 470 *Contemporary Drama*
 4. 3 hours selected from Communication and Journalism, Foreign Languages and Literatures, or Humanities (includes American Studies, Speech and Hearing Sciences, Communication and Journalism, Linguistics, Foreign Languages and Literatures, Philosophy and Religious Studies.
 5. 3 hours selected from Math or Natural Science (includes Math 121, 145, 150 or above, Biology, Chemistry, Earth and Planetary Sciences, Physics and Astronomy)
 6. 3 hours selected from Social and Behavioral Science (includes Anthropology, Economics, Geography, Political Science, Psychology, and Sociology)
 - b. 6 hours selected from the College of Fine Arts (cannot be courses in Theatre or Dance -- can be Art, Art History, Music, Music Ed, Media Arts, etc.)
 - c. 4 hours of P E-NP chosen from:
 - 115 Women's Gymnastics
 - 117 Men's Apparatus Stunts
 - 118 Individual Tumbling
 - 124 Ballroom Dancing
 - 136 Personal Defense
 - 138 Karate
 - 158 Aerobic Dance
 - 165 Yoga
 - 193 Topics (Feldenkrais, Tai Chi Chu'an, Aikido, Tai Kwan Do)
 - d. 8 hours electives chosen from any college (cannot be courses in Theatre or Dance)
- Total 48 hours

2. Theatre Courses
 - a. 15 hours of Acting Sequence
 - 220 and 221 Acting Foundations III and IV
 - 320 and 321 Acting Studio I and II
 - 420 Acting Studio III
 - b. 18 hours of Voice and Movement Sequence
 - 224 and 225 Voice and Movement I and II
 - 324 and 325 Voice and Movement III and IV
 - 424 and 425 Voice and Movement V and VI
 - c. 6 hours chosen from the Technical Sequence
 - 192 Stagecraft I
 - 194 Introduction to Costuming
 - 196 Introduction to Stage Lighting
 - d. 1 hour of Make-up
 - e. 15 hours of Theatre Lecture Sequence
 - 122 Introduction to Theatre
 - 223 Introduction to Script Analysis
 - 435 Theatre History I

436 Theatre History II	
437 Theatre History III	
f. 3 hours of 429 Summer Writer's Stage	
g. 5 hours of Dance Studio and Technique Courses	
h. 3 hours chosen from:	
444 Outreach Company	
428 Ensemble Improvisation Workshop	
414 Musical Theatre	
421 Acting Studio IV	
426 Performance Art	
495 Studies in Theatre (Performance Emphasis)	
i. 14 hours of Theatre or Dance Electives	
Total	80 hours
Total Degree Plan	128 hours

Theatre-Technical/Design (B.F.A)

1. Courses outside the major:
 - a. 30 hours selected from courses offered by the departments of the College of Arts and Sciences, including general education requirements (see Fine Arts *Graduation Requirements* 6). Specific requirements include English 352 and 353. These will partially satisfy the college requirements for courses outside the major. 30
 - b. 3 hours of Art History, plus 3 hours selected from other departments of the College of Fine Arts (Art and Art History, Fine Arts, Music, Media Arts) or from the School of Architecture and Planning. 6
 - c. 12 additional hours selected from courses outside the major offered by any college including Fine Arts (cannot be Theatre or Dance). 12

Subtotal 48
2. Courses in the major: Technical Theatre/Design
 - a. Theatre 120, 121, 122, 192, 194, 196, 198 or 366, 223, 292, 293, 294, 296, 403, 435, 436, 437. 48
 - b. 21 additional Theatre hours selected with advisement from the following: 290, 297, 366, 392, 393, 394, 395, 396, 397, 399, 404, 491, 492, 496 and 497 (both repeatable up to a limit of 9 hours total), 498, and 499. 21
 - c. 11 additional Theatre or Dance hours selected with advisement. 11

Subtotal 80

Total—Technical Theatre/Design 128

Bachelor of Arts in Theatre

In Theatre, students wishing to choose this degree will, in addition to a higher concentration on the general, liberal arts background of the theatre discipline, have the opportunity, with advisement, to emphasize a specific area of interest within the department. The department provides students with the opportunity to focus on subject areas including dramatic writing, directing, children's theatre, creative drama and management.

1. Courses outside the major:
 - a. 33 hours selected from courses offered by departments of the College of Arts and Sciences
 1. 6 hours of English 101 and 102
 2. 6 hours of History 101 and 102
 3. 6 hours chosen from English 352, 353, or 470 *Contemporary Drama*
 4. 3 hours selected from Communication and Journalism, Foreign Languages and Literatures, or Humanities (includes American Studies, Speech and Hearing Sciences, Communication and

and Journalism, Linguistics, Foreign Languages and Literatures, Philosophy and Religious Studies.

- 5. 3 hours selected from Math or Natural Science (includes Math 121, 145, 150 or above, Biology, Chemistry, Earth and Planetary Sciences, Physics and Astronomy)
- 6. 3 hours selected from Social and Behavioral Science (includes Anthropology, Economics, Geography, Political Science, Psychology, and Sociology)
- b. 6 hours selected from the College of Fine Arts (cannot be courses in Theatre or Dance -- can be Art, Art History, Music, Film or Video)
- c. 21 hours of electives chosen from any college (cannot be courses in Theatre or Dance)

Total 60 hours

2. Theatre Courses

- a. 120 Acting Foundations I
- b. 15 hours of Theatre Lecture
 - 122 Introduction to Theatre
 - 223 Introduction to Script Analysis
 - 435 Theatre History I
 - 436 Theatre History II
 - 437 Theatre History III
- c. 9 hours of:
 - 192 Stagecraft I
 - 194 Introduction to Costuming
 - 196 Introduction to Stage Lighting
- d. 9 hours chosen from the following courses:
 - 355 Fundamentals of Playwriting I
 - 360 Arts Management I
 - 366 Stage Management
 - 403 Principles of Directing
 - 415 Educational Theatre
 - 418 Creative Drama
 - 419 Children's Theatre
 - Any 300 or 400 level design class
- e. 3 hours of 429 Summer Writer's Stage or 491 Professional Apprenticeship
- f. 2/3 hours of Dance Studio/Technique or Lecture
- g. 7/6 hours of electives in Theatre or Dance

Total 48 hours

- 3. 20 hours of free electives from any college (can be Theatre and Dance)

Total 20 hours

Total Degree Plan 128 hours

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.

The Flamenco focus: the UNM 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 (B.A.)

- 1. Courses outside the major:
 - a. 39 hours selected from courses offered by departments of the College of Arts and Sciences, including general education requirements (see Fine Arts Graduation Requirements 6). Specific requirements include an upper division English elective, and 3 hours selected from Anthropology 130, 150, 202, or Psychology 220. These will partially satisfy the college requirements for courses outside the major. 39
 - b. 6 hours selected from other departments of the College of Fine Arts (Art and Art History, Fine Arts, Media Arts, and Music) 6
 - c. 9 additional hours selected from courses outside the major offered by any college including Fine Arts (can not be Theatre or Dance). 9

Subtotal 54

2. Courses in the major: Dance

- a. 9 hours of Theatre:
 - Theatre 194 Introduction to Costuming
 - Theatre 196 Introduction to Stage Lighting

to include 3 hours selected from:

- Theatre 120 Acting Foundations I
- Theatre 224 Voice & Movement for Actors
- or- Theatre 426 Performance Art

Subtotal 9

- b. Dance 201 Crew Practicum
- Dance 212 Improvisation
- Dance 222 Rhythmic Fundamentals
- Dance 231 Writing about Art
- Dance 250 Movement Analysis I
- Dance 251 Movement Analysis II
- Dance 311 Choreography I
- Dance 313 Kinesiology I
- Dance 411 Choreography II
- Dance 416 Dance Pedagogy
- Dance 431 Dance Criticism
- Dance 462 Dance History I
- Dance 463 Dance History II

Subtotal 35

- c. 22 hours in dance technique selected with advisement. All students must complete at least two courses in each of the following areas: Ballet, Modern, and Flamenco. Dance majors and minors may enroll in a maximum of 6 hours per semester of dance technique during their Freshman year.

Subtotal 22

Major Total 66

- 3. Additional courses in any field, selected with advisement 8

Total—Dance (B.A.) 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, 222, 250, 416, 466, and 8 hours of Dance Technique in modern 24 hours

Theatre

Theatre 120, 122, 3 hours chosen from 192, 194, 196 or 198, 403, 415, 418, 419, 437 24 hours

Secondary Level Dance

Dance 105, 212, 222, 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, 198, 223, 224, 403, 404, 418 or 419 36 hours

Minor Study Requirements

Minor in Theatre

- 24 hours of Theatre courses which must include:
 - a. Theatre 120 and 122
 - b. 3 hours chosen from Theatre 192, 194, 196
 - c. 3 hours chosen from Theatre 223, 294, 435, 436 or 437
 - d. 3 hours chosen from Theatre 355, 360, 366, 403, 418, 419 or 415
 - e. 9 hours of Theatre electives

Program I :

Minor Program in Dance

- a. Required: Dance 201, 212, 231, 250, 462. 15 hours
- b. Electives: 9 hours selected with Departmental advisement. 9 hours

Total 24 hours

NOTE: Students majoring in Elementary Education pursuing this minor must take Dance 416 *Dance Pedagogy*.

Additional Information

Fees

Students are reminded that selected theatre and dance courses have fees associated with special supplies and services. These course fees must be paid to the UNM 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 necessary information 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

Graduate Advisor

Larry Lavender

Application Deadlines

Review of Applications Begins	Application Deadline
Fall: February 15 (with department financial aid) March 15 (without department financial aid)	March 15 April 15
Spring: September 15 (without department financial aid)	October 15
Summer: None accepted	

Degrees Offered

M.A. in Theatre and Dance

Concentrations: dramatic writing, directing, theatre education, choreography, 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.

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 present to the Office of Graduate Studies (1) a letter of intent clearly expressing objectives in undertaking graduate study, (2) a recent example of the applicants critical writing and, for those applying in dramatic writing, a recent script, and (3) three letters of recommendation on the form provided by the Office of Graduate Studies. Students applying in choreography must also supply a videotape (1/2" VHS) of their work as a choreographer and/or performer.

Required Courses

The purpose of the required courses for the Master of Arts degree is to provide a common conceptual framework for all the graduate students in the program. The required courses aim to strengthen critical and practical skills that will support and guide the 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

Plan I

Required courses: 500, 503, 506, 512	12
Courses related to special emphasis:	12
Masters Thesis: 599 (minimum of 6 hours)	6
Total hours required for degree	30

Plan II

Required courses: 500, 503, 506, 512	12
Courses related to special emphasis:	12
Thea/Dance 598: Masters Essay in Theatre and Dance 3	3
Electives	6
Total hours required for degree	33

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 committee may elect, however, to conduct some portion of the exam orally. The length of the exam is three hours. Each member of the committee conducting the exam submits at least one question.

Theatre (Thea)

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. Corequisite: 122. {Fall}

121. Acting Foundations II. (3)

Continuation of 120 with emphasis on textual material. Prerequisite: 120. {Spring}

122. Introduction to Theatre. (3)

The nature of theatre art: exploring the aesthetic and practical dimension of the unified work of the theatre production. Open to non-majors. Course fee required. {Fall}

192. Stagecraft I. (3)

Basic techniques, tools and materials for construction of stage scenery. Crew assignments on departmental production required. Course fee required. {Fall, Spring}

193. Stagecraft II. (3)

Advanced techniques of stage crafts. Crew assignment on departmental production required. Course fee required. Prerequisite: 192. {Spring}

194. Introduction to Costuming. (3)

Basic techniques, tools, materials of costume construction. Crew assignment on departmental production required. Course fee required. {Fall, Spring}

195. Costume Practicum. (3)

Special skills, problem solving and techniques of the assistant to the costume designer. Crew assignments on departmental production required. Prerequisite: 194. {Fall, Spring}

196. Introduction to Stage Lighting. (3)

Basic techniques of stage lighting. Crew assignment on departmental production required. {Fall, Spring}

198. Makeup. (1)

Basic materials and techniques of makeup. Course fee required.

200. Rehearsal and Performance. (1-3)

Participation in university theatre dance season in either performance or production capacity. May not duplicate other course assignments. May be repeated for a maximum of 12 hours. Offered on a CR/NC basis only. {Summer, Fall, Spring}

220. Acting Foundations III. (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 Foundations IV. (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. Prerequisite: 122.

224. Voice and Movement for Actors I. (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. Voice & Movement for Actors II. (3)

Continuation of 224 emphasizing clear articulation and the basics of standard American stage speech free of regionalisms. Prerequisite: 224. {Spring}

267. Acting Study for Non-Majors. (3) †

Introduction to the basic craft and experience of acting. {Summer, Fall, Spring}

290. Professional Theatre Tour. (1-3) Δ

Comprehensive tour to a major theatre center. Post-trip critique required.

292. Design Skills I. (3)

Introduction to basic communication skills of the theatre designer. Emphasis on drafting and drawing. {Fall}

293. Design Skills II. (3)

Principles and elements of design as they relate to design processes for the theatre. Prerequisite: 292 or permission of instructor. {Spring}

294. Research for Theatrical Design. (3)

An examination of resources for research into period style for the visual designer. A survey of architecture, costume, furniture and decor in selected periods of history.

295. Studies in Theatre. (1-3)

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. Theatre Sound. (3)

Theory and practice of theatre sound design, recording and editing. Crew assignments on department productions required.

298. Pattern Development I. (3)

An introduction to pattern development using a combination of techniques: flat patterning, slash and spread, and draping.
Prerequisite: 194. {Fall odd numbered years}

299. Pattern Development II. (3)

Continuation of pattern development focusing on draping on the dress form, and primitive shape garments and draping of the 20's and 30's.
Prerequisite: 298. {Spring even numbered years}

320. Acting Studio I. (3)

Advanced actor training. The creation of a role related to the study of the collaborative process of theatrical art through the preparation and presentation of dramatic materials.
Prerequisite: 221. {Fall}

321. Acting Studio II. (3)

Continuation of 320. Advanced actor training with emphasis on laboratory work in the classroom.
Prerequisite: 320. {Spring}

324. Voice and Movement for Actors III. (3)

Intermediate vocal and physical techniques for the actor, providing continued, regular practice of exercises to strengthen and develop vocal musculature and increase physical-vocal expressiveness.
Prerequisite: 225. {Fall}

325. Voice and Movement for Actors IV. (3)

Continuation of TA 324 with a focus on basic principles of speaking verse and methods of learning stage dialects.
Prerequisite: 324. {Spring}

355. Fundamentals of Playwriting I. (3)

Introduction to writing for the stage. Submission of an original one-act play or adaptation. {Fall}

356. Fundamentals of Playwriting II. (3)

Continuation of 355. Application of the principles of dramatic writing to a full length dramatic work (play, screen play, teleplay). {Spring}

360. Arts Management I: Arts Organizations. (3)

An introduction to the not-for-profit organizational laws and structure including boards of directors, constitutions, by-laws, personnel, budgets, fund-raising. {Fall}

361. Arts Management II: Marketing the Arts. (3)

Introduction to audience development, public relations promotion, box office, subscriptions, house management. {Fall}

364. Arts Management Workshop. (2) Δ

Management assignment within the College of Fine Arts.
Prerequisite or corequisite: 361. {Summer, Fall, Spring}

366. Stage Management. (3)

The role, functions, and duties of the stage manager in production, rehearsal, and performance. {Fall, Spring}

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}

392. Scene Design I. (3)

Basics of scene design. Emphasis on play analysis with a series of projects to explore various aspects of theatrical design. {Fall}

393. Scene Design II. (3)

Exploration of scene design for various types of stages (proscenium, thrust, arena) for theatre, dance and opera.
Prerequisite: 392. {Spring}

394. Costume Design I. (3)

Introduction to the basics of costume design concentrating on design theory, script analysis and visual communication as related to costume design for theatre and dance.
Prerequisite: 294. {Fall}

395. Costume Design II. (3)

Further development of costume design techniques begun in semester 1.
Prerequisite: 394. {Spring}

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}

397. Lighting Design II. (3)

Emphasis on designing for various types of stages. Crew assignment on departmental production required.
Prerequisite: 396. {Spring}

399. Special Problems in Theatre and Production. (1-3) Δ

Intensive study and practice of special techniques and materials in theatre and production.
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. 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}

414. Music Theatre Workshop. (1-4) Δ

The content and form of this course will vary each time offered, normally culminating in public performance involving both departments of music and Theatre and Dance. {Offered upon demand}

***415. Educational Theatre. (3)**

Foundations of developmental drama in the schools with emphasis on educational theatre as an integral part of the school curriculum and the student activities program at the secondary level. Application of theories in developing drama curriculum and directing the school play.

***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.

***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.

***420. Acting Studio III. (3)**

Advanced study for the actor, with focus on particular historical periods and styles through scene work and audition preparation.
Prerequisite: 321. {Fall}

***421. Acting Studio IV. (3)**

Intense preparation for entry into the Business of Acting; including auditions, pictures, resumes, agents, casting, etc. Cold readings, camera, tv/radio commercials, and voice over techniques. Advisement on career options.
Prerequisite: 221.

424. Voice and Movement for Actors V. (3)

Advanced vocal technique for the actor emphasizing the integration of voice and body to create a variety of roles in specific performance situation.
Prerequisite: 325. {Fall}

425. Voice and Movement for Actors VI. (3)

Continuation of 424 with an emphasis on continuing practice and on correcting individual problems.
Prerequisite: 424. {Spring}

***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. Permission of instructor.

***428. Ensemble Improvisation. (3) Δ**

Emphasis on the development of original dramatic material out of the process of individual and group improvisation. {Offered upon demand}

***429. Summer Writer's Stage. (1-6) Δ**

The Writers Stage is an intensive Theatre experience in the production of new work. This will include new plays satirical revue, and a variety of performance and production opportunities.

***435. Theatre History I. (3)**

Development of dramatic writing and production techniques from the origin of tragedy in Greece through Jacobean. {Fall}

***436. Theatre History II. (3)**

Continuation of 435 from the Restoration to the Twentieth Century. {Spring}

***437. Theatre History III. (3)**

Western theatre history of the 20th century examines major figures, theories, practices of realism and its alternatives.

***444. Outreach Company. (1-3)**

Participation in Theatre and/or Dance productions or projects which tour into the community. {Fall, Spring}

***455. Seminar in Playwriting. (3) Δ**

Emphasis upon analysis of student-written plays.
Prerequisite: 355 or equivalent.

***456L. Playwriting Laboratory. (3) Δ**

Offered to provide playwriting students opportunities to work in response to the staging of their developing playscripts.
Prerequisite: 455 or equivalent.

460. Arts Management Internship. (1-6)

Internship with a major arts organization outside the structure of the university. Minimum of 1 semester UNM residency required after internship before degree will be granted. {Offered upon demand}

***467. Performance Study, (Acting Skills Tutorial). (1-3)¹**

Emphasis on acting skills in the preparation of dramatic materials. Permission of instructor. {Summer, Fall, Spring}

***484. Evaluating the Arts. (3)**

{Also offered as Art Hi, Dance, Music 484.} Explores in a seminar format the practice of criticism, with emphasis on critical processes that penetrate a variety of contemporary arts. Aesthetic theories and cultural outlooks that underpin practical criticism are examined.

Prerequisites: for undergraduates 6 hours of courses in the College of Fine Arts, 3 of which have Fine Arts designation.

***487. Contemporary Issues in the Arts. (3)**

{Also offered as Art Hi, Dance, Music 487.} Explores the range of personal and social issues embedded in artistic choices. Lecture/discussion format. Artistic form, function, and ethical guidelines are examined from economic, psychological, ideological, and gender perspectives.

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 avg. or better in Theatre and Dance courses. {Summer, Fall, Spring}

492. Advanced Scene Design. (3)

Projects emphasizing large multi-set production (Shakespeare, musical, operas, ballets). Preparation of design portfolio. Crew assignment on department production required.

Prerequisite: 393. {Fall}

494. Advanced Costume Design. (3)

Projects involving large cast productions. Preparation of design portfolio.

Prerequisite: 395 or permission of instructor. {Fall}

495. Studies in Theatre. (1-3) Δ

Lecture and studio study on various topics in theatre.

496. Student Production Project. (1-3) †

Advanced production work or creative project in Theatre under the supervision of an individual faculty member. This project may not substitute for any course by the Theatre Program. All projects must be approved by the department

497. Independent Study. (2-3) †

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)

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.

¹ May be taken three times for credit. Instructor and committee on Studies must approve additional repetition of this course.

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}

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}

507. Directing Studio. (3, may be repeated once.) Δ

Advanced methods and techniques for staging dramatic material. May be repeated once.
Prerequisite: 404 or its equivalent.

509. Graduate Internship. (3-6) Δ

Individualized work with Department faculty or professional artists in Theatre or Dance. Internship to be conceived in advance and structured throughout by directed study. Culminates in critical paper. {Summer, Fall, Spring}

510. Internship In Educational Theatre. (3-9)**512. Graduate Seminar. (3) Δ**

Topical seminars in the areas of Dramatic Writing, Directing, and Theatre Education.

529. Advanced Topics In Theatre and Dance. (1-3) Δ**551-552. Problems. (1-3, 1-3)****567. Teaching Practicum. (3)**

Prerequisite: 566. {Spring}

584. Problems in Interdisciplinary Studies. (1-3 hrs each, semester)

(Also offered as Art Hi, Dance, Music 584.) {Fall, Spring}

596. Student Production Project. (1-3) †

{Fall, Spring}

597. Independent Study. (2-3) †

{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 hrs. per semester)

Offered on a CR/NC basis only.

Dance (Dance)**101. Basic Dance Technique. (2) Δ**

Dance techniques for the adult student with no previous formal dance training as a preparation for Ballet I, Modern I, Jazz I, Flamenco I. Course fee required. {Fall, Spring}

105. Dance Appreciation. (3) Δ

A lecture and discussion course introducing the study of dance as technique, spectacle and ritual for today's audience. {Fall}

110. Modern Dance I. (2) 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)

An introduction to Renaissance and Baroque dances. Participants will explore the style, music, costume, and movements of these periods. Useful to the actor, singer, dancer, and choreographer whose repertory deals with the Renaissance and Baroque periods. Course fee required. {Fall}

118. Tap I. (2) Δ

Introduction to the techniques and styles of tap dancing. Course fee required. {Offered upon demand}

132. Jazz I. (2) Δ

Fundamental work for the adult beginner in technique and styles of jazz dance. Course fee required. {Fall, Spring}

149. Ballet I. (2) Δ

Fundamental work for the adult beginner in vocabulary, technique and styles of ballet. Course fee required. {Fall, Spring}

169. Flamenco I. (2) Δ

Fundamental work for the adult beginner in techniques and styles of Flamenco. Course fee required. {Summer, Fall and Spring}

201. Crew Practicum. (0)

Participation in university theatre and dance season through assignment on a production crew. To be completed in one semester. {Offered on a CR/NC basis only.} {Summer, Fall, Spring}

204. Stretching, Strengthening and Conditioning for the Performing Arts. (1) ††

This course provides conditioning and training for dancers, actors, singers, and musicians in order to prepare them for the extreme physical demands of their respective art forms. {Fall, Spring}

208. Studies In Spanish Forms. (1-3) 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) Δ

Modern dance techniques and styles at the intermediate level. Permission of instructor required. Course fee required. {Fall, Spring}

212. Improvisation. (3) 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, Spring}

218. Tap II. (2) Δ

Tap dancing techniques and styles at the intermediate level. Course fee required.
Prerequisite: 118 or permission of instructor. {Offered upon demand}

222. Rhythmic Fundamentals. (3)

An introduction to problems and solutions in rhythm and meter common in teaching dance, in collaborating with composers and accompanists, and in choreographing. Includes some singing, percussion playing, reading and writing of simple scores. {Fall}

231. Writing About the Arts. (3)

A writing workshop focusing on the relevance and applicability of theories in aesthetics and philosophy of art to the viewing and analysis of dances and other works of art. {Fall}

232. Jazz II. (2) Δ

Jazz techniques and styles at the intermediate level. Permission of instructor required. Course fee required. {Fall, Spring}

249. Ballet II. (3) 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. {Fall}

251. Movement Analysis II. (2)

This course will give the student several opportunities to apply the body, space, effort and shape theories learned in Movement Analysis I to the teaching, choreographing and performing of and the writing about dance.
Prerequisite: 250

269. Flamenco II. (3) Δ

Flamenco techniques and styles at the intermediate level. Permission of instructor required. Course fee required. {Summer, Fall, Spring}

308. Studies In Dance Forms. (1-3) [1-2] 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) Δ

Modern dance techniques and styles at the advanced level. Permission of instructor required. Course fee required. {Fall, Spring}.

311. Choreography I. (3) Δ

Selecting dance materials and sound accompaniment for solo composition.
Prerequisite: 212. {Spring}

313. Kinesiology. [Kinesiology I.] (3) ††

Structural analysis of movement. Basic understanding of the skeletal and neuromuscular systems of the human body in movement. {Fall, Spring}

315. Theories of Movement. (3)

History, development and practical applications of major western theories of movement and movement therapy.

318. Tap III. (2) 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}

349. Ballet III. (3) Δ

Ballet techniques and styles at the advanced level. Permission of instructor required. Course fee required. {Fall, Spring}

369. Flamenco III. (3) Δ

Flamenco techniques and styles at the advanced level. Permission of instructor required. Course fee required. {Summer, Fall, Spring}

***411. Choreography II. (3) Δ**

Further exploration in generating and organizing movement material for performance. (For graduate credit, a major piece of 20-30 minutes in duration or several smaller works of equivalent total length will be required.)
Prerequisites: 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.
Prerequisite: 212 and 311.

416. Dance Pedagogy. [Curriculum Development and Methods for Teaching Dance.] (3)

Principles and techniques of curriculum development in the elementary and secondary schools, and in private studios.

***422. Dance Repertory [Dance Repertory II.] (1-3) ††**

Professional training in the learning and performing of a new or restaged choreography through the UNM Dance Companies. Admission by audition only.
Prerequisite: May be repeated 3 times for credit. {Fall, Spring}

***431. Dance Criticism. (3)**

Observation and written analysis of dance events with an emphasis on contemporary theories and performances. (Graduate students will do extra critical readings, one paper a week, and a term paper that reflects a refined understanding of contemporary dance events.)
Prerequisite: 231. {Spring}

***450. Movement Analysis III. (3)**

Special problems in the effort, space harmony, and fundamentals aspects of Laban Movement Theory. (For graduate credit, there will be required a substantial final project, written or choreographic, integrating the course material with the student's individual concerns in movement.)
Prerequisites: 250, 251 or permission of instructor. {Offered upon demand}

***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 additionally required for graduate credit.

***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 research paper will be additionally required for graduate credit.

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.

466. Creative Teaching of Movement and Dance. (3)

Principles and techniques of dance as a developmental tool for use with children, youth, and special populations. Observation of techniques with children as schedules permit. {Offered upon demand}

***484. Evaluating the Arts. (3)**

(Also offered as Music, Art Hi, Thea 484.) Explores in a seminar format the practice of criticism, with emphasis on critical processes that penetrate a variety of contemporary arts. Aesthetic theories and cultural outlooks that underpin practical criticism are 6 hours in the College of Fine Arts, 3 of which are Fine Arts designation.
Prerequisite: for undergraduates, 6 hours of courses in College of Fine Arts, 3 of which have Fine Arts designation.

***487. Contemporary Issues in the Arts. (3)**

(Also offered as Music, Art Hi, Thea 487.) Explores the range of personal and social issues embedded in artistic choices. Lecture/discussion format. Artistic form function and ethical guidelines are examined from economic, psychological, ideological, and gender perspectives.
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) Δ

Permission of instructor. {Offered upon demand}

496. Student Production Project. (1-3) 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. Independent Study. (1-3) 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)

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. (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)

506. Critical Issues in the Performing Arts. (3)

(Spring of odd-numbered years.)

509. Graduate Internship. (3-6) 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)

512. Graduate Seminar. (3) Δ

Topical seminars in the areas of choreography, history, and criticism, and dance education.

516. Dance Pedagogy. [Curriculum Development and Methods for Teaching Dance.] (3)

Principles and techniques of curriculum development in the elementary and secondary schools and in private studios.

529. Advanced Topics in Theatre and Dance. (1-3) Δ

549. Dance Technique for Graduate Student. (1)

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. No credit towards degree. (Fall, Spring)

551-552. Problems (1-3)

564. Dance History III. (3)

Late 20th Century dance theory. This course will explore the changes in dance esthetics from the 1960's to the present. Prerequisite: 462, 463 or permission of instructor.

566. Creative Teaching of Movement and Dance. (3)

Principles and techniques of dance as a developmental tool for use with children, youth and special populations. Observation of techniques with children as schedules permit. Prerequisite: permission of instructor. (Offered upon demand)

584. Problems in Interdisciplinary Studies. (1-3 hours each semester)

(Also offered as Art Hi, Music, Thea 584.) (Fall, Spring)

596. Student Production Project. (1-3) Δ

Independent project culminating in a formal, informal, or video performance. (Summer, Fall, Spring)

597. Independent Study. (1-3) 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. Effective Spring 1990. (Summer, Fall, Spring)

599. Master's Thesis. (1-6 hours per semester)



SCHOOL OF LAW

Leo M. Romero, Dean
The University of New Mexico
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Professors

Judith Anspach, M.L.S., Kent State University, J.D.,
Mississippi College School of Law (Director, Law Library)
Barbara E. Bergman, J.D., Stanford University
Michael B. Browde, J.D., Georgetown University
Sherri L. Burr, J.D., Yale University
Robert J. Desiderio, J.D., Boston College
Charles T. DuMars, J.D., University of Arizona
James W. Ellis, J.D., University of California (Berkeley)
Christian G. Fritz, Ph.D., University of California
(Berkeley), J.D., University of California, Hastings
College of Law
Richard A. Gonzales, J.D., New York University
G. Emlen Hall, J.D., Harvard University
Frederick Hart, LL.M., New York University
Michele S. G. Hermann, LL.M., Harvard University
Sudeen G. Kelly, J.D., Cornell University, (Editor, Natural
Resources Journal)
Ruth L. Kovnat, LL.B., Southern Methodist University
William T. MacPherson, Jr., J.D., University of New Mexico
Alfred D. Mathewson, J.D., Yale University
J. Michael Norwood, J.D., University of New Mexico
Mario E. Occhialino, Jr., J.D., Georgetown University
Theodore Parnall, J.D., University of New Mexico
Leo M. Romero, LL.M., Georgetown University (Dean)
Ann C. Scales, J.D., Harvard University
Sheryl Scheible Wolf, LL.M., Yale University (Associate
Dean)
Robert L. Schwartz, J.D., Harvard University
Antoinette Sedillo Lopez, J.D., University of California (Los
Angeles)
Scott A. Taylor, LL.M., New York University
Peter A. Winograd, LL.M., New York University (Associate
Dean)

Associate Professors

Denise Fort, J.D., Catholic University of America (Director,
Master of Water Resources Administration Program)
Jose L. Martinez, J.D., University of California (Berkeley),
(Director, Clinical Law Program)
Margaret Montoya, J.D., Harvard University
Gloria Valencia-Weber, J.D., Harvard University

Assistant Professors

Jennifer Moore, J.D., Harvard University
Elizabeth Rapaport, Ph.D., Case Western Reserve
University, J.D., Harvard University
Christine Zuni, J.D., University of New Mexico

Research Professor

Paul Nathanson, M.C.L., University of Chicago
(Director, Institute of Public Law & Services)

Professors Emeriti

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
Hugh B. Muir, J.D., University of Michigan
Albert E. Utton, M.A. (Juris), Oxford University

Introduction

The State Bar of New Mexico having previously adopted a resolution to that end and the Legislature having financial

provision, the Regents of the University of New Mexico, on March 31, 1947, as expressly authorized by Laws 1889, Ch. 138, Sec. 15, approved the establishment of a School of Law.

Accreditation

The school is fully accredited; it was approved by the American Bar Association of 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 UNM 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 three full academic years in residence at accredited law schools.
2. Credit-hours. The student must earn a 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. Second-year. *Introduction to Constitutional Law* (Law 501) must be taken in the first semester of the second year.
 - c. Professional responsibility. The student must take and pass a professional responsibility course: *Ethics* (Law 750) or *The Role of the Lawyer in Society* (Law 600).
 - d. Clinic. The student must participate satisfactorily in at least six 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.
 - e. 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 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.
4. First-year students are encouraged to meet with their advisor at the end of the first semester to discuss taking an elective during the second semester of their first year.

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 UNM Juris Doctor degree program, the student's right to continue in that program depends entirely on work done at UNM. Transfer students are ineligible for certain prizes and awards given by the Law School and are not ranked academically.

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 \$135 (\$67.50 paid each semester) for the 1997-98 academic year. An additional duplicating fee will be charged in courses for which a substantial amount of law school printed material is required.
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. 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 \$60 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 twelve or more credit hours are earned, of which at least nine are graded.
 - b. Honor Roll. Grade-point average of 3.00 or higher during a semester in which twelve or more credit-hours are earned, of which at least nine 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 ten percent of each year's graduating class.
5. Other awards and prizes are described in detail in the School of Law Bulletin and Handbook of Policies.

Law (Law)

First Year Courses

500. *Historical Introduction to Law.* (1-2) 1

502. *Contracts I.* (2-4) 1

504. *Criminal Law.* (3-4) 1

- 506. Legal Research and Writing. (1-3)
- 508. Property I. (2-4) ¹
- 510. Torts. (3-4) ¹
- 511. Law. (3-4) ¹
- 512. Civil Procedure I. (2-4) ¹
- 513. Advocacy. (4) ¹
- 519. Legislative and Administrative Processes. (3)

¹ Required.

Second and Third Year Courses

- 501. Introduction to Constitutional Law. (3-4) ¹
- 505. International Law. (2-3)
- 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 & Gift Tax. (1-3)
- 532. Evidence. (3-4)
- 533. Family Law I. (3-4)
- 534. Federal Income Taxation. (4)
- 537. Labor Law. (1-3)
- 538. Natural Resources Journal I. (2)
- 539. Natural Resources Journal II. (2)
- 543. Family Law II. (2-3)
- 544. Oil & Gas. (1-3)
- 545. Estate & Retirement Planning. (2-3)
- 546. Antitrust Law I. (2-3)
- 547. Water Law. (3)
- 549. Comparative Law. (2-3)
- 552. Federal Jurisdiction. (3)
- 553. Products Liability. (1-3)
- 555. Jurisprudence. (2-3)
- 557. Wills and Trusts. (1-4)
- 558. Construction Law. (2-3)
- 559. Social Science Research Methods and the Law. (3)
(Also offered as Soc 559.)
- 560. Natural Resources Journal III-S. (2)
- 563. National Moot Court Competition. (1-3)
- 564. Consumer Law. (1-2)
- 566. Taxation of Business Enterprises. (2-3)
- 567. National Mock Trial Competition. (1-3)
- 568. Natural Resources Journal III. (3)
- 569. Natural Resources Journal IV. (3)
- 570. Introduction to Alternate Methods of Dispute Resolution. (2-3) [2]
(Also offered as Soc 570.)
- 574. Federal Public Lands and Resources Law. (2-3)
- 576. Energy Law. (2-3)
- 577. Natural Resources Journal IV-S (2)
- 580. Environmental Law. (1-3)
- 581. Insurance. (2-3)
- 593. Topics in Law. (1-9) Δ
- 594. Independent Research. (1-3)
- 600. Role of the Lawyer. (3) ¹
(Or Law 750.)
- 605. Water Law Problems. (2)
- 606. Civil Procedure II. (3-4)
- 608. Property II. (3)
- 614. Constitutional Torts. (2-3)
- 619. Mining Law. (3)
- 622. Commercial Transactions Iia-Negotiability. (1-3)
- 623. Commercial Transactions Iie-Sales. (2-3)
- 625. Supreme Court Decision-Making. (2-3)
- 629. Bankruptcy. (1-3)
- 631. Remedies. (3)
- 632. Evidence/Trial Practice. (3-6)
- 635. Land Use Regulation. (2-3)
- 638. New Mexico Law Review I. (1-2)
- 639. New Mexico Law Review II. (2)
- 642. Sports Law. (3)
- 651. Private International Law. (2-3)
- 655. First Amendment Rights. (2-3)

- 662. Mental Disability and Criminal Cases. (1-3)
- 663. Mental Health and Mental Retardation Law. (3-4)
- 665. First Amendment Rights: Church & State. (2-3)
- 668. New Mexico Law Review III. (3)
- 669. New Mexico Law Review IV. (3)
- 671. Advanced Tort Litigation. (2-3)
- 674. Federal Procurement Law. (2)
- 675. New Mexico Law Review III-S. (2)
- 683. Advanced Legal Research. (1-2)
- 686. New Mexico Law Review IV-S. (2)
- 688. Legal Problems of the Elderly. (2-3)
- 691. Intellectual Property Law. (2-3)
- 698. Advanced Real Estate Transactions. (3)

¹ Required.

Seminars

- 583. International Legal Problems. (2)
- 584. Indian Law. (2-3)
- 601. Art Law. (2)

- 647. Employment Discrimination. (1-3)
- 659. Mining Law: Coal Resources. (2)
- 660. Juvenile - Law and Practice. (2-3)
- 667. Immigration Law. (2-3)
- 685. Indian Child Welfare Issues. (2)
- 690. Law and Medical Ethics. (2-3)

Clinical Program

- 714. Law Office Management. (1-3)
- 718. Negotiation. (1-3)
- 721. Law Extern Program. (2-3)
- 723. District Attorney Program. (1-6) (or Law 740.) ¹
- 725. ADR Field Experience. (2-3)
- 740. Law Practice Clinic. (1-6) (or Law 723.) ¹
- 741. Legislative Clinic. (2-3)
- 744. Judicial Extern. (2-3)
- 750. Ethics. (2-3) ¹
(Or Law 600.)

¹ Required.



University of New Mexico Health Sciences Center

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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 UNM'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 healthcare 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 Locurn 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 five 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 MD Degree

The School of Medicine has gained national and international recognition for its constantly evolving curricular innova-

tions 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 new 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

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.

Former state residents who do apply under the Early Decision Plan will be given equal consideration with in-state residents.

Premedical Requirements

The School of Medicine encourages applications from all interested students who meet the above requirements, irrespective of their area of academic study. However, each applicant must meet the following requirements:

- 8 sem hours general biology or zoology including lab
- 8 sem hours general chemistry including lab
- 8 sem hours organic chemistry including lab
- 6 sem hours general physics

A course in biochemistry is strongly recommended, but not required. Other science courses that the student may find helpful in preparing for medical school include genetics, cell physiology, anatomy and physiology and computer science.

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 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, only a very few with outstanding academic records are accepted.

Application Procedure

The University of New Mexico uses the centralized application service of the Association of American Medical Colleges. Beginning in the spring of 1996, applications will be available in the following 3 formats:

- AMCAS-E for Windows
- AMCAS-E for Macintosh
- Traditional paper application

The first two formats are diskette-based software programs permitting applicants to complete their AMCAS materials via personal computer. Applicants are encouraged to use AMCAS-E if they have access to a personal computer.

Application request cards are available in the medical school Admissions Office after May 1. Application packets may be obtained by writing the American Medical College Application Service (AMCAS), Association of American Medical Colleges, Section for Student Services, 2450 N. Street, Suite 201, Washington, DC 20037-1130. Application materials can also be ordered by directing e-mail to AMCAS@AAMC.org with a mailing address. The preferred format (AMCAS-Mac, AMCAS-Win, or AMCAS-Paper) should be entered in the subject line. Applicants having access to the internet can also order from the following web-site: <http://www.aamc.org>.

Application Dates

Regular application earliest date: June 15, latest: November 15. EDP application, earliest date: June 15, latest: August 1.

Clinical Science (Clin S)

- 511. First Year Curriculum. (18)
- 521. Second Year Curriculum. (18)
- 530. First Year Curriculum. (PCC) (18)
- 532. Second Year Curriculum. (PCC) (18)
- 540. Medicine Clerkship. (8)
- 541. Obstetrics-Gynecology Clerkship. (1-8)
- 542. Pediatrics. (1-8)
- 543. T Neuro/Psych. (1-8)
- 544. General Surgery. (8)
- 550. Ambulatory Care. (1-8)
- 555. Seminar on Professional Responsibility. (0)
- 570. Fourth Year Curriculum. (16)

ANESTHESIOLOGY

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The University of New Mexico School of Medicine
Department of Anesthesiology and Critical Care
Medicine
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Professors

Steve Abram, M.D., Jefferson Medical College
Judith A. Fabian, M.D., Tulane University

Associate Professors

Nabil M. K. Ali, M.D., Alexandria University (Egypt)
Kenneth Janis, M.D., New York University (New York City)
James C. Scott, M.D., Stanford University

Assistant Professors

Janet Brierley, M.D., University of Newcastle upon Tyne
Margaret Charsley, M.D., University of New Mexico
Nivine H. Doran, M.D. University of Ottawa Medical School,
Ottawa, Ontario, Canada
Fred Keen, M.D., University of Innsbrook, School of
Medicine
Hugh Martin, M.D., University of Kansas
Joyce Phillips, M.D., University of New Mexico
Bruce Rave, M.D., University of Minnesota
David Small, M.D., University Of Kentucky
Saul Wiesel, M.D., University of Calgary (Canada)
John Wills, M.D., University of Adelaide (South Australia)
Ted Warm, M.D., Case Western University

Instructors

Miguel Aguilera, M.D., Rush Medical College, University of
Chicago
Ruth Burstrom, M.D., Medical College of Wisconsin
Niels Chapman, M.D., Technische Universtate Munich
Christopher Gallager, M.D., University of New Mexico
Cynthia Jensen, M.D., State University of New York at
Buffalo
Elliot Marcus, M.D., St. George's University (Grenada, West
Indies)
Joseph Mihalka, M.D., University of California Los Angeles
School of Medicine
Gordon H. Minton, M.D., Texas Tech. School of Medicine
Timothy O'Brien, M.D., University of California (Irvine
College of Medicine)
Arun Rajagopal, M.D., University of Texas Southwestern
Medical School (Dallas)

BIOCHEMISTRY & MOLECULAR BIOLOGY

Jeffrey Griffith, Chair
The University of New Mexico School of Medicine
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(505) 272-3333

See *Arts and Sciences*; page 126.

Professors

Robert Glew
John Omdahl
Philip Reyes
David VanderJagt

Associate Professors

William Anderson
 Jeffrey Griffith
 Edward Reyes
 Beulah Woodfin

Research Associate Professors

Jun Ru Wu

Research Assistant Professor

Andrzej Pastuszyn
 Dorothy VanderJagt

Professor Emeritus

Robert Lottfield

BIOMEDICAL SCIENCES

The University of New Mexico School of Medicine
 Biomedical Sciences Graduate Program
 Box 520
 Albuquerque, NM 87131-5196
 (505) 272-1887

Biomedical Sciences Graduate Steering Committee

Director: William R. Galay, Jr., Ph.D., Professor of Cell Biology & Physiology
 Marc Buttery, M.D., Ph.D., M.P.H., Assistant Professor, Dept. of Family and Community Medicine
 Lee Anna Cunningham, Ph.D., Assistant Professor, Dept. of Neuroscience
 Jeffrey Griffith, Ph.D., Associate Professor, Dept. of Biochemistry & Molecular Biology
 Paul McGuire, Ph.D., Associate Professor, Dept. of Cell Biology & Physiology
 Carolyn Mold, Ph.D., Professor, Dept. of Molecular Genetics & Microbiology
 L. Donald Partridge, Ph.D., Professor, Dept. of Neuroscience
 David VanderJagt, Ph.D., Professor, Dept. of Biochemistry & Molecular Biology
 Benjimen Walker, Ph.D., Professor, Dept. of Cell Biology & Physiology
 Bridget Wilson, Ph.D., Assistant Professor, Dept. of Pathology

Introduction

February 1 is the deadline for fellowship and admission applications for fall semester. Admission for the spring semester is granted only under very special circumstances. Early applications are strongly encouraged.

The following degrees are offered through the program:

- M.S. in Biomedical Sciences
- Ph.D. in Biomedical Sciences
- M.D./Ph.D. (joint program) in Biomedical Sciences
- M.P.H. Masters in Public Health

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 specialized course work and thesis/dissertation research. The interdepartmental program includes faculty from the five basic sciences departments of the UNM School of Medicine (Biochemistry & Molecular Biology, Cell Biology & Physiology, Molecular Genetics & Microbiology, Neuroscience, and Pathology), clinical departments (Medicine, Neurology, Pediatrics), the main campus of the University of New Mexico (Chemistry, Physics and Biology), as well as selected staff members from Los Alamos National Laboratory. The areas of specialization (Divisions) include:

Molecular Biology, Cellular Biology
 Neuroscience
 Immunology
 Cardiovascular and Systems Biology

The time frame for completion of the degree requirements is usually four to six years for the Ph.D. degree, and one and one-half to three years for the M.S. degree.

Admission Requirements

In order to maintain the quality of the graduate program, the minimum requirements for admission to the program have been established as follows:

1. B.S., B.A. or equivalent from an accredited U.S. institution, or a recognized foreign institution.
2. The following courses are prerequisite to the first-year core courses:
 Biological Science 2 semesters
 Freshman Chemistry 2 semesters
 Organic Chemistry 2 semesters
 Calculus 1 semester
 Physics 2 semesters
3. GPA must be at least 3.00
4. G.R.E. General Exam score must total 1500 or more.
5. Foreign students must take the TOEFL examination and score at least 560.

Ph.D. Program Fellowships

The director, with the advice of the Graduate Steering Committee, awards a number of stipends to highly qualified first-year students. The sum of these fellowships for 1997-1998 is \$13,000 plus a tuition waiver. Students are funded by their dissertation advisor or the advisor's department after the first year.

Additional information concerning the M.S. and Ph.D. programs should be requested from the Director of Biomedical Sciences Graduate Program, Box 520, The University of New Mexico School of Medicine.

The School of Medicine participates in the Minority Biomedical Research Support (MBRS) program which provides educational opportunities in biomedical research for students from under represented minority groups.

The Specialized M.S. Program in Microbiology

The Department of Microbiology of the University of New Mexico School of Medicine offers a specialized graduate program leading to the M.S. degree in Biomedical Sciences. The M.S. degree program is designed to meet the continuing educational needs of microbiologists who are currently or were formerly employed in hospital, government, or research laboratories. This program consists of course work and supervised research leading to a written thesis and is expected to require a maximum of 3 years (full-time) to complete.

For more information on the Specialized M.S. in Microbiology Program, contact the Department of Microbiology, The University of New Mexico School of Medicine, Albuquerque, NM 87131.

Masters in Public Health

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 and the public and private sectors to increase the capacity within the state to respond to public health problems.

The Masters in Public Health (MPH) in Community and Preventive Health is granted through the Biomedical Sciences

MEDICINE

Graduate Program. The Masters in Public Health Program is located in 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.

To complete the degree, students must complete 42 credit hours and a professional paper. Students may do a thesis with approval. Students with advanced doctoral level degrees in a health related field may qualify for completion of at least 32 credit hours. Students may enroll either full-time or part-time and have five years to complete the degree. Specific core content areas include: principles of public health, epidemiology, biostatistics, environmental and occupational health, health services administration, and cultural and social health theory or rural health.

Minimum Requirements for Admission Include:

- B.S., B.A., or equivalent from an accredited U.S. institution or a recognized foreign institution.
- G.P.A. must be at least 3.0.
- Recommended G.R.E. General Exam score total of 1500 or more. MCATS may be substituted.
- Foreign students must take the TOEFL examination and score at least 560.
- Students are required to have two years of experience in the public health field. The experience can be in a health care setting, in community development work, educational programs or other health-related work.

Students are admitted for the Fall Semester only. Applications are due in the Office of Graduate Studies by February 1 of each year.

Students not yet admitted to the program or who would like to take courses may do so as long as they meet any prerequisites.

Associate Professors

Nina Wallerstein, Dr.P.H., Director

Assistant Professors

Marc Bulterys, M.D., Ph.D., Associate Director
Bonnie Duran, Dr.P.H., Practicum Director

Program Coordinator

Carmen Hall

For further information or to request an application packet, write, call or fax:

Masters in Public Health Program
University of New Mexico
Family Practice Building, Room 145
2400 Tucker Ave, NE
Albuquerque, NM 87131-5267
Phone (505) 272-4173
FAX (505) 272-4494

Degree Requirements for the Masters in Public Health:

- Biomed 559 Environmental/Occupational Health (3)
- Biomed 561 Principles of Public Health (3)
- Biomed 565 Epidemiologic Methods I (3)
- Biomed 588 Biostatistical Methods I (3)
- Pub Ad 530 Health Services Administration (3)
- or-
- two of the following courses:
- Biomed 603 Health Care & Public Health Policy (2)
- Biomed 611 Health Care Strategic Management (2)
- Biomed 612 Progr Planning and Proposal Writing (2)

- Biomed 613 Program Evaluation (2)
- Biomed 568 Theory & Practice Public Health (2 - 1 per semester)
- Biomed 568 Theory & Practice Public Health (minimum of 2 credits)

- Choice of one of the following two courses:
- Biomed564 Rural Health (3)
 - Biomed 602 Cultural and Social Health Theory (3)

- Students must also complete:
- Biomed 558 Professional Paper (3)
 - or with permission-
 - Biomed 599 Thesis (6)

Students may also take approved courses throughout departments of the University such as Health Education, Public Administration, Communication and Journalism, Anthropology, Community and Regional Planning, Law, and others to meet the requirements for this degree. Students taking courses in other departments must do so in consultation with their faculty advisor and with approval by the MPH Program Director.

Biomedical Science (Biomed)

***410. Research in Medical Sciences. (1-3)**

Laboratory research in the medical sciences for undergraduate students.

Prerequisite: permission of instructor. (Offered upon demand)

***441. Clinical Laboratory Microbiology. (2)**

Prerequisite: permission of department. May be repeated under different areas of concentration. (Summer, Fall, Spring)

***448L. Biochemical Methods. (3)**

(Also offered as Biochm 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)** Baca, Kogoma, Radloff

(Also offered as Biol 450.) Structure, properties, and chemistry of viruses; virus-host interactions, multiplication, pathogenesis, classification.

Prerequisite: Biol 350L, and either Biochm 423, Biomed 511L, or Biol 429.

553. Biochemistry of Disease I. (3)

(Also offered as Biochm 563.) Five 3-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states. Typical topics include diabetes mellitus, oxygen toxicity, collagen diseases and neurologic diseases.

Prerequisite: 423, or 546L. (Fall)

554. Biochemistry of Disease II. (3)

(Also offered as Biochm 564.) Five 3-week topics, each designed to develop some basic concepts of biochemistry, cell and molecular biology in the context of disease states. Typical topics include cancer, drug toxicity, calcium regulation, and diseases of lipid metabolism.

Prerequisites: 423, or 546L.

Biomedical Sciences Core and Program Courses

501-502. Frontiers of Medical Biology. (1)

These courses provide 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, computer programs, and teaching materials. (Fall, Spring)

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) [1-3]

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}

507. Advanced Cell and Molecular Biology I. [Advanced Cell and Molecular Biology.] (4)

(Also offered as Biol 581.) The course begins with basic principles of nucleic acid structure, progresses through treatments of the major molecular genetic processes, and finally considers control of growth and development.

Prerequisite: Organic chemistry and one semester of undergraduate level cell biology or biochemistry. {Fall}

508. Advanced Cell and Molecular Biology II. [Advanced Cell and Molecular Biology.] (4)

(Also offered as Biol 582.) Course covers advanced topics in modern cell biology, including protein trafficking, organelle biogenesis, signal transduction, cytoskeleton, extracellular matrix and muscle. It also provides an introduction to the immune system and to immunological techniques used in cell and molecular biology. Prerequisite: 507. {Spring}

509. Principles of Neurobiology. (4)

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. Medical Systems Biology II. (4)

Medical Biology II is the second semester of a two semester graduate level course in regulatory and systems biology.

Prerequisite: permission of instructor or Biomed 508. {Spring}

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.

Prerequisites: 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: 511. {Spring}

695. Research in Basic Medical Sciences. (1-6 hrs. per semester, to a maximum of 12)

699. Dissertation. (3-12 hrs. per semester)

Offered on a CR/NC basis only.

Immunology Advanced Courses

620. Immunology & Microbiology Seminar. (1)

Weekly presentations of current topics in Immunology and Microbiology. May be repeated for credit. {Fall, Spring}

621. Immunogenetics. (3)

An introduction to the field of immunogenetics and transplantation. Prerequisites: courses in immunology and genetics or permission of instructor. {Spring, odd years}

622. Inflammation and Host Defense. (2)

This course covers areas of inflammation and host defense with special emphasis on areas of current research. Prerequisites: course in immunology and permission of instructor. {Alternate years.}

624. Molecular Immunology. (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 and Biomed 512. {Alternate years}

625. Advanced Topics in Immunology & Microbiology. (1-3)

Prerequisites: biochemistry, general microbiology or equivalent. {Offered upon demand}

Molecular, Cellular, and Structural Biology Advanced Courses

540. Selected Topics in Developmental Biology. (3)

Prerequisite Biol 412L or 429L or permission of instructor. {Offered on demand}

548. Biochemistry and Molecular & Cellular Biology Seminar. (1) Δ

{Fall, Spring}

549. Structural Biology and Biophysics Seminar. (1) Δ

{Fall and Spring}

590. [543.] Topics in Biochemistry. (1-3)††

Prerequisite: permission of instructor.

640. Advanced Medical Histology. (3-6)

Explores the structural and functional features of the basic tissues and organ systems of the human body.

Prerequisite: course in Cell Biology or permission of instructor.

641. Current Topics in Morphology. (1-3)

This course provides a format to teach current information in the area of morphology. Subject area varies depending on the need for education in a particular area and the faculty member involved.

Prerequisite: 591 or equivalent. {Fall, Spring}

642. Advanced Topics in Cell Biology. (1-3) 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)

Prerequisites: biochemistry, immunology, virology, or equivalent and 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 Mechanisms of Development. (3)

A research oriented advanced course in the molecular biology of oogenesis, embryogenesis, and morphogenesis. Prerequisites: 647, Biol 425, or equivalent.

646. Advanced Topics in Molecular Biology. (1-3) 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 sem-

inar 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)

647. Structure and Function of Eukaryotic Genomes. (3)

Topics to be covered will include the structure and organization of DNA, replication, recombination, transposition, DNA repair, and mutagenesis.

648. Prokaryotic Cells. (4)

Prerequisites: basic microbiology and biochemistry.

649. Advanced Topics in Structural Biology and Biophysics. (1-3) Δ

An advanced graduate level course in which current information in a variety of rapidly advancing areas of structural biology and biophysics 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.

(Summer, Fall, Spring)

Neuroscience Advanced Courses

531. Nervous System Organization, Plasticity and Development. (2)

This course will utilize current literature to explore topics including neural differentiation, pathway formation, and environmental influences on developing neurons. In addition, morphological and biochemical changes in mature cells will be examined in the context of adult neuronal plasticity. Prerequisite: undergraduates must have permission of instructor to register.

532. Neurochemistry. (4)

An introduction to the area, with heavy emphasis on student participation, by reading and evaluating current publications. Prerequisite: permission of instructor.

533. Neurophysiology. (3)

Provides a background and understanding of nervous system function. The course spans the gamut from structure and function of ion channels in cell membranes to the emergent properties of networks of neurons in the brain. Prerequisite: 591 or Biol 429, 430 or permission of instructor. (Fall)

535. Neuroscience Seminar. (1) Δ

Weekly presentation of current topics in clinical neuroscience and in neuroscience basic research.

537. Advanced Topics in Neuroscience. (1-3)

Study Projects in the literature of Neuroscience. Prerequisite: permission of instructor.

Public Health Courses-Core

Pub Ad 530. Health Services Administration. (3)

558. Professional Paper. (1-3 to a maximum of 3) [-3]

The professional paper allows the student to engage in analyzing or solving a real public health problem. (Summer, Fall, Spring)

559. Environmental and Occupational Health. (3)

Applies the public health perspective to environmental and occupational disease. Students will learn to apply the ecological principles of agent, host, and environment to diseases associated with exposures to the physical environment and chemical contaminants.

Prerequisite: 561. (Spring)

560. Special Topics in Public Health. (1-3) Δ

Prerequisite: permission of instructor. (Summer, Fall, Spring)

561. Public Health Principles. (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 interventions.

564. Rural Health Issues (3)

Designed to increase awareness of the complex factors affecting the delivery of rural health services in New Mexico and the U.S.

Prerequisite: Students must be familiar/have experience in health care delivery system/public health. (Fall)

565. Public Health Epidemiology. (3)

Designed to provide students with the capability of understanding epidemiologic measures of disease occurrence, of interpreting the findings of epidemiologic studies, and of integrating the results of epidemiologic research into public health practice.

568. Theory and Practice of Public Health. (1-9) Δ [1-6]

Teaches students the core public health principles of assessment, assurance, and policy.

Restricted to M.P.H. students only. (Fall, Spring)

588. [588-589.] Biostatistical Methods I. [Advanced Biometry for Research.] (3, 3)

Covers basic statistical methods used in the medical sciences. Methods of summarizing data through graphical displays and numeric summaries will be studied.

Prerequisite: Math 121 or equivalent, or permission of instructor.

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only.

602. Cultural and Social Health Theory. (3)

Will critically investigate disparities in health status, particularly among culturally distinct and marginalized groups in the southwest, through the lenses of various cultural and social constructs and theories.

603. 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 initiative like HMOs versus public initiatives like Medicare/Medicaid and Public Health in the U.S.

Public Health Courses-Electives

557. Epidemiology Computer Lab. [Practical Epidemiology Laboratory.] (2) [1]

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.

566. 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: Successful completion of 1) Epidemiologic Methods I course, and 2) a basic Biostatistics course; or consent of instructor. (Spring)

589. [588-589.] Biostatistical Methods II. [Advanced Biometry for Research.]

Covers basic models used in the statistical analysis of studies in the medical sciences. Models include linear regression, analysis of variance, logistic regression and survival models, with emphasis on linear and logistic regression.

Prerequisites: 588.

604. Epidemiology Seminar. (0-1)

Regular attendance at bi-weekly seminars during Fall and Spring is mandatory. Students must attend at least 12 of the 16 seminars. Guest speakers will lecture on various topics in the field of epidemiology. (Fall, Spring)

606. Epidemiology of HIV Infection and AIDS. (2)

Deals with epidemiology of infection with human immunodeficiency virus (HIV). Current knowledge of biology, virology, public health and clinical aspects of AIDS will be reviewed. Particular emphasis on global epidemiology and impact of HIV pandemic. {Offered upon demand}

608. Chronic Disease Epidemiology. (2)

Familiarize student with methods of measuring morbidity and mortality from chronic disease, surveillance of behavioral risk factors for chronic disease, scientific basis and cost-benefit analysis of screening programs, evaluation of prevention efforts, and modeling disease patterns to predict future needs.

609. 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 upon demand}

610. 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. Prerequisites: 565, 588, or permission of instructor.

Public Health Courses-Other Electives

555. Research Methods. (2-3)

Give students an understanding of principles and skills of doing social science research, using qualitative and quantitative approaches in public health settings.

556. Tobacco Control. (2) [3]

Comprehensive background on 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.

562. Health of the People—International Health. (3)

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.

563. Community Organizing For Health. (3)

This class emphasizes community organization as a major educational approach to change community dynamics and to create 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.

567. 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}

569. Introduction to Maternal and Child Health. (3)

This course provides an introduction to the principles and practices of maternal and child health. Students will develop a critical understanding of contemporary MCH issues in the U.S. and New Mexico. Prerequisite: 561 or comparable work or educational experience with permission of instructor.

601. Injury and Violence Prevention. (3)

Considers the causes, consequences and preventive strategies of unintentional and intentional injury within developmental, social, and economic contexts. Examines dilemmas in injury research and prevention. Prerequisite: 561, 565. {Every other year}

605. Role of the Lay Health Worker in Community-Based Health Systems. (2)

Examines practical models for training and utilization of non-

professional, community-based health care promoters, and providers. Emphasis on lessons from developing countries, rural settings, primary health care tasks, health promotion and prevention, and education for health. {Summer}

607. Popular and Empowerment Education. (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}

Regulatory and Systems Biology Advanced Courses

650. Biological Membrane-Structure and Function. (3)

Prerequisites: 591 or Biol 429, 430 or permission of instructor.

653. Advanced Regulatory Biology III. (3)

Endocrine-metabolism. Prerequisites: 591, Biol 430, 431. {Fall, Spring}

654. Advanced Topics in Pharmacology. (1-3)

Provides students with an opportunity to study areas of pharmacology in an in-depth manner with one or more faculty in a tutorial setting. {Fall, Spring}

656L. Laboratory Techniques in Pharmacology. (1-3)

Provides individual students an opportunity to learn specific laboratory techniques in pharmacology research in an in-depth manner with one or more faculty. {Offered on demand}

657. Special Topics in Regulatory & Systems Biology. (1-3)

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.

659. Regulatory & Systems Biology Seminar. (1) Δ

Weekly presentations of current topics in regulatory and systems biology. May be repeated for credit.

Miscellaneous Courses

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: Adv. Molecular Biology Course {Offered upon demand}

571. Anatomy/Pharmacology Seminar. (1)

Weekly presentations of current topics in anatomy and pharmacology research. May be repeated for credit. {Summer, Fall, Spring}

583. Pathology Seminar. (1)

Weekly presentations of current topics in pathology. May be repeated for credit. {Summer, Fall, Spring}

591. Medical Biology I. (1-9)

Medical School Block. Prerequisite: permission of the Dean of the School of Medicine. {Spring}

594. Medical Biology II. (1-18)

Medical School Block. Prerequisites: 591, 592L-593L, and permission of the Dean of the School of Medicine. {Fall}

615. Signal Transduction and Cell Adhesion Seminar. (1)

Weekly presentation of current topics in signal transduction and cell adhesion research.

672. The Cell Nucleus. (3)
 (Also offered as Biol 672.) An advanced graduate-level study of nuclear structure and function on nuclear architecture, import and export of macromolecules and cell cycle division.
 Prerequisite: 507, and 508, or Biol 429, 449. (Spring even years)

701. Post Doctoral Research. (1-6) Δ
 A course in techniques, laboratory methods and administration. Offered on a CR/NC basis only. (Summer, Fall, Spring)

CELL BIOLOGY AND PHYSIOLOGY

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 William Galey Jr., Ph.D., University of Oregon
 Robert Kelley, Ph.D., University of California (Berkeley)
 Stewart Mennin, Ph.D., University of California (Los Angeles)
 Donald Priola, Ph.D., Loyola University
 John Trotter, Ph.D., University of Washington
 Benjamin Walker, Ph.D., State University of New York
 Bob Waterman, Ph.D., University of Washington

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 Paul McGuire, Ph.D., Colorado State University
 Sherry Rogers, Ph.D., University of Michigan

Assistant Professors
 Nancy Kanagy, Ph.D., Michigan State University

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 Alonzo Atencio, Ph.D., University of California
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 Arthur Kaufman, M.D., State University of New York
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 William H. Wiese, M.D., Harvard Medical School

Associate Professors
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 Daniel J. Derksen, M.D., University of Arizona
 Martin P. Kantrowitz, M.D., University of Louisville, (Assistant Dean)
 Melvina A. Mc Cabe, M.D., University of New Mexico
 Robert L. Rhyne, Jr., M.D., University of New Mexico
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 Bonnie Duran, Ph.D., University of California (Berkeley)
 Caryn Mc Harney-Brown, M.D., University of New Mexico
 Martha Cole Mc Grew, M.D., Louisiana State University
 Kerrie Seeger, M.D., Assistant Professor, University of Wisconsin
 Christopher Urbina, M.D., University of Colorado

Research Associate Professor
 Kristine Tollestrup, Ph.D., University of California, (Berkeley)

MEDICAL LABORATORY SCIENCES

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Lecturers
 Cecilia C. Dail, B.S., MT(ASCP), Carson Newman College
 Leslie Danielson, Ph.D., MT(ASCP), University of New Mexico
 Barbara Fricke, M.S., MT(ASCP), Ohio State University
 S. J. Sperry, B.S., MT(ASCP), University of New Mexico
 Bonnie L. Varela, B.S., MT(ASCP), University of Albuquerque

Introduction

Medical laboratory sciences, or medical technology, is the health profession of clinical laboratory medicine encompassing the fields of, clinical chemistry, hematology, microbiology, immunology, urinalysis, and blood banking. With advances in medical research, modern health care has become increasingly dependent on a growing variety of complex laboratory tests and technologies to diagnose and treat disease. The medical technol-

gist 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 sophisticated equipment and techniques. The medical labo-

ratory 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 Science Program

The Medical Laboratory Science Program at UNM 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). 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 2 year MLS Program may be taken as part of a four-year curriculum leading to the Bachelor of Science degree in Medical Laboratory Science from UNM's School of Medicine, OR as part of a degree from another four-year academic institution, OR as a certificate program following a baccalaureate degree. In the degree programs, the student follows a prescribed curriculum which requires 2 years of preprofessional academic study and 2 years in the MLS Program.

The program meets the requirements for Medical Technology education leading to a B.S. in Medical Technology at the following New Mexico colleges or universities: New Mexico Highlands University, Eastern New Mexico University, New Mexico State University, New Mexico Tech, and Western New Mexico University. Students may also be accepted from other universities which agree to give credit for this program toward a B.S. The parent institution awards the degree upon completion of UNM's Program. Students earning a B.S. degree from an academic institution other than UNM, must meet the degree requirements established by that university in addition to the minimum educational requirements specified below for entering UNM's MLS Program. In the certificate program, students need to have their college degree and the minimum educational requirements specified below before entering UNM's MLS Program. Students register through UNM 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 UNM.

Total of 64 semester hours of credit including:

1. Chemistry - approximately 12 hours including one one course in organic or biochemistry.
2. Biological Sciences - approximately 16 semester hours including courses in physiology, microbiology and immunology.
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 are admitted to the program at the beginning of the Fall and Spring semesters. An application must be submitted to the Director of Medical Laboratory Sciences by the **September 15** deadline for January admission or **April 15** deadline for August admission. Application may be made while enrolled in courses needed to complete the prerequisites. Official transcripts of all college course work must be sent directly from each institution. Admission is limited, with selection based on cumulative GPA, science GPA, letters of reference, and a personal interview. A cumulative GPA of 2.5 is recommended. Selection of applicants will be made by the Medical Laboratory Sciences Admissions Committee. All applicants will be notified of their admission status. Selection will be given to qualified persons regardless of their 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 UNM must follow the prescribed curriculum outlined below and should make their intentions known to a medical laboratory science advisor as early in their student career as possible.

Pre-Medical Laboratory Science Curriculum

Biological Sciences: approximately 18 semester hours to include:

- General: Biol 121L + 122 L (8 hrs)
- Cell Biology: Biol 219 (3 hrs)
- Anatomy and Physiology: Biol 237 + 238 (6 hrs - after Jan 99)
- Microbiology: Biol 239L Microbiology for Health Sciences (4 hrs) -or- Biol 350L General Microbiology (4 hrs)
- Immunology: Biol 456 Immuno (3 hrs) -or- Pharm 302 Immuno for Pharmacy (3 hrs) -or- Md Lab 234 Intro Clin Immuno

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: Math 145 Introduction to Statistics (3 hrs) is recommended.

English: Competence in writing English as determined by the English Department or the following 2 Engl courses:

- Engl 101 Composition I: Exposition (3 hrs)
- Engl 102 Composition II: Analysis & Argument (3 hrs)

Interpersonal Communicative Skills: 1 course from the following:

- C & J 221 Interpersonal Communication (3 hrs)
- C & J 225 Small Group Communication (3 hrs)

Management Theory: 1 course from the following on general management theory:

- Mgt 113 Management: An Introduction (3 hrs)
- Mgt 361 Organization Theory (3 hrs)

Liberal Arts Course: at least one three-semester hour non-science or math course that is acceptable towards a bachelor's degree.

Electives*: Sufficient hours to complete the required 64 semester hours. Up to 4 hours of physical education courses are allowed.

- It is recommended that a year of organic chemistry (301, 303L, & 302, 304L), biochemistry (423), microbiology 350L, a year of physics (151, 153L, 152, 154L) and calculus be taken if post baccalaureate degree studies are planned.

Medical Laboratory Science Program Curriculum

The MLS Program begins each Fall and Spring semester. Courses may be taken as a part-time student taking up to 3 years instead of the normal 2 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, Plains Regional Medical Center in Clovis, St. Vincent Hospital in Santa Fe, and the following Albuquerque sites: Lovelace Medical Center, Presbyterian Hospital Center, S.E.D. Medical Laboratory, University Hospital, and New Mexico Regional Federal Medical Center.

300L Orientation Phlebotomy	1
310 Intro Clinical Chemistry	5
311L Intro Clinical Chemistry Lab	2
315 Clinical Immunopathology	2
320 Intro Clin Hematology/ Hemostasis	4
321L Intro Clinical Hematology/ Hemostasis Lab	2
330 Intro Clinical Microbiology	4
331L Intro Clinical Microbiology Lab	2
340L Intro Clinical Immunohematology	3
350L Clinical Urinalysis	2
410L Advanced Clinical Chemistry	2
420L Advanced Clinical Hematology/Hemostasis	3
430 Advanced Clinical Microbiology	4
431L Advanced Clinical Microbiology Lab	2
440L Advanced Clinical Immunohematology	1
445 Clinical Lab Management & Education	2
470 Applied Lab Sciences	3
475 Applied Lab Studies	3
	47

Clinical Rotation Courses:

351 Basic Clinical Chemistry Rotation	3
352 Basic Clin Hematology/Hemostasis Rotation	3
354 Clinical Immunohematology Rotation	3
355 Clinical Urinalysis Rotation	1
451 Advanced Clinical Chemistry Rotation	2
452 Adv Clin Hematology/Hemostasis Rotation	2
453 Clinical Microbiology Rotation	4
499 2 Alternative Experiences @ 1 each =	2
	20

Information Requests

Communications regarding information and applications should be addressed to the Director, Medical Laboratory Sciences, UNM Health Science Center, School of Medicine, the University of New Mexico, Albuquerque, NM 87131-5651.

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 UNMH laboratory are included. Test procedures performed in a medical lab will be covered in three lab sessions. 1 lecture. {Fall}

234. Introduction to Clinical Immunology. (3)

An introduction to the principles of human immune system function with emphasis on developing a general, basic background for those who have no previous experience in immunology or clinical medicine.

Prerequisites: Biol 122L or Biol 123L.

300L. Orientation/Phlebotomy. [Orientation to Medical Technology Professional Training.] (1)

Introduction to the profession, and a review/study of basic lab math, blood collection techniques, safety procedures, pipetting, use of microscope and other basic lab instruments, as appropriate.

Prerequisite: acceptance into MLS Program. {Fall, Spring}

310. Introduction to Clinical Chemistry. [Clinical Chemistry II.] (5) ¹

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. [Clinical Chemistry II Laboratory.] (2)

Laboratory experiences for performing and/or evaluating the basic testing procedures used in a clinical chemistry laboratory. Corequisite: 310.

315L. [415.] Clinical Immunopathology. [Clinical Immunology and Serology II.] (2) [3]

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. [Clinical Hematology and Hemostasis II.] (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.

321L. Clinical Hematology/Hemostasis Lab. [Clinical Hematology/Hemostasis II Laboratory.] (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. (4)

A basic study of some of the most common medically important bacteria, fungi, and parasites with an emphasis on techniques, methods and differential media used to isolate and identify pathogens.

Prerequisites: 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. [Clinical Immunohematology II.] (3) [2]

Study of the basic theory of blood group systems, antibody detection and identification, compatibility testing, and blood collection and component preparation. Laboratory practice of basic procedures performed in a clinical immunohematology lab will be included.

Prerequisite: acceptance into MLS Program.

350L. Clinical Urinalysis. [Clinical Urinalysis II.] (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 immunochemical procedures of routine chemical analytes.
Prerequisite: C or better in 310, and 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.**

354. [454.] Clinical Immunohematology Rotation. [Practical Training in Immunohematology II.] (3)
Supervised instruction in the performance of blood banking procedures in an affiliated laboratory.
Prerequisite: C or better in 340L.

355. [455.] Clinical Urinalysis Rotation. [Practical Training in Urinalysis II.] (1)
Supervised instruction in the performance of urinalysis and special urine test procedures in an affiliated laboratory.
40 hrs. per week.
Prerequisite: C or better in 350L. {Fall, Spring}

410L. [431L.] Advanced Clinical Chemistry. [Advanced Clinical Chemistry II.] (2) [4]
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. [432L.] Advanced Clinical Hematology/Hemostasis. [Advanced Clinical Hematology/Hemostasis II.] (3) [4]
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.

430. Advanced Clinical Microbiology. (4)
A continuation of the study of medically important bacteria, fungi, and parasites 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, and 330L; corequisite: 431L.

431L. Advanced Clinical Microbiology Lab. (2)
Laboratory experiences in the interpretation of cultures of the different areas of the body. An emphasis will be placed on interpretation of direct exams and cultures, differentiating normal flora from pathogens. Critical thinking and problem solving will be emphasized.
Corequisite: 430.

440L. [434L.] Advanced Clinical Immunohematology. [Advanced Clinical Immunohematology II.] (1) [3]
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) [1]
The theory and principles for supervising a clinical laboratory with emphasis on problem solving techniques and current lab managerial methods. Education methods for instruction in the lab or for presentations will also be covered.
Prerequisite: acceptance into MLS Program, or permission of instructor.

451. Advanced Clinical Chemistry Rotation. [Practical Training in Clinical Chemistry II.] (2) [4]
Supervised experience in an affiliated laboratory to include the performance of special analytical procedures for various chemical analytes of blood and other body fluids. The performance of quality assurance and quality control procedures will also be addressed.
Prerequisite: C or better in 351, and a C in 410L.

452. Advanced Hematology & Hemostasis Rotation. [Practical Training in Hematology and Hemostasis II.] (2) [4]
Supervised instruction in an affiliated laboratory to include non-routine, complex hematological and coagulation studies, including evaluation of quality assurance practices and introduction to management of a hematology lab.
Prerequisite: CR in 352 and a C or better in 420L.

453. Clinical Microbiology Rotation. [Practical Training in Microbiology II.] (4)
Supervised instruction in the performance of microbiological procedures in an affiliated laboratory.
Prerequisites: C or better in 440, and 441L.

470. Applied Lab Sciences. (2)
Use of case studies and group discussions for the development of critical thinking and problem solving skills.
Prerequisites: C or better in 310, 320, 330, 340, and 345.

475. Applied Lab Studies. (2)
Use of case studies and group discussions for the development of critical thinking and problem solving skills.
Prerequisites: C or better in 310, 320, 330, 340, and 345.

499. Alternative Experiences. [Pre-Employment Seminar.] (1)
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.**

MEDICINE

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Lecturers II

Cecilia C. Dail, B.S., Carson-Newman College (Tennessee)
 Leslie Danielson, Ph.D., University of New Mexico
 Sarah Jane Sperry, B.S., University of New Mexico
 Bonnie L. Varela, B.S., University of Albuquerque

Lecturers III

Phillip W. Day, D.V.M. (Director, Animal Resource Facility),
 Oklahoma State University
 Barbara Fricke, M.S., (Director, Medical Technology
 Program), Ohio State University

Research Assistant Professors

Kevin K. Caldwell, Ph.D., Washington University
 Sharon L. Lewis, Ph.D., University of New Mexico
 David Vismannath, M.D., University of Western Ontario
 Julie A. Wilder, University of Iowa
 Bridget S. Wilson, Ph.D., University of New Mexico

PEDIATRICS

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Professors

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 Thomas A. Borden, M.D. (Surgery), University of Chicago
 Luis B. Curet, M.D., (Obstetrics and Gynecology),
 University of Puerto Rico
 James C. Drennan, M.D. (Orthopedics)
 Stewart Duban, M.D., University of Chicago
 Marilyn H. Duncan, M.D., University of Washington
 Fred S. Herzon, M.D. (Surgery), University of Illinois
 John D. Johnson, M.D., Stanford University
 William H. Kelly, Pharm.D., (Pharmacy/Pediatrics)
 Shirley J. Murphy, M.D., University of Kansas
 S. Scott Obenshain, M.D. (Assistant Dean), Bowman Gray
 School of Medicine
 Gary D. Overturf, M.D., University of New Mexico
 LuAnn Papile, M.D., The Medical College of Pennsylvania
 Robert Schwartz, J.D.
 Susan M. Scott, M.D., Loyola-Stritch School of Medicine
 Russell D. Snyder, M.D. (Neurology), University of
 Pennsylvania
 Deane, Waldman, M.D., Cardiology
 Jorge A. Wernly, M.D. (Surgery)

Associate Professors

Javier Aceves, M.D., University Autonomous of Guadalajara
 Robert Annett, Ph.D., (Psychology)
 Ruth Atkinson, M.D., (Neurology)
 Claudia K. Berenson, M.D. (Psychiatry)
 Carol L. Clericuzio, M.D., Albany Medical College
 Sally Davis, Ph.D., (School Health)
 Carol C. Gell, M.D., Stanford University
 T. John Gribble, M.D., Stanford University
 Stanley Handmaker, M.D., Ph.D., Albert Einstein School of
 Medicine
 L. Clark Hansbarger, M.D., Medical College of Virginia
 Robert W. Katz, M.D., Wayne State University
 Bennie C. McWilliams, Jr., M.D., University of Texas
 (Galveston)
 Catherine A. Musesmeche, M.D. (Surgery), University of
 Texas Medical School (Houston)
 Pamela J. Nicklaus, M.D. (Surgery)
 Donald C. Pinkerton, M.D., (Oncology)
 Edward L. Rose, M.D., (Gastroenterology)
 Renate Dara Savich, M.D., Northwestern University
 Stanley N. Stark, M.D., University of Colorado
 Victor C. Strasburger, M.D., Harvard Medical School
 Susan L. Williamson, M.D. (Radiology)

Assistant Professors

Steven Adelsheim, M.D.
 Joseph Aguirre, (Ambulatory Pediatrics)
 Theresa Anaya, M.D., (Ambulatory Pediatrics)
 Margaret Armstrong, M.D., (Carrie Tingley Hospital)
 Marc Bulterys, M.D., Ph.D.
 Louis Chicione, M.D.
 Loretta Cordova de Ortega, M.D., (Ambulatory Pediatrics)
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 Washington
 Mark R. Crowley, M.D., University of California (Irvine)
 Richard Diedrich, M.D., (Locum Tenens)
 Jami Frost, M.D.
 Deborah Helitzer-Allen, Sc.D.
 Sheila Hickey, M.D., (Infectious Diseases)
 Gerard Holmes, M.D. (Cardiology)
 Andrew C. Hsi, M.D., University of California (San Diego)
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 Sandra Murdock, M.D., (Pulmonology)
 Robin Ohs, M.D.
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 Renee Ornelas, M.D.
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 Marsha Thompson, M.D.
 Ronald J. Turker, M.D.
 Sandra Whisler, M.D., (Ambulatory Pediatrics)
 Mareth Williams, M.D., (Ambulatory Pediatrics)
 Stuart Winter, M.D., (Oncology)
 Sharon Witemeyer, M.D., (Chronic Diseases)

Other

Jon Aase, M.D., (Genetics/Dysmorphology)
 Annalaise Behnken, M.D.
 Sally, D'Angelo, M.D., (Ambulatory Pediatrics)
 Diego Escobosa, M.D.
 Cheri W. Goldman, M.Ed., (Child Life)
 Toby Hurtado, M.Ed.
 Jo Kelly, M.D.
 Carol Kennon, M.D., (Neonatology)
 Randy Knott, M.D.
 Bobbye Krehbiel, Ph.D., (Neonatology)
 Ginny Laadt, M.A., O.T.R./L., (Neonatology)
 Jean Lowe, Ph.D., (Neonatology)
 Holly Nelson, M.D.
 Richard Radecki, M.D., (Physiatrist/Carrie Tingley)
 Anne Reilly, M.D.
 Jennifer Tender, M.D., (Ambulatory Pediatrics)
 Lynne Uhring, M.D.
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 Michelle Webster, M.D.
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PSYCHIATRY

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 Samuel Keith, M.D., Emory University

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(Director, Albuquerque Family and Child Guidance Center)
Sally K. Severion, M.D., Columbia University
Eberhard H. Uhlenhuth, M.D., Johns Hopkins University
Joel Yager, M.D., Albert Einstein University

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Teresita McCarty, M.D., University of New Mexico
Sanghae Park, M.D., Seoul National University (Korea)
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Albert Vogel, M.D., University of California (Los Angeles)

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Michael Bogenschutz, M.D., Harvard Medical School
Juan Bustillo, M.D., School of Medicine, (Bogotá)
Jose Canive, M.D., Universidad de Madrid
Brenda Erickson, M.D., Emory University
Rodrigo Escalona, M.D., University of Chile
R. Gregory Franchini, M.D., University of New Mexico
Kathryn Fraser, M.D., Dartmouth University
Roberto Gomez, M.D., University of Texas
David Graeber, M.D., University of New Mexico
Lee R. Hammond, III, M.D., University of Texas
Paula Hensley, M.D., Northwestern University
Michael Hollifield, M.D., University of Washington
Daniel Kerlinsky, M.D., Tufts University
Tamara Kodis, M.D., University of Louisville
Janice Landy, M.D., University of Iowa
Carol Larroque, M.D., Temple University
John Lauriello, M.D., Temple University
Nancy K. Morrison, M.D., University of Colorado
David Mullen, M.D., University of Oklahoma
Irene Ortiz, M.D., Michigan State University
Diana Quinn, M.D., University of California
Alison Reeve, M.D., University of Connecticut
Brian Roberts, M.D., University of Colorado
Laura Roberts, M.D., University of Chicago
Helene Silverblatt, M.D., University of Pennsylvania
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RADIATION ONCOLOGY

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Donna Siergie, Ph.D., University of New Mexico

RADIOLOGY

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Associate Professors

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Roland R. Lee, M.D., University of California (Los Angeles)
Robert D. Rosenberg, M.D., Washington University (St. Louis)
Robert J. Telepak, M.D., University of Colorado (Denver)

Assistant Professors

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Loren H. Ketat, M.D., University of Michigan
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Frederick W. Rupp, M.D., Louisiana State University
James J. Sell, M.D., Wright University
H. Joseph Spaeth, M.D., Pennsylvania State University
Lisa M. Sullivan, M.D., University of Nebraska
Philip Wiest, M.D., University of Nevada

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Rebecca J. Hall, Ph.D., RDMS, Columbia Pacific University, Union Institute Graduate School
Deborah L. Owens, M.S., R.T. (N), University of New Mexico

Adjunct Professor

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John H. Juhl, M.D., University of Michigan
Jose F. Garcia, M.D., Medical School of Buenos Aires

SURGERY

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 Catherine E. Musemeche, M.D., The University of Texas Medical School
 Stuart B. Pett, Jr. M.D., University of Utah
 Anthony Y. Smith, M.D., University of Texas (Dallas)

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 Bret R. Baack, M.D., University of New Mexico
 Nevan G. Baldwin, M.D., State University of New York
 Myriam A. Curet, M.D., Harvard Medical School
 Arup Das, M.D., Medical College, University of Calcutta (India)
 James Davis, M.D., Indiana University
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 Cynthia Smith, M.D., University of New Mexico
 R. Thomas Temes, M.D., Johns Hopkins School of Medicine
 Diana Vogt, M.D., George Washington University
 Jon Wagner, M.D., University of Missouri (Kansas City)
 Philip H. Watkins, M.D., University of Kansas
 Mark Wood, M.D., University of Minnesota

Instructor

Simcha Weller, M.D., University of Pennsylvania

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 the one-year certificate to the four-year baccalaureate 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, MS, Interim Director
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 Division of Dental Hygiene, Novitski Hall
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Professor

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 Demetra Logothetis, M.S., University of Missouri (Kansas City)

Assistant Professors

Elizabeth M. Kostas, M.S., University of Missouri (Kansas City)
 Christine N. Nathe, M.S., Old Dominion University

Professors Emeritus

M. Louise du Fault, M.S., Boston University
 Ciara Miera, M.S., University of New Mexico
 Irene O'Connor Navarre, R.D.H., University of Minnesota
 Glenna Taylor, B.S., M.S., University of New Mexico
 Elisa Yudkowsky, Ph.D., DDS, Northwestern University

Introduction

The Division of Dental Hygiene currently offers two programs:

1. A Bachelor of Science in Dental Hygiene degree program which includes one and a half years of preprofessional entrance requirements, and two and a half years of professional curriculum requirements.
2. A Bachelor of Science in Dental Hygiene degree completion program.

NOTE: Although the Division maintains an Associate of Science Degree Program, it is not currently offered.

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. Licenses 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 preprofessional 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 \$2900.00. Additional fees of approximately \$600.00 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 Preprofessional

Freshman

Engl 101	Comp. I: Exposition	3
Biol 121L	Princ of Biology	4
Chem 111L	Elem of Gen Chem	4
Psych 105	Gen Psych I	3
		14

Semester 2 Preprofessional

Engl 102	Comp II: Anlys & Arg	3
Biol 237/247L	Human Anat&Phys I	4
Chem 212	Integ Org Chem+Bioch	4
C & J 221	Interpersonal Comm	3
Elective		3
		17

MEDICINE

Semester 3 Preprofessional

Sophomore		
Soc 101	Intro to Soc	3
Biol 239L	Microbiology	4
Nutr 244	Human Nutrition	3
Math 145	Intro to Statistics	
	-or- Psych 200 Stat Princ	3
Biol 238/248L	Human Anat&Phys II	4
		17

Semester 4 Professional

D Hygn 205	Intro to Dental Hygiene	2
D Hygn 210	Head & Neck Anat	3
D Hygn 211	Dental Anatomy	2
D Hygn 250	Gen/Oral Histo&Embry	2
2 Electives		6
		15

* Only 3 hrs of P E-NP are allowed towards graduation.

Semester 5 Professional

Junior

D Hygn 301	Clinical DH Lec I	3
D Hygn 302	Clinical DH I	2
D Hygn 330	Dental Health Educ I	2
D Hygn 312	Dental Radiology/Lab	3
D Hygn 340	Gen & Oral Pathology	3
D Hygn 335	Dental Off Emerg	2
		15

Semester 6 Professional

D Hygn 303	Clinical DH Lec II	2
D Hygn 304	Clinical DH II	3
D Hygn 331	Dental Health Educ II	2
D Hygn 320	Dental BioMatts	2
D Hygn 360	Pharmacology	3
D Hygn 370	Spec Pat Care in DH	2
		14

Summer Semester Professional

D Hygn 440	Extramural Exp.	6
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Semester 7 Professional

Senior

D Hygn 401	Clinical DH Lec III	2
D Hygn 402	Clinical DH III	3
D Hygn 470	Perio I	3
D Hygn 422	Dental Pub Health I	3
D Hygn 400	Current Issues	3
D Hygn 480	Loc Anes&Pain Control	3
		17

Semester 8 Professional

D Hygn 403	Clinical DH Lec IV	2
D Hygn 404	Clinical DH IV	4
D Hygn 475	Perio II	2
D Hygn 442	Principles of Practice	2
D Hygn 410	DH Research	3
D Hygn 423	Dental Pub Health II	1
D Hygn 450	DH Brd Rev	1
		15

Total **130**

Admission Requirements

Bachelor of Science in Dental Hygiene

1. Applications/Academic Credentials
 - a. UNM Application: Students presently enrolled in a degree-seeking status at UNM 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.

- b. 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.
- c. Academic Credentials (submit a copy to the office of Admissions and one to the Division of Dental Hygiene).
 1. Official transcripts from all previous institutions of higher education
 2. Official listing of courses in progress, and those to be taken
2. Admissibility to the University of New Mexico as described in Admissions section in this catalog.
3. Completion of preprofessional 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 UNM 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 UNM Admissions and Division of Dental Hygiene as soon as it becomes available.
4. 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 (UNM and Dental Hygiene) and credentials are due no later than September 15. Admission is for the Spring semester only. Those applicants who are provisionally selected will be notified in December.

Following acceptance into the program, the students must present documentation of a Medical Examination which includes up-to-date immunization records. More information on this subject will be sent to the applicant following acceptance into the program.

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.

Bachelor of Science—Dental Hygiene Degree Completion Program

The Bachelor of Science in Dental Hygiene (BSDH) 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

1. Graduation from an accredited Dental Hygiene Program.

2. Admissibility to the University of New Mexico as described in the Admissions section of this catalog.
3. A 2.50 grade-point average on a 4.0 scale for all previous college training.
4. To be considered for the Program, the following must be submitted to the Office of Admissions.
 - a. Official copies of all college transcripts.
 - b. Official current enrollment information.
 - c. Application for admission to the Division of Dental Hygiene.

Bachelor of Science Degree Completion Requirements

1. 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.
2. Satisfactory completion of a minimum of 128 total semester credit-hours including the above. Thirty of these hours must be completed at UNM, exclusive of extension courses. Fifteen of these hours must be completed after 92 hours have been earned.
3. 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.
4. 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.
5. 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
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 DH Research Method	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.

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. 3 lectures. {Spring}

211. [211L.] Dental Anatomy. [Tooth Morphology.] (2)
A didactic and laboratory course in basic dental anatomy. Included is the study of the permanent and primary dentitions: form and function, and tooth identification.

250. Gen/Oral Hist & Embrey. [Histology.] (2)
Study of cells, tissues, organ systems, and embryology with emphasis on the oral structure.

301. [201.] Clinical Dental Hygiene Lecture I. [Pre-Clinical Dental Hygiene.] (3) [2]
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. [202L.] Clinical Dental Hygiene I. [Pre-Clinical Dental Hygiene Laboratory.] (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. [203.] Clinical Dental Hygiene Lecture II. [Clinical Dental Hygiene I.] (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. [204L.] Clinical Dental Hygiene II. [Clinical Dental Hygiene I.] (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. [212L.] Dental Radiology/Lab. [Oral Radiography.] (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 osse abnormal anatomic landmarks.

320. [320L.] Dental Bio-Materials. [Expanded Functions/Bio-Materials.] (2)
A survey of materials used in dentistry and dental hygiene and dental laboratory procedures.

330. [230.] Dental Health Education I. [Preventive Dentistry 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.

331. [231.] Dental Health Education II. [Preventative Dentistry and Advanced Radiologic Procedures.] (2) [1]
Includes clinical aspects of dietary counseling, clinical utilization of Chemotherapeutic agents, current research in periodontal adjuncts, review/refinement of instrument sharpening. Correlates closely with 303, and 304.

335. [235.] 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. [240.] General and Oral Pathology. [Community Experience] (3)
Pathology of the head and neck and the major diseases that affect the oral cavity. 2 lectures. {Spring}

360. [260.] Pharmacology. [Pharmacology for Dental Hygienists.] (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.

375. Clinical Periodontics. (2)

400. Current Issues. [Seminar.] (3)
Indepth discussions focusing on current issues facing the dental hygiene discipline.

401. [300.] Clinical Dental Hygiene Lecture III. [Clinical Dental Hygiene II Lecture.] (2)
Advanced clinical concepts and procedures.

402. [301L.] Clinical Dental Hygiene III. [Clinical Dental Hygiene II Lab.] (3)
Students refine DH skills while learning new techniques. Emphasis is placed upon the quality of care the student renders.

403. [302.] Clinical Dental Hygiene Lecture IV. [Clinical Dental Hygiene III.] (2)
This course is designed to emphasize treatment of medically compromised patients. guest speakers representing various dental specialties are also included.

404. [303L.] Clinical Dental Hygiene IV. [Clinical Dental Hygiene III Lab.] (4)
Clinical course which helps the student develop time management skills necessary for private, 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.

410. Dental Hygiene Research Methodology. [Research Methods.] (3)
Developing of research in regard to special areas in dental hygiene with emphasis on writing reports. Prerequisite: 400 or permission of instructor.

422. [322.] Dental Public Health. [Community Dental Health.] (3)
Study of the dental care delivery system in the world today and a global perspective of the science of oral disease prevention.

440. Extramural Experience. [Student Teaching/Field Experience.] (6) [3] Δ
Provides the student with the opportunity to achieve educational and clinical skills and in depth knowledge in various dental care delivery systems.

442. [342.] Principles of Practice. [Ethics, Jurisprudence and Practice Management.] (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. [370.] Periodontology I. [Periodontics.] (3)
Didactically covers basic biological principles and the prevention and treatment of periodontal disease. 3 lectures. {Fall}

480. [380.] Local Anesthesia & Pain Control. [Infiltration and Regional Anesthesia.] (3)
Instruction and clinical practice in the administration of local anesthetic agents and other pain control treatment modalities.

Emergency Medicine

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Cy Stockhoff, M.H.Ed., REMT-I
Paul Thomas, M.S., REMT-P
Kyle Thornton, B.U.S., REMT-P
Martin Vigil, REMT-P

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 UNM branch campuses and other two year colleges. A seamless transition from the two-year programs is intended, with full credits awarded for appropriate courses completed at those programs.

Program Options

The B.S. EMS degree is intended to prepare graduates to meet the professional educational needs of prehospital care providers. All graduates of the BS EMS Degree Program will be educated to the paramedic licensure level. Three major areas of concentration are offered: clinical care, education, and administration. The BS EMS degree may also be earned without declaring a concentration.

The Baccalaureate Degree Program concentration in Clinical Care

This concentration is intended to meet the needs of the pre-hospital care provider who is interested in advanced clinical

training and specialized areas of patient care, e.g., aeromedicine, industrial medicine, 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 with a Major 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 with a Major Concentration in EMS Education and Training

This concentration in Education and Training 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 candidates for admission to the University of New Mexico BS EMS Degree Program must complete the standard UNM application for admission and designate their desired major as EMS. Current UNM students must indicate their interest in the BS EMS program to their academic advisor.

B.S. EMS Degree Curriculum

Core Requirements

First Year - First Semester		Credits
EMS 120	Intro to EMS Systems	3
Math 120	Intro to Algebra, (Math 121*), or above	3
Engl 101	English Composition I, Exposition	3
Psych 105	Intro to Psych	3
100 Level Approved Non-English Language Course		3
		15

First Year - Second Semester		Credits
Bio 123L	General Biology (121L*)	4
Chem 111L	General Chemistry (121L*)	4
Engl 102	Comp II: Analysis & Argument	3
Humanities Elective		3
Approved Elective		3
		17

Second Year - First Semester		Credits
Biol 237	Anat and Phys I	3
Biol 247L	Anat and Phys I Lab	1
Math 145	Intro to Statistics	3
C & J 130L	Public Speaking	3
-or- C & J Elective		3
Approved 100 Level Fine Arts Course		3
Approved Elective		3
EMS Elective		1
		17

Second Year - Second Semester		Credits
Biol 238	Anat and Phys II	3
Biol 248L	Anat and Phys II Lab	1
Anth 101	Intro to Anthropology	3
Engl 219	Technical Writing	3
Concentration Courses		6
		16

* All candidates for promotion to the 300 Level (Paramedic Class) must have obtained EMT-Basic, and Vehicle Rescue and Extrication certifications. Certification, or licensure, as an EMT-Intermediate is strongly recommended for all Paramedic Class Candidates.

Third Year - First Semester		Credits
EMS 301	EMS Pharmacology	1
EMS 302	Shock and Fluid Balance	3
EMS 303	Traumatic Emergencies	4
EMS 304	Respiratory Emergencies	4
EMS 305	Ob/Gyn Emergencies	1
EMS 308L	Paramedic Clinical I	3
		16

Third Year - Second Semester		Credits
EMS 306	Medical Emergencies	7
EMS 307	Pediatric Emergencies	3
EMS 309L	Paramedic Clinical II	3
EMS 401L	Paramedic Clinical Internship	5
		18

Fourth Year - First Semester		Credits
EMS 450	EMS Research & Analysis	3
Upper Level Concentration Courses		9
Elective		3
		15

Fourth Year - Second Semester		Credits
Upper Level Concentration Courses		12
Elective		3
		15
Total		128

* indicates recommendations to those who are pursuing double clinical majors or an EMS minor concentration, e.g., BSN with an EMS minor

Concentrations:

Administration

2nd year requirements:		Credits
Mgt 113	Intro Mgmt	3
CS 150L	Comp for Bus	3
Total		6

4th year requirements:		Credits
Mgt 101	Accounting	3
Mgt 222	Intro Mktg	3
Mgt 301	Computer systems	3
Mgt 361	Org Theory	3
EMS 420	EMS Admin	3
EMS 430	EMS Mgmt Internship	3
Approved Upper Level Elective Course		3
Total		21

Education

2nd year requirements:		Credits
ET SCS 290	Foundations of Education	3
Humanities Elective		3
Total		6

4th year requirements:		Credits
OLIT 421	Prod & Utiliz Instr Mat	3
OLIT 466	Adult Learning	3
OLIT 471	Designing Training	3
OLIT 472	Training Techniques	3
OLIT 473	Measuring Performance	3
EMS 441	EMS Education	1
EMS 442	EMS Training Internship	5
Total		21

Clinical

2nd year requirements:		Credits
Biol 239L	Microbiol/Health Sciences	4
-or- Biol 350L Gen Microbiol		4
Approved EMS Elective		2
Total		6

4th year requirements:

EMS 403	Advanced Assessment	3
	Upper level EMS Clinical Courses	12
	Approved Electives	6
Total		21

B.S. EMS (without declared Concentration)

2nd year requirements:

	Approved General Elective	3
	EMS Elective3	
Total		6

4th year requirements:

EMS 403	Advanced Assessment	3
EMS 420	EMS Admin	3
EMS 441	EMS Training & Ed	1
	Approved EMS Courses	6
	Approved General Electives	8
Total		21

Emergency Medicine (EMS)

101. EMT-Basic. (5)

This is U.S.D.O.T. EMT-B course (120 hours) designed specifically for medical rescue and ambulance personnel who have access to specialized vehicles equipped with specialized items of equipment. The course content trains pre-hospital emergency care providers to recognize and stabilize patients with life-threatening emergencies at the scene and in transport, utilizing the specialized vehicles and specialized items of equipment.

Prerequisite: for EMT-I and paramedic training. Restricted: Instructor approval required.

102. [111.] EMT Refresher. (1)

A required course for Emergency Medical Technicians to maintain State Licensure that reviews current trends and treatment techniques of emergency care.

103. [305L.] EMT - Rescue. [EMT - Rescue Techniques.] (1)

Outdoor lab sessions in vehicle extrication and prehospital patient care.

Prerequisite: 101. Restricted: Instructor approval required.

104. Wilderness First Responder. (3)

This is a non-major's course designed for the outdoor enthusiast, trip leader or others who may be required to provide emergency medical care in a remote setting. No previous medical training is required.

105. Rope Rescue. (2)

This course is designed for the prehospital emergency services professional. The course focuses on rescue and patient care techniques in a vertical or near vertical environment. Restricted; Academy approval required.

120. Introduction to EMS System. (3)

This is the introductory course to EMS Systems. An historical perspective of EMS is presented, as well as a wide variety of management models. The student will be introduced to Federal and State regulations which govern EMS.

151. EMS Journal Club. (1)

This course will review the EMS literature, current and past. Student will be responsible for reading assigned journal articles.

201. EMT-I. (3)

A 54 hour course including didactic and lab sessions on pre-hospital emergency patient care with advanced airway management and intravenous fluid therapy. Based on DOT curriculum.

Prerequisite: 101T. Restricted: Instructor approval required.

202. [301.] EMT-Paramedic Course Anatomy & Physiology. (3)

An independent study program targeting human anatomy and physiology as it relates to advanced prehospital emergency care. Didactic and laboratory sessions. Restricted: Instructor approval required.

301. [303.] Prehospital Pharmacology. [EMT - Paramedic Pharmacology.] (1)

Lecture and lab sessions studying actions of drugs and administration of drug therapy to prehospital emergency patients. Based on DOT curriculum.

Prerequisites: 301L and 302. Restricted: Instructor approval required.

302. EMT - Paramedic: Shock & Fluid Resuscitation. (3)

Lecture and lab sessions studying the pathophysiology, assessment and management of shock in prehospital medicine. Based on DOT curriculum.

Prerequisite: 301L. Restricted: Instructor approval required.

303. [305.] EMT - Paramedic Traumatic Emergencies. (4)

Lecture and lab sessions in advanced level management of prehospital traumatic emergencies. Based on DOT curriculum.

Prerequisite: 304. Restricted: Instructor approval required.

304. EMT - Paramedic Respiratory Emergencies. (4)

Lecture and lab sessions including pathophysiology, assessment and advanced level management of pre-hospital respiratory emergencies. Based on DOT curriculum.

Prerequisite: 303. Restricted: Instructor approval required.

305. [306.] OB/GYN Emergencies and Care. [EMT - Paramedic OB/GYN & Pediatric Emergencies] (1) [3]

Lecture and lab sessions in advanced level management of pre-hospital obstetric, gynecological & pediatric emergencies. Based on DOT and AHA standard curricula.

Prerequisite: 305.

306. [311.] EMT - Paramedic Medical Emergencies. (7)

Lecture and lab sessions including advanced level care of medical emergencies of various etiologies, generally non-cardiac or respiratory. Based on DOT curriculum.

Prerequisites: 301L-308. Restricted: Instructor approval required.

307. [306.] Pediatric Emergencies. [EMT - Paramedic OB/GYN & Pediatric Emergencies] (3)

308L. [301L.] EMT - Paramedic Clinical I. [EMT - Paramedic Clinical Experience.] (3) [1-12]

An independent study course conducted in-hospital arranged to accompany EMS 310.

Prerequisite: successful completion of 301L-310 as assigned. Restricted: Instructor approval required.

309L. [301L.] EMT-Paramedic Clinical II. [EMT - Paramedic Clinical Experience.] (3) [1-12]

310. EMT - Paramedic Comprehensive Studies. (3)

Study of the assimilation of prehospital emergency care via a comprehensive overview in seminar and scenario settings. Successful completion is required for issuance of the EMT-Paramedic course certificate.

Prerequisites: 301L-309. Restricted: Instructor approval required.

320. Wilderness Medicine. (3)

This course is designed for professional rescuers and other outdoor professionals who may need to provide medical care in remote settings.

Prerequisites: currently certified or licensed First Responder, Emergency Medical Technician, or Nurse.

398. EMS Topics. (1-3)

399. EMS Problems. (1-3)

401L. [315L.] EMT - Paramedic Field Internship. (1-12)
An independent study course including experience working with a field preceptor in an ALS pre-hospital service.
Prerequisites: 301L-310 and permission of instructor.

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.

404. Advanced Wound Management. (3)

This course is intended to provide the clinical training necessary to enhance the paramedic's ability to provide care for minor superficial wounds, including minor suturing.
Prerequisite: 306. Restricted; Academy approval required.

405. Advanced 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: 306. Restricted; Academy approval required.

406. Mobile Intensive care Paramedic. (3)

This course covers clinical care during Interfacility transport of a critically ill or injured patient.

407. Aeromedical EMS. (3)

This course will focus 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. Restricted; Academy approval required.

408L. Aeromedical EMS Clinical. (1)

This course is a practical application of the techniques learned in EMS 407. The majority of the course will be spent providing patient care on fixed wing and rotary aircraft. Requirements include a minimum of 32 hours of scheduled time with an approved aeromedical transport service.

409. Industrial Medicine. (3)

This course is designed to meet the needs of the industrial emergency services and safety worker. Topics include OSHA, ergonomics, medical emergencies management, and major incident planning and management.

410. Wilderness Medicine. (3)

This course is designed for professional rescuers and other outdoor professionals involved in responding to medical emergencies in remote settings.

420. EMS Administration. (3)

This course will cover all aspects of the administration of EMS systems. Topics include historical perspectives of EMS, political and regulatory structures, personnel management, fiscal management, and overall management of EMS agencies in both the public and private sectors.

430. EMS Management Internship. (3)

The student will be assigned to an operational unit under the preceptorship of a program instructor.

432. EMS Independent Management Study. (1-4)

The student must submit a proposal to the Faculty Advisor to conduct an independent study on a topic of current interest in the field of EMS.

441. EMS Education & Training Coordination & Evaluation. (1)

This seminar covers the development, design, administration, coordination, presentation and evaluation of EMS training.

442. EMS Education Internship. (1-5)

The student will be assigned to a training institute under the preceptorship of a staff instructor. The student will be required to prepare and conduct various lectures and workshops, and will also be required to complete a special project approved by the faculty.

450. EMS Research & Analysis. (3)

This is a critical exploration of EMS literature in which students are required to read, critically analyze and present proposals, summary arguments for assigned topics. The course also presents the publishing process.

451. EMS Research & Publication. (3)

This course is the follow up course to 450, EMS Research and Analysis. An essay or scientific paper suitable for submission to a professional EMS journal for publication is required.

498. EMS Topics. (1-3)**499. EMS Problems. (1-3)****Health Sciences (H Sci)****378. [DMS 348.] Topics in Diagnostic Imaging I. (1)**
UNM faculty

Students will attend weekly case conferences in MRI, CT and Diagnostic Medical Sonography, Department of Radiology, School of Medicine. Topics include imaging in Obstetrics, Gynecology, Genitourinary, Abdomen, Neurosonography, Doppler and Physics.

380. Human Cross Sectional Anatomy. (2) Hall

Course examines three dimensional relationships of CNS, thorax, abdomen and pelvis. System review utilizes lecture, cadaver lab and homework format.

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. [DMS 399.] Topics in Diagnostic Imaging II. (2)
UNM faculty

Students will attend weekly case conferences in MRT, CT and Diagnostic Medical Sonography, Department of Radiology, School of Medicine. Topics include Obstetrics and Gynecology, Genitourinary, Abdomen, Neurosonography and Doppler.

382. Cross Sectional Medical Imaging. (1) Hall

Correlation of cross sectional anatomy with medical imaging modalities (including CT, MRTI and Sonography).

440. [DMS 440.] Topics in Diagnostic Imaging III. (1)
UNM faculty

Students will attend weekly case conferences in MRI, CT, Nuclear Medicine Imaging and Diagnostic Sonography, Department of Radiology, Genitourinary, Neuro Imaging, Cardiac, and Sports Medicine.

482. Seminars in Medical Imaging. (3) Faculty

Development of individual student project based on research in cross-sectional anatomy and active tutorial participation in H Sci 380 and 382 courses. (Fall)

Occupational Therapy

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Lecturer II

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Introduction

Occupational therapy is a profession which therapeutically uses meaningful activities to increase independent functioning, enhance development, and prevent disability. 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, 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.

The primary mission of the UNM Occupational Therapy Program is to produce 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 undergraduate degree program will provide broad-based, entry-level practice competencies with particular emphasis on rural, multicultural, community-based and interdisciplinary service delivery. Graduates will be prepared to think critically and creatively in a variety of health-related settings, to adapt to changing societal and individual needs, and to assume responsibility for their own professional growth. The undergraduate program (Bachelor of Science with a major in Occupational Therapy) will consist of 2 years of preprofessional preparation (prerequisites), 4 semesters and 1 summer session of professional academic preparation and 6 months of full-time clinical training. Upon successful completion of all requirements, the student is awarded a Bachelor of Science 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). 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.

Plans are under way to convert the current bachelor of science degree to a professional Master's degree. An implementation date for the conversion has not been set at this time.

Admission Requirements

Admission into the Occupational Therapy Program is competitive. Twenty-four students are admitted each year. A good academic record is essential, but it does not guarantee acceptance. APPLICATION DEADLINE IS JANUARY 15 OF EACH YEAR. Students are admitted once a year, with classes beginning summer session.

Students must have achieved an overall (last 50 credit-hours taken) and science grade-point average (GPA) of at least 3.00 on a 4 point scale to be considered for admission. A minimum grade of 2.00 is required in all program prerequisites and courses cannot be taken more than two times.

Five basic areas are considered in the selection process:

1. the student's academic record (Science and Overall GPA)
2. three letters of reference
3. life experiences including volunteer/work experience and community involvement
4. writing ability
5. personal interview

Only the top candidates will be invited to the Occupational Therapy 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 preference, national origin or disability. Only residents of New Mexico and WICHE states (Alaska, Arizona, Hawaii, Idaho, Montana, Nevada, Oregon, Utah and Wyoming) are eligible. If you wish to apply, applications are available from the Occupational Therapy Program Office (Health Sciences and Services Building-Room 215) during fall semester.

Pre-Professional Curriculum

Applicants to the Occupational Therapy Program must complete the equivalent of 65 semester hours of courses in sciences and liberal arts. Prerequisites provide a general foundation in biological and physical sciences, humanities, communication skills, behavioral sciences, and electives.

Sciences	Credits
Gen Biology: Biol 123L	4
Gen Chem: Chem 111L	4 w/lab
Gen Physics: Phys 151 and 153L	4 w/lab
*Human Anatomy & Physiology: Biol 238 and 248L Biol 237 and 247L	8 w/lab
*Statistics: Math 145	3
Psychology: Psych 105; 220; 332	9

* Indicates courses that must have been taken in the past 5 years.

Liberal Arts

English Writing: Engl 102; 219, or 220	6
Public Speaking: C & J 130L	3
Professional Ethics: Phil 245 or 358	3
Humanities: Literature, History, or Philosophy	6
Social Sciences: Economics, Geography, Sociology, Political Science, or Anthropology	6
Fine Arts: Arts, Music, Theater, or Dance	6
Multicultural: A course which addresses modern day knowledge and appreciation of multicultural factors. Courses can be selected from the Ethnic Studies Programs, Departments of American Studies, Psychology, Anthropology, Sociology, or other appropriate departments.	3

Professional Curriculum

The professional curriculum consists of 75-86 semester hours of courses taken over 4 semesters and 1 summer session. In addition, students are required to successfully complete 2 three-month fieldwork experiences. The Occ Th course work involves a full-time load taken in a designated sequence.

First Year-Summer Session (10 weeks)

Occ Th 310 Intro Occupational Therapy 2,3	3
Occ Th 321L Human Anatomy 1	6

Fall Semester

Occ Th 330 Introduction to Research 1	2
Occ Th 341 Survey Med Sci I (Pathology) 1	2

Occ Th 345 Occupation Across the Life Span ³	5
Occ Th 370L Kinesiology/Functional Anatomy ¹	3
Occ Th 375 Applied Kinesiology ²	2

Spring Semester

Occ Th 322 Neuroanatomy ¹	3
Occ Th 340 Assessment Process in Occupational Therapy	3
Occ Th 342 Survey Med Sci II ¹ (Orthopedics)	2
Occ Th 355 Principles of Occupation as Therapy	3
Occ Th 365 Physiology	3

Fall Semester

Occ Th 400 Dynamics of Interactions	2
Occ Th 405 Applied Occupations I ^{2,3}	5
Occ Th 410 Applied Occupations II ^{2,3}	6
Occ Th 441 Survey Med Sci III (Neurology) ¹	2

Spring Semester

Occ Th 420 Applied Occupations III ^{2,3}	5
Occ Th 440 Community Health ³	2
Occ Th 480 Organization and Administration ¹	2
Occ Th 499 Independent Study	2-4
Spc Ed 481 Intro Asst Tech Spc Ed	3
Spc Ed 391 Undergrad Problems	

Summer Session

Occ Th 475 Fieldwork II	3-6
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Semester V

Occ Th 475 Fieldwork II	6-12
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|---|
| <p>1 Physical Therapy/Occupational Therapy Cojoint Courses</p> <p>2 PBL = Problem Based Learning</p> <p>3 FWI = Fieldwork I</p> |
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Additional Information

Fieldwork is an important part of occupational therapy education. Short term fieldwork (FW I) is arranged in coordination with specific courses Occ Th 310, 345, 405 410, 420, 440. Full-time fieldwork (FW II) follows successful completion of academic course work and involves full-time placement in two settings. Each FW II placement is for 3 months (total of 6 months). All required FW II must be completed within 24 months of completion of the academic courses. Students are responsible for tuition, transportation to and from the fieldwork centers and living expenses while on fieldwork. Some fieldwork opportunities will be out of state.

Occupational Therapy (Occ Th)

310. Introduction to Occupational Therapy. (3)
 Basic concepts of the occupational therapy profession. Topics: role of occupation; ethics and professionalism; frames of reference; practice specialties; Occ Th roles and responsibilities; use of activities; and terminology. Clinical reasoning and problem-based learning emphasized. Lab experience.
 Prerequisite: admission to program.

321L. [321.] Human Anatomy. (6)
 (Also offered as Phy Th 321L.) Gross anatomy of the musculoskeletal, nervous, circulatory, respiratory, digestive, and reproductive systems.
 Prerequisite: admission to program.

322. [H Sci 322.] Neuroanatomy. (3)
 (Also offered as Phy Th 322.) Gross and microscopic anatomy of the brain and spinal cord with emphasis on integration of the sensory and motor systems.
 Prerequisite: 321L. (Spring)

330. [H Sci. 330.] Introduction to Research (2)
 (Also offered as Phy Th 330.) This course assists students to understand basic concepts of research (reliability, validity, research designs) to be able to critically critique and utilize Occ Th and Phy Th literature, to gain a sense of the process of scientific format. At the completion of the course students will be prepared to be competent consumers of research.
 Prerequisite: Statistics. (Fall)

340. Assessment Process in Occupational Therapy. (3)
 Course will cover general concepts and principles of assessment process used in occupational therapy. Topics: methods and models of assessment; administration, interpretation and scoring of standardized tests; psychometric qualities of assessment; test development; and methods of documentation. Laboratory experience.

341. [H Sci 341.] Survey of Medical Sciences I. (2)
 (Also offered as Phy Th 341.) Pathology is the study of disease and disease processes. The goal of this course is to provide the student with a clear picture of the pathophysiology and clinical presentation of common disease entities. The emphasis is on disease processes that are most likely to have manifestations requiring physical and occupational therapy intervention. These diseases include; neoplastic, cardiac, pulmonary, musculoskeletal, vascular, renal, infectious, immunological, hematological, and metabolic disorders. Trauma, shock, epidemiology, and specific infectious organism schema such as HIV are also covered. (Fall)

342. [H Sci 342.] Survey of Medical Sciences II. (2)
 (Also offered as Phy Th 342.) Survey of common orthopedic conditions, their medical management and surgical treatment. (Spring)

345. Occupational Across the Life Span. (5)
 Review of development of occupational tasks and roles at specific ages and stages. Role of human development in relation to functional adaptation from infancy to old age. Laboratory experience.
 Prerequisites: 310. (Fall)

355. Principles of Occupation as Therapy. (3)
 Course will examine use of purposeful activity as a therapeutic tool to increase function in self-care, work and play/leisure. Emphasis on activity analysis in selecting, grading and adapting occupations for evaluation and intervention; Uniform Terminology; and occupational performance.
 Prerequisites: 310. (Spring)

365. Physiology for Occupational Therapy. (3) [2]
 Significance of basic physiology in the occupational therapy profession. Topics include a continuum of integrative physiology, directed primarily in the areas of neurophysiology, cardiovascular, respiratory and endocrine physiology.
 Prerequisites: Occ Th 370L. (Spring)

370L. [H Sci 370.] Kinesiology and Functional Anatomy. (3)
 (Also offered as Phy Th 370L.) The introductory section of the course will cover basic principles of biomechanics, arthrology, tissue mechanics, and principles of measurement. The course will then utilize these principles in conjunction with functional anatomy to study human movement by region of the body. A final section will cover posture and normal gait. (Fall)

375. Applied Kinesiology for Occupational Therapy. (2)
 Basic kinesiological and biomechanical concepts will be applied to occupations. Topics include kinesiological analyses of occupations, and the measurement of joint range of motion and manual muscle testing. Problem based learning will be included.
 Pre- or corequisites: 310, 321L, 370L. (Fall)

400. [360.] Dynamics of Interactions. (2)

Dynamics of interpersonal and group interactions in the occupational therapy process will be emphasized in this experiential course. Topics include awareness of self, therapeutic interactions, and principles and concepts of group interactions. **Offered on a CR/NC basis only.** {Fall}

405. [320.] Applied Occupations I. (5)

Bodies of knowledge in psychosocial practice as related to occupational therapy. Learning topics: major frames of reference; effects of specific psychosocial disorders on human performance; clinical skills of observation, interviewing, assessment and intervention, therapeutic use of self and group dynamics. Problem-based learning and clinical experiences included. Senior Occ Th Students. {Fall}

410. [420.] Applied Occupations II. [Applied Occupations III.] (6)

Application of occupational therapy concepts and principles to adult populations with physical dysfunction. Emphasis on theoretical foundations underlining treatment techniques; Occupational Therapy process from referral to discharge; and application of specific intervention approaches. Problem-based learning and clinical experiences included. Senior Occ Th students. {Fall}

420. [410.] Applied Occupations III. [Applied Occupations II.] (5)

Application of occupational therapy process to functional problems which interrupt or delay the sequence and/or rate of normal growth, development and maturation during infancy, childhood and adolescence. Problem-based learning and clinical experiences included. Prerequisites: 310, 345 {Spring}

440. Community Health. (2)

Students will gain practical experience and increased knowledge of community-based and environmental determinants that influence an individual's health and welfare; community health resources; interaction of community services; interdisciplinary processes; and functions of persons working in community agencies. Senior Occ Th students. {Spring} **Offered on a CR/NC basis only.**

441. [H Sci 441.] Survey of Medical Sciences III. (2-3)

(Also offered as Phy Th 441.) This course provides a survey of the medical sciences of neurology through weekly lectures on various topics given by the Department of Neurology staff. Physical Therapy curriculum requires weekly seminar sessions where students present case studies of patients with specific neurological problems and discuss the physical therapy goals and possible treatment techniques for those patients. {Fall}

450. OT Assistive Technology. [Fundamental Assistive Technology for the Occupational Therapist.] (3)

Modules include an introductory awareness to what is available in enabling technology; introduction to the selection and use of simple technology; and selection, development and construction of basic communication aids and light technology devices. {Spring}

475. Fieldwork II. (3-12)

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 throughout the State of New Mexico and surrounding states under contractual agreements. {Summer, Fall, Spring} **Offered on a CR/NC basis only.**

480. [H Sci 480.] Organization and Administration. (2)

(Also offered as Phy Th 480.) The purpose of this course is to assist occupational and physical therapy students to effectively practice in an increasingly complex health care delivery system. The course will provide a basic understanding of organizational systems including program planning and development, management and reimbursement. {Spring} **Offered on a CR/NC basis only.**

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. Senior Occ Th students.

Physical Therapy

Ron Andrews, M.S., P.T. Director
The University of New Mexico School of Medicine
Health Sciences and Service Building
Albuquerque, NM 87131 (505) 272-5755

Lecturers

James Dexter, P.T.
Kathy Dieruf, M.S., P.T., N.C.S.
Zina Geller, M.O.M.T, P.T.
Burke Gurney, M.A., P.T.
Heather Murray, Ph.D., P.T.

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.

Our Program

The program in the Division of Physical Therapy at the University of New Mexico consists of a 28-month curriculum of professional course work and clinical training which leads to a Bachelor of Science degree in Physical Therapy. The program is accredited by the American Physical Therapy Association (APTA).

Plans are under way to convert the current Bachelor of Science Degree to a professional Master's Degree. An implementation date for the conversion has not been set at this time.

Admission Requirements

It is recommended that interested students attend an advisement session in the Division of Physical Therapy in the summer and fall semesters, students may call the Division to sign up for these sessions. Students are admitted once a year, with classes beginning in the summer. The application deadline in January 15th of each year. Applicants should request an application packet during the fall semester preceding the January for which they are applying. Students may apply while still enrolled in course work if all prerequisite courses will be completed before June of that year.

Students may submit an application packet to our program only if they fulfill the prerequisite course work and meet the minimum grade requirements.

Application is made directly to the Division of Physical Therapy. A separate application to UNM is not required at this time. Due to limitations in class size, preference will be given to New Mexico residents and students certified by the Western Interstate Commission for Higher Education (WICHE) Exchange Program. Only residents of Wyoming, Oregon, Nevada, Alaska, and Hawaii are eligible for admission to our program under WICHE.

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 science GPA, 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 origin.

Information about general student services at UNM, including admissions and financial aid, can be obtained by calling 1-800- CALL UNM (255-5866).

For further information concerning this program, contact us at this address or phone number:

UNM School of Medicine
Division of Physical Therapy
Chairperson, Admissions Committee
Albuquerque, NM 87131
(505) 272-5755

Preprofessional Educational Requirements

Applicants to our program must complete the equivalent of 76 semester hours in preprofessional courses in the basic sciences and liberal arts. The required preprofessional courses and their minimum semester hours are listed below. All applicants must complete the Sciences prerequisites, but Liberal Arts course work will be waived for those applicants who already have a baccalaureate degree.

	Credits
Sciences (55 semester hours)¹	
General Biology: Biol 121L, 122L	8 w/lab
General Chemistry: Chem 121L, 122L	8 w/lab
General Physics: Phys 151, 152, 153L; 154L	8 w/lab
Anatomy and Physiology: Biol 237, 238; 247L; 248L	8 w/lab
College Algebra: Math 121 or above	3
Statistics: Math 145	3
Microbiology: Biol 239L	4
Organic/Biochemistry: Chem 212 or 301 & 303L	4
Nutrition: Nutr 244	3
Psychology: Psych 105, or others	6
Liberal Arts (21 semester hours)¹	
English Writing II: Engl 102	3
Plus three of the four following areas:	
1. Humanities: Literature, history, or philosophy	6
2. Social Sciences: Economics, geography, sociology, political science, or anthropology	6
3. Foreign Language (in same language): Foreign, computer, or sign	6
4. Fine Arts (history or appreciation only): Art, music, theater, or dance	6

¹ Course numbers are for UNM. Refer to course descriptions in selecting equivalent courses and for further information on College of Arts and Sciences requirements. It is the student's responsibility to determine if transfer courses are equivalent.

Pass/Fail (CR/NC) options are **not** acceptable for any of the courses listed under Sciences. CLEP credits are only accepted for courses under Liberal Arts and for College Algebra.

Candidates with academic records with an overall or science grade-point average of less than 3.00 on a four-point scale will not be considered. Grades of D or F are not acceptable towards fulfilling prerequisites. Advanced level courses may be credited towards the science GPA if the basic requirements have been fulfilled.

Professional Curriculum

The professional program is six semesters in length and begins with the summer session each year in June. Students take 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.**

	Credits
First Year—Summer Session (10 weeks)	
Phy Th 321L Human Anatomy	6
Phy Th 310 Introduction to Physical Therapy	2
	8
Fall Semester	
Phy Th 301 Therapeutic Exercise I	3
Phy Th 330 Professional Development	2
Phy Th 341 Survey of Medical Sciences I	2
Phy Th 451 Clin Ex Physiology	4
Phy Th 453L Human Physiology Lab	1
Phy Th 370 Kinesiology/Functional Anatomy	3
Phy Th 371 Clinical Education I & Seminar	1
	16
Spring Semester	
Phy Th 302L Therapeutic Exercise II	3
Phy Th 306L Therapeutic Procedures	3
Phy Th 322L Neuroanatomy	3
Phy Th 342 Survey of Medical Sciences II	2
Phy Th 352L Evaluative Procedures I	3
Phy Th 372L Clinical Education II	1
	15
Second Year—Fall Semester	
Phy Th 401L Therapeutic Exercise III	4
Phy Th 441 Survey of Medical Sciences III	3
Phy Th 461L Evaluative Procedures II	3
Phy Th 471L Clinical Education III	3
Phy Th 495 Topics in Physical Therapy	2
	15
Spring Semester	
Phy Th 402L Therapeutic Exercise IV	3
Phy Th 422 Psychology of Disability	2
Phy Th 442 Survey of Medical Sciences IV	2
Phy Th 472L Clinical Education IV	3
Phy Th 480 Administration & Supervision	2
Phy Th 495 Topics in Physical Therapy	2
Phy Th 499 Independent Study (Senior Project)	3
	17
Summer Session (18 weeks)	
Phy Th 475 Clinical Education V	6
Phy Th 499 Independent Study	3
	9

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 senior project, as well as pass a comprehensive examination. All students must also complete an 18-week period of full-time clinical education before the degree may be conferred. Hospital and health care facilities throughout New Mexico and a limited number of facilities outside the state are utilized in the final clinical education experience.

Students in the Physical Therapy Program pay tuition based on full-time undergraduate status at UNM. The total cost of books, supplies and laboratory fees while in the program is approximately \$3,500.00 (includes required personal computer). The additional costs associated with the clinical education experiences, including transportation, room and board (approximately \$800.00/rotation), are borne by the student. Students are required to carry health and professional liability insurance. Both types are available through the university for a reasonable fee.

Physical Therapy (Phy Th)

301L. Therapeutic Exercise I. (3)

This course includes information on basic transfers, gait training and general therapeutic exercise techniques. Basic evaluation techniques such as manual muscle testing and goniometric measurements are also included.

Prerequisite: 321L, 370L. Corequisite: 341.

302L. Therapeutic Exercise II. (3)

This course presents principles of management of patients using orthotic and/or prosthetic devices. Evaluation and treatment of patients with cardiopulmonary diagnosis are also covered.

Prerequisites: 301L, 341, 370.

306L. Therapeutic Procedures. (3)

The study of physiological effects and clinical applications of thermal and cryo agents, electrical currents and hydrotherapy. Electromyography related to neuromuscular function and biofeedback, as well as, principles and techniques of spinal traction are covered.

Prerequisite: 321L, 330, 341, and 370L.

310. Introduction to Physical Therapy. (2)

This course provides the student with an introduction to the profession of physical therapy. Specific topics include: professional ethics, communication skills and the professional organization.

Prerequisite: 321L.

321L. [H Sci 321L.] Human Anatomy. (6)

(Also offered as Occ Th 321L.) Gross anatomy of the musculoskeletal, nervous, circulatory, respiratory, digestive, and reproductive systems.

Prerequisite: admission to program.

322L. [322.] Neuroanatomy. (3)

Also offered as Occ Th 322L.) Gross and microscopic anatomy of the brain and spinal cord with emphasis on integration of the sensory and motor systems.

Prerequisite: 321L.

330. Introduction to Research. (2)

(Also offered as Occ Th 330.)

This course assists students to understand basic concepts of research (reliability, validity, research designs) to be able to critically critique and utilize PT literature, to gain a sense of the process of scientific format. At the completion of the course students will be prepared to be competent consumers of research.

Prerequisites: Statistics and Engl 102.

341. Survey of Medical Sciences for Physical Therapists I. (2)

(Also offered as Occ Th 341.) Basic pathological processes of disease and injury and mechanisms of defense and repair.

Prerequisite: 321L.

342. Survey of Medical Sciences II and Seminar. (3)

(Also offered as Occ Th 342.)

Acquired and congenital orthopedic problems, traumatic injuries, peripheral nerve lesions, burns, and amputations.

Prerequisites: 321L, 341.

352L. Evaluative Procedures I. (3)

This course is intended to teach the student the philosophy and techniques of patient interview and physical assessment. Specialized techniques are utilized to determine the underlying dysfunction of the neuromusculoskeletal system. The data collected in the evaluation is analyzed to determine appropriate selection of treatment regimens. Students are taught screening techniques for other body systems that may create pain that mimics musculoskeletal system origin to assist them in determining when referral to other medical providers is appropriate.

Prerequisites: 321L, 370L. Corequisites: 342, 372.

370L. Kinesiology and Functional Anatomy. (3)

(Also offered as Occ Th 370L.) The introductory section of the course will cover basic principles of biomechanics, arthrology, tissue mechanics, and principles of measurement. The course will then utilize these principles in conjunction with functional anatomy to study human movement by region of the body. A final section will cover posture and normal gait.

Prerequisite: 321L.

371L. Clinical Education I. (1)

Documentation; medical terminology; introduction to related medical disciplines; problem-based unit on pathology.

Prerequisites: 310, 321L. Corequisite: 341.

372L. Clinical Education II. (1)

Supervised treatment of patients in affiliated hospitals and facilities correlated with therapeutic procedures and exercise.

Prerequisite: 371L. Two half-days per week in clinical setting. Offered on a CR/NC basis only.

400. [H Sci 400.] Geriatric Physical Therapy. [Interdisciplinary Course on Aging.] (2)

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 covered.

401L. Therapeutic Exercise III. (4)

This course provides an introduction to neurophysiological approaches to evaluation and treatment of neuromuscular dysfunction in adults. Principles of facilitation and inhibition techniques are included. Specific populations covered include patients following CVA or brain injury.

Prerequisites: 301L, 302L, 322L. Corequisite: 441

402L. Therapeutic Exercise IV. (3)

This course follows Phy Th 401 with principles of evaluation and treatment of specific patient populations. Included in this course are patients with burn injuries, spinal cord injuries and/or scoliosis. The emphasis is on the team concept in comprehensive patient care.

Prerequisites: 322L, 401L, 441.

422. Psychology of Disability. (2)

Psychosocial issues for the health professional and the patient.

Prerequisites: 310, 371L, 372L, 471L. Corequisite: 472L.

441. Survey of Medical Science for Physical Therapists III and Seminar. (2-3) Department of Neurology Faculty,

(Also offered as Occ Th 441.) This course provides a survey of the medical science of neurology through weekly lectures on various topics given by the Department of Neurology staff. Physical therapy students are also required to attend a weekly seminar session where they present case studies of patients with specific neurological problems and discuss the physical therapy goals and possible treatment techniques for those patients.

Prerequisite: 322L. Corequisite: 461L.

442. Survey of Medical Science for Physical Therapists IV. (2)

Medical and/or surgical management of problems related to metabolism, circulatory and cardio-respiratory systems; auto-immune disorders and collagen disease in adults and children.

Prerequisites: 341, 441.

451. Clinical Exercise Physiology. (4)

This course includes principles of exercise physiology as they relate to the various systems of the body. There is an emphasis on application of these principles when designing specialized exercise programs for effective patient care.

Open only to students admitted to physical therapy program. Class meets 4 times a week, 3 lectures and 1 lab.

461L. Evaluative Procedures II. (3)
 Pediatric evaluation and treatment, including normal and abnormal development.
 Prerequisites: 301L, 302L, 322L. Corequisite: 441.

471L. Clinical Education III. (3)
 Supervised treatment of patients in affiliated hospitals and facilities correlated with advanced techniques of treatment. Increasing responsibility for evaluation and treatment planning.
 Prerequisite: 372L. Three half days per week in clinical affiliations. **Offered on a CR/NC basis only.**

472L. Clinical Education IV. (3)
 Supervised treatment of patients in affiliated hospitals and facilities correlated with advanced treatment and evaluation techniques.
 Prerequisite: 471L. Three half-days per week in clinical affiliations. **Offered on a CR/NC basis only.**

475L. Clinical Education V. (6)
 Full-time experience in a variety of clinical settings. Increased responsibility in all aspects of patient care.
 Prerequisite: satisfactory completion of all physical therapy courses. 18 weeks. **Offered on a CR/NC basis only.**

480. Organization and Administration. (2)
 (Also offered as Occ Th 480.) Basic knowledge and understanding of organization and administration principles and practices which impact Occupational Therapy and Physical Therapy practice.
 Prerequisites: 310, 471L; senior standing (Occ Th).

***495. Topics in Physical Therapy. (2-3)**
 Content varies, may be repeated with change of content. Admission by approval of the Physical Therapy program director. (Offered Upon Demand)

499. Individual Study. (1-3 hrs. per semester, to a maximum of 9)
 Supervised program of independent study of selected topics related to Physical Therapy. Course may be taken for a grade or as pass/fail CR/NC with approval of the instructor.
 Prerequisite: 330.

Physicians Assistant Program

Kirsten Thomsen, PA-C, Interim Director
 The University of New Mexico School of Medicine
 Department of Family & Community Medicine
 2400 Tucker NE
 Albuquerque, NM 87131-5241
 (505) 272-2165, e-mail: kzamarin@salud.unm.edu

Benson Daitz, M.D., Medical Director
 Kim Zamarin, Program Coordinator

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
 e-mail: www.aapa.org

For information on financial aid contact:
 The Office of Student Financial Aid
 The University of New Mexico
 Mesa Vista Hall North
 Albuquerque, NM 87131-2081
 (505) 277-2041

To order a catalog of PA Educational Programs:
 (800) 708-7581

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.

A commitment to quality patient care is the foundation of the PA profession. By assuming some of the duties traditionally performed by a physician, the PA enables the supervising physician to spend more time with patients who have serious or more complicated problems.

For over 25 years, PAs have been integral members of the health care team. In New Mexico, PAs have been providing patient care since the early 1970's and have had prescriptive authority since 1989. Responding to the rural health care needs of the state, the legislature in 1994 funded the development of a Physician Assistant Program at the University of New Mexico School of Medicine.

Physician Assistant Program

The Physician Assistant Program is housed in the Dept. of Family & Community Medicine in the School of Medicine, with instruction provided between various departments and faculties of the Health Sciences Center. The professional

curriculum is based on the principle of small group, problem-based learning tutorials. The program is 25 months in length and consists of didactic and clinical instruction. Students can expect to have clinical clerkships in rural, underserved areas of New Mexico. A Bachelor of Science degree and a certificate of completion of physician assistant education will be awarded upon successful completion of the UNM curriculum. This program will be very competitive.

Program Accreditation Status

The Physician Assistant program's provisional accreditation review and site visit was in January 1997 by the Accreditation Review Committee on Education for the Physician Assistant. Upon completion of provisional accreditation, admission of the first class is scheduled to begin in Summer 1997.

Students must graduate from an accredited PA program to sit for the National Commission on Certification of Physician Assistants national board certification examinations.

The PA program's mission is to educate physician assistants to practice primary care in medically underserved, rural areas of New Mexico.

Program Prerequisites

Applicants must have completed 60 semester hours which include the following courses with a minimum GPA of 2.75 on a 4.0 scale before applying to the PA program. The student should ascertain course equivalency from other institutions to the best of their ability before application. All course numbers listed below refer to UNM courses.

* Applicants who have bachelors' and graduate degrees need only complete the following designated core courses.

Science :

(all courses taken preferably within the last 7 years)
 Biology with lab (121L or 123L) 4 credits
 Chemistry with lab (121L & 122L or 131L & 132L) 8 credits
 Human Anatomy and Physiology I with lab (237, 247L) 4 credits
 Human Anatomy and Physiology II with lab (238, 248L) 4 credits
 Psychology (105) 3 credits

Mathematics:

College Algebra (121) 3 credits

Communication Skills:

(all English courses must be taken in the U.S.)
 Engl 102 Comp II: Analys & Arg 3 credits
 Engl 220 Expository Writing 3 credits

Cross Cultural: 3 credits

A course which focuses on a non-Western culture. Non-Western cultures normally include Asian, African, Middle Eastern, Latin American.

Social Sciences: Select one course from either: 3 credits
 Anthropology or Sociology

Humanities: select 2 courses from: 6 credits

Literature
 History
 Philosophy

Multicultural: 6 credits

Select 2 courses which should preferably focus on a culture other than one's own and be chosen from: Anthropology, Ethnic Studies, Fine Arts, History, Literature, Religions, Psychology, Sociology or Women's Studies.

* Applicants must satisfy UNM core curriculum requirements

Highly Recommended:

Basic Computer Skills
 Microbiology with lab
 Nutrition
 Organic Chemistry with lab
 Spanish/Other Regional Languages

Clinical/Community Experience:

We strongly recommend that applicants have worked a minimum of 6 months in either a patient care setting or a significant community care environment, such as Peace Corps or VISTA. Hands on patient care experience is preferred.

Admission to the PA Program will be based on evaluation of those qualities of the applicant which further advance the program's mission. Admission criteria will include academic and personal record, letters of recommendation, and personal interview.

For more information, please contact the PA Program at (505) 272-2165. To request an application for admission, descriptions of the core prerequisite courses or to sign up for scheduled general information sessions held in New Mexico please write or call the program office.

PA Program Professional Curriculum

Summer - 5 weeks

Foundations of Medical Science I
 Clinical Seminar I

Fall - 19 weeks

Foundations of Medical Science II
 Clinical Seminar II
 Introduction to Clinical Medicine I
 Section 001 Foundations/Hematology
 Section 002 Musculoskeletal

Section 003 GI/Nutrition/Metabolism
 Section 004 Renal/Endocrinology

Spring - 18 weeks

Foundations of Medical Science III
 Clinical Seminar III
 Introduction to Clinical Medicine II
 Section 005 Neuroscience/Psychiatry
 Section 006 Cardiovascular/Pulmonary

Summer - 16 weeks

Introduction to Clinical Medicine III
 Section 007 Hospital
 Orientation/Pharmacology
 Clinical Clerkships
 Section 001 Family Medicine
 Section 002 General Internal Medicine

Fall - 15 weeks

Introduction to Clinical Medicine IV
 Section 008 Molecular Genetics
 Section 009 Human
 Sexuality/Reproduction
 Section 010 Infectious Disease
 Section 011 Neoplasia

Spring - 20 weeks

Clinical Clerkships
 Section 003 Elective
 Section 004 Emergency Medicine
 Section 005 Obstetrics/Gynecology
 Section 006 Pediatrics
 Section 007 Psychiatry

Summer - 12 weeks

Clinical Clerkships
 Section 008 Surgery
 Primary Care Preceptorship

Prerequisite Course Hours:	60
Professional Course Hours:	62
Clerkships and Preceptorship Hours:	40
Total Semester Hours:	162

Physicians Assistant Program (PAS)

301. Foundations of Medical Science I. (6)

Designed for first year PA students. Topics include anatomy/radiology, pharmacology, fundamental physical assessment skills, medical history taking techniques, library access skills, practical community experiences. Critical review of medical literature presenting problems in emergency medicine and dermatology.

Prerequisites: Admission to PA Program, Program prerequisites.

302. Foundations of Medical Science II. (1)

This course focuses on practical therapeutics and pharmacology. Specific areas include drug absorption, distribution and excretion, drugs associated with hemopoietic, gastrointestinal, endocrine systems. Drug testing, contemporary drug abuse and chemotherapy topics are also presented.

Prerequisites: Admission to PA Program, Program prerequisites.

303. Foundations of Medical Science III. (1)

This course covers care and evaluation of older adults; theories on aging, normal physiological changes and common disorders. Topics include dementia, delirium and depression in older adults and problems seen in the primary care setting.

Prerequisites: Admission to PA Program, Program prerequisites.

304. Introduction to Clinical Medicine I. (3-7)

This course introduces the foundations of clinical medicine; hematology; the musculoskeletal, GI, renal & endocrine systems; nutrition and metabolism. Tutorial sessions, lectures and labs are incorporated.
Prerequisites: Admission to PA Program, Program prerequisites.

305. Introduction to Clinical Medicine II. (8-9)

An integration of basic neuroscience and psychiatric concepts, identification of normal and disease processes, as well as basic psychiatric treatments; Introduction to the cardiovascular and pulmonary organ systems.
Prerequisites: Admission to PA Program, Program prerequisites.

307. Clinical Seminar I. (0)

This course introduces professional issues including: history of the profession, PA organizations and the PA role in US Health Care. Topics include: communication skills, medical legal concepts of informed consent, ethical decision making, preventive medicine.
Prerequisites: Admission to PA Program, Program prerequisites.

308. Clinical Seminar II. (0)

General topic areas for this course include medical professional issues related to the PA role, emergency medicine, the surgical patient, pediatrics and adolescent medicine.
Prerequisites: Admission to PA Program, Program prerequisites.

309. Clinical Seminar III. (0)

General topic areas for this course include medical professional issues related to the PA role, ophthalmology, ENT, preventive medicine, OB/GYN and critical review of medical literature.
Prerequisites: Admission to PA Program, Program prerequisites.

401. Family Medicine Clerkship. (5)

This course focuses on pediatric, geriatric, adolescent, and adult medical and surgical problems frequently encountered in family practice. Students are required to complete clerkship extramural to the medical center; preferably with rural or underserved populations.
Prerequisites: Admission to PA Program, Approval of Program Director.

402. Primary Care Preceptorship. (6)

This clinical course conducted in a clinical practice focused on primary medical care; provides opportunities for students to function at a high level of responsibility under supervision of assigned clinical preceptor (physicians and certified PA's).
Prerequisites: Admission to PA Program, Approval of Program Director.

406. Introduction to Clinical Medicine III. (3)

Included are general clinical topics of pharmacology, clinical skills development for life and limb threatening emergencies; preparation for the inpatient hospital environment. Suture skills and procedures lab are included.
Prerequisites: Admission to PA Program, Program prerequisites.

407. Introduction to Clinical Medicine IV. (3-5)

Introduction to general human molecular biology and genetics, human sexuality and reproduction, infectious disease, and neoplasia; Biologic, genetic, pathologic, and epidemiological aspects of human cancer.
Prerequisites: Admission to PA Program, Program prerequisites.

Radiologic Sciences

Diagnostic Medical Sonography Certificate Program

Rebecca Hall, Ph.D., Director
The University of New Mexico School of Medicine
Diagnostic Medical Sonography Program
BMSB Box 710/HSSB Rm. 217
Albuquerque, NM 87131-5656
(505) 277-5254

The CAHEA-approved program in DMS provides the student with the knowledge and skills necessary to perform complex diagnostic procedures using high frequency ultrasound. This program prepares students in the following multispecialty areas: general abdomen, obstetrics/gynecology, vascular, and pediatric neurosonology. Enrollment is limited to 8-10 students each year and preference is given to New Mexico residents. The full-time course of study begins Fall Semester and ends after 12 consecutive months of clinical and didactic experience at University Hospital, Presbyterian Hospital, Duke City Vascular Lab, St. Joseph Hospital, and the Veteran's Regional Medical Center.

Upon successful completion of the program, the student is eligible for the National Board Certification examinations given by the American Registry of Diagnostic Medical Sonographers, for the subspecialties areas of physics, obstetrics/gynecology, abdomen, vascular, and neurosonology.

Admission Requirements

1. Applicant must meet UNM entrance requirements.
2. Applicant must have a minimum 2.80 grade-point average in post-secondary course work.
3. Application, three references, and official transcripts must be received by the DMS office by March 31.
4. Applicant must have one of the following: a baccalaureate degree with course work in physics, chemistry, anatomy and physiology and medical ethics (see prerequisite course work for baccalaureate graduates, or National Board Certification in a health science profession (see prerequisite course work for CAAHEP graduates), or completion of all preprofessional curriculum for undergraduates (see below).
5. Applicants will be required to participate in a personal interview with the program selection committee.

Preprofessional Curriculum for Undergraduates Only

	Credits
Basic Sciences (34 semester hours)	
Biology:	
Biol 121L or 123L	4 w/lab
Anat/Phys:	
Biol 237 & 247L 238 & 248L	8 w/lab
College Algebra/Trig:	
Math 121 & 123	5
Physics, Gen:	
Physcs 151	3
Chemistry:	
Chem 121L	4
Nutrition:	
Nutr	3
Microbiol:	
Biol 239L	4
Statistics:	
Math 145 or Psych 200	3
	34



Liberal Arts (24 semester hours)

English:		
Engl 101 & 102		6
Prof Ethics:		
Phil 245 or 255		3
Psychology:		
Psych 105		3
Relationships/Behav:		
Psych 230 or 240		3
Computer Sci:		
C S 150L or 201		3
Sociology:		
Soc 101		3
Research Methods:		
Soc 280		3
		<hr/>
		24

Total Undergraduate Prerequisites 58

Prerequisite Course Work for Baccalaureate Graduates and CAA-HEP Graduates¹ (MTs, RRTs, RTs, and RNs)

Chemistry 121L	
Philosophy 245 or 255 (Prof. Ethics/Moral Issues)	
Physics 151 ²	
Biology 237 & 247L (Anatomy/Physiology) ²	
Biology 238 & 248L (Anatomy/Physiology) ²	

Diagnostic Medical Sonography Curriculum³

Fall Semester

DMS 320	Clinical Sonography I	6
DMS 354	Sono Equip Imag Eval	3
DMS 360	Obstetrics-Gynecology	2
DMS 362	Genitourinary-Gastrointestinal	2
DMS 375	Intro Sono Physics I	3
H Sci 378	Topics in Dx Imag I	1
		<hr/>
H Sci 380	Hum Cross Sect Anat	2
H Sci 382	Cross Sect Med Imag	1
		20

Spring Semester

DMS 365	Clin Sono II	6
DMS 340	GI-GU Pathophysiol	3
DMS 385	Sono Physics II	3
DMS 396	Current Problems I	1
DMS 390	Obstetrics-Gyn Path	4
H Sci 399	Topics in Dx Imag II	2
		<hr/>
		19

Summer Session

H Sci 330	Patient Care Assessment	2
H Sci 381	Med Lang Systems Rev	1
DMS 400	Clin Sono III	6
DMS 412	Sono Admin	1
DMS 415	Neurosonology	1
DMS 420	Current Problems II	2
H Sci 440	Topics DX Imag III	1
		<hr/>
		14

Fall Semester

DMS 450	Clinical Internship	10
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1 Degree from CAHEA program accredited by North Central Assoc. of Colleges and Secondary Schools.
2 May be waived for RT applicants who have equivalent coursework.
3 The following courses may be taken only by students admitted to the DMS program.

Special Fees

Tuition for the diagnostic medical sonography program is that of a full-time UNM student (undergraduate). In addition to tuition, required books and uniforms will cost approximately \$600.00.

Diagnostic Medical Sonography (DMS)

320. Clinical Sonography I. (6) [4] Hall
Practical experience in the performance of ultrasound exams under direct supervision of certified sonographers and staff physicians. Includes competency exams, patient care assessment, oral exams and CPR certification.

340. GI-GU Pathophysiology. (3) Hall
A study of pathological changes occurring per organ system and the relationship of normal versus abnormal US exams as a result of pathology (includes pertinent clinical data, lab data, etiology and US findings of each pathologic entity).

354. Sonographic Equipment and Image Evaluation. (3) [2] Hall
A practical study in the development of evaluation and critique of the hard copy films of US exams. Students learn the essentials of US terms of description, the essentials of equipment calibration, operational standards and laboratory quality control.

360. Obstetrics-Gynecology. [Obstetrics-GYN-GU] (2) [4] Hall
Introduction to anatomy, physiology, pathological processes and anomalies found in reproductive imaging, scanning protocol and differential diagnosis. Designed to supplement the practical applications of OB-GYN clinical experience.

362. Genitourinary-Gastrointestinal. (2)
This course presents anatomy, physiology, and pathophysiology of the genitourinary and gastrointestinal systems. Ultrasound findings associated with the diseases of these systems are discussed as well as other correlative imaging modalities' findings and determination of clinical differential diagnosis.

365. Clinical Sonography II. (6) [4] Hall, Clinical Staff
A continuation of student assigned rotations for clinical practicum at our affiliate facilities.

375. Introductory Sonographic Physics I. (3) Kelsey
A study of the physical properties of ultrasound and the instrumentation utilized in diagnostic sonographic imaging.

385. Physics and Instrumentation II. (3) Kelsey
A continuing study of the interaction of ultrasound and biologic tissue (Bioeffects) and the instrumentation utilized to record that data.

390. Obstetrics-GYN Pathology. (4) Hall
Study of the procedures utilized in ultrasound exams of high risk obstetric patient, and gynecologic patient including Doppler special studies.

396. Current Problems I. (1) Hall
Methods of research and statistical analysis, review of medical literature and specific applications in diagnostic ultrasound.

400. Clinical Ultrasound III. (6) Hall, Clinical staff
Students continue assigned rotational schedule for clinical practicum at our affiliate facilities.

412. Sonographic Administration. (1) Hall
Discussion and evaluation of skills necessary to organize and manage an ultrasound laboratory, including ordering,

data retrieval, patient flow and budgeting; skills necessary in formulating a resume and actively participating in a job interview.

415. Neurosonology. (2) Hall

Anatomy, physiology, pathological processes and anomalies, scanning protocol and differential diagnosis of neurosonology.

420. Current Problems II. (1) Hall

Continuation of 396. Students present case studies for analysis with report of literature review on topic presented.

450. Clinical Internship. (10)

400 hours of comprehensive clinical practicum in diagnostic ultrasound and imaging in a single clinical site. Must have completed 320, 365, and 400.

Nuclear Medicine Imaging Certificate Program

Deborah Owens, Director
 The University of New Mexico School of Medicine
 Nuclear Medicine Imaging Program
 BMSB Box 710/HSSB Rm. 217
 Albuquerque, New Mexico 87131-5656
 (505) 277-5254

The CAHEA-approved 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 late August and ends after twelve consecutive months of clinical and didactic experience at UNM 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 UNM entrance requirements.
2. A minimum grade-point average of 2.80 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 office by March 31, prior to August admission.
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 Preprofessional Curriculum prior to entry into the program.

Preprofessional Curriculum for Undergraduates Only

Basic Sciences (38 semester hours)

Biology:	
Biol 121L or 123L	4 w/lab
Ana/Phys:	
Biol 237 & 247L 238 & 248L	8 w/lab
Algebra/Trig:	
Math 121 & 123	5
Physics, Gen:	
Physcs 151	3

Chemistry:	
Chem 121L	4
Chem 122L	4
Nutrition:	
Nutr	3
Microbiol:	
Biol 239L	4
Statistics:	
Math 145 or Psych 200	3
	<hr/> 38

Liberal Arts (24 semester hours)

English:	
Engl 101 & 102	6
Prof Ethics:	
Phil 245 or 255	3
Gen Psychology:	
Psych 105	3
Relation/Behav:	
Psych 230 or 240	3
Computer Sci:	
C S 150L or 201	3
Sociology:	
Soc 101	3
Research Methods:	
Soc 280	3
	<hr/> 24
Total	62

Prerequisite Course Work for Baccalaureate and CAHEA Graduates¹

Chemistry 121L	
Philosophy 245	
-or- 255 Prof Ethics/Moral Issues	
Physics 151 ²	
Biology 237	
-and- 247L Anatomy/Physiology ²	
Biology 238	
-and- 248L Anatomy/Physiology ²	

- | | |
|---|---|
| 1 | Degree from CAHEA program accredited by North Central Assoc. of Colleges and Secondary Schools. |
| 2 | May be waived for RTs who have equivalent course-work |

Nuclear Medicine Imaging Curriculum*

Fall Semester		
NMDI 320	Clin Nuc Tech I	7
NMDI 354	Clin Radiopharm	2
NMDI 375	Nuc Phys and Instru	3
H Sci 380	Hum Cross Sect Anat	2
H Sci 381	Med Lang Systems Rev	1
H Sci 382	Cross Sect Med Imag	1
		<hr/> 16
Spring Semester		
NMDI 365	Clin Nuc Tech II	9
NMDI 385	Nuclear Instrumentation II	1
NMDI 390	In Vitro Nuc Medicine	2
NMDI 396	Essentials of Nuclear Medicine Imaging I	4
		<hr/> 16
Summer Session		
NMDI 400	Clin Nuc Tech III	5
NMDI 412	Nuc Rad Biology	1
NMDI 415	Essentials of Nuclear Medicine Imaging II	2
		<hr/> 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.

Nuclear Medicine Imaging (N MD I)

320. Clinical Nuclear Technology I. (7) Owens

The student is assigned to a rotational schedule in the division of nuclear medicine at UNM Hospital, Presbyterian Hospital, and Veterans Administration Medical Center. The student will gain experience performing diagnostic examinations with a variety of nuclear instrumentation. {Fall}

354. Clinical Radiopharmacy. (2) Owens

Review of basic chemistry; Principles of radiopharmacy/radiochemistry including radiopharmaceutical preparation dose calculation, quality control, and federal/state regulations. {Fall}

365. Clinical Nuclear Technology II. (9) Owens

A continuation of student rotation through the division of nuclear medicine at UNM Hospital, Presbyterian Hospital, and Veterans Administration Medical Center.
Prerequisite: 320. {Spring}

375. Nuclear Physics and Instrumentation. (3) Owens

Principles of nuclear physics, ionization chambers, G-M tubes, scintillation and solid state detectors, associated electronics, and quality control procedures. {Fall}

385. Nuclear Instrumentation II. (1) Owens

A continuation of 375; principles and theory of tomographic imaging techniques; lab practice in set-up, calibration and quality control of standard nuclear instrumentation; computer processing of data and image manipulation.
Prerequisite: 375. {Spring}

390. In Vitro Nuclear Medicine. (2) Owens

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.

396. Essentials of Nuclear Medicine Imaging I. (4) Owens

Basic anatomy and pathophysiology, methods of localization, radiopharmaceuticals, nuclear instrumentation, and imaging techniques. {Spring}

400. Clinical Nuclear Technology III. (5) Owens

A continuation of student rotation through the division of nuclear medicine at UNM Hospital, Presbyterian Hospital, and Veterans Administration Medical Center.
Prerequisite: 365. {Summer}

412. Nuclear Radiation Biology. (1) Owens

Interaction of alpha, beta, electromagnetic, and high LET particle radiations from nuclear interactions and disintegrations with biologic material.
Prerequisite: 380. {Summer}

415. Essentials of Nuclear Medicine Imaging II. (2) Owens

Continuation of 396.
Prerequisite: 396. {Summer}

Radiography Program

Robert Fosbinder, B.A., R.T. (R), Director
The University of New Mexico School of Medicine
HSSB Room 217 / BMSB Box 710
Albuquerque, New Mexico 87131-5656
Phone: (505) 272-5254, FAX (505) 272-8079

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 judgment 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.

The Program. 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 the Joint Review Committee on Education in Radiological Technology (JRCERT), and 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 & Physiology	4
Biol 248+248L Human Anatomy & Physiology Lab	4
Math 121 College Algebra	3
Engl 101 Composition I	3
Engl 102 Composition II	3
Phil 245 Prof Ethics	3
-or- 255 Contemp Moral Issues	3
C S 150L Comput for Bus Stu	3
Psych 105 General Psychology	3
-or- Soc 101 Intro to Sociology	3
(or approved substitute)	
Total	26

Admission Requirements

Seven to twelve 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, UNM Hospital and New Mexico Regional Federal 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 GPA 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.

Radiography Program

First Year—Fall Semester

Rad 150	Intro to Rad. 1	3
Rad 160	Radiographic Proc I 1	3
Biol 237+247L	Human Anatomy & Physiology	4
Biol 248+248L	Human Anatomy & Physiology Lab	4
Engl 101	Comp I: Exposition 2	3
Psych 105	General Psychology	3
-or- Soc 101	Intro to Sociology 2, 3	3
		<hr/> 20

Spring Semester

Rad 170	Radiographic Proc. II 1	6
Engl 102	Comp II 2	3
Math 121	College Algebra 2	3
C S 150L	Computing for Bus Students 2, 3	3
Phil 245	Prof Ethics	
-or- 255	Contemp Moral Issues 2	3
		<hr/> 18

Summer Session

Rad 175	Clin Rad I 1	5
Rad 190	Princ Rad Imaging II 1	4
H Sci 330	Patient Care	2
H Sci 381	Med Lang System Review	1
		<hr/> 12

Second Year—Fall Semester

Rad 255	Clin Rad. II 1	10
Rad 270	Special Procedures 1	4
		<hr/> 17

Spring Semester

Rad 252	Radiologic Physics 1	3
Rad 265	Clin Rad III 1	10
Rad 292	Radiographic Path/Biol 1	4
		<hr/> 17

Summer Session

Rad 290	Clin Rad. IV 1	8
Rad 299	Comp Rad Reviews 1	2
		<hr/> 10

- | | |
|---|---|
| 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. |
| 3 | Or approved substitute. |

Radiography (RAD)

150. Introduction to Radiography. (3) Fosbinder
Principles of radiographic equipment and exposure factors; Radiation protection; medical and professional ethics; patient care concepts and techniques. {Fall}

160. Radiographic Procedures I. (3) Fosbinder
Radiographic positioning, anatomy, and topographic landmarks. Role-playing of the basic radiographic positions of the appendicular skeleton. {Fall}

170. Radiographic Procedures II. (6) Fosbinder
Continuation of Rad 160. Review of skeletal/radiographic anatomy; radiographic positioning of the structures of the human body; to include the axial skeleton and abdominal organs. {Spring}

175. Clinical Radiography I. (5) [8] Fosbinder
Patient care related activities; practice in the principles of radiographic technique; radiographic positioning under the direct supervision of program staff and faculty. {Summer}

190. Principles of Radiographic Imaging. (4) Fosbinder
Principles and theory of radiographic technique and imaging. Instrumentation; image processing and quality assurance concepts. {Summer}

252. Radiologic Physics. (3) Kelsey
Basic principles of radiation physics; instrumentation of imaging systems; production and characteristics of radiation. {Spring}

255. Clinical Radiography II. (5) [10] Fosbinder
Continuation of Rad 175. {Fall}

265. Clinical Radiography III. (5) [10] Fosbinder
Continuation of Rad 255. {Spring}

270. Special Procedures. (3) [4] Fosbinder
Principles related to special radiographic examinations involving noninvasive procedures and sterile techniques. {Fall}

290. Clinical Radiography IV. (5) [8] Fosbinder
Continuation of Rad 265; Final clinical competency testing {Summer}

292. 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}

299. 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}

MEDICINE



COLLEGE OF NURSING

Sandra L. Ferketich, Ph.D., R.N., FAAN, Dean
The University of New Mexico
College of Nursing
Nursing/Pharmacy Bldg 164
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Professors

Gloria A. Birkholz, J. D., University of New Mexico
Dorothy H. Clough, Ph.D., University of New Mexico
Patricia Higgins, Ph.D., University of New Mexico
Sharon Lewis, Ph.D., FAAN, University of New Mexico
Robin Meize-Grochowski, Ph.D., University of Texas
(Austin)
Barbara L. Rees, Ph.D., University of Arizona
Sally Ruybal, Ph.D., University of Arizona (Tucson)
Dianna Shomaker, Ph.D., FAAN, University of New Mexico
Joann R. Weiss, Ph.D., University of New Mexico

Associate Professors

Leah Albers, Dr.P.H., University of North Carolina (Chapel Hill)
Karen Carlson, Ph.D., University of Texas (Austin)
Joan Johnston, Ph.D., Texas Women's University
Kim Litwack Saleh, Ph.D., FAAN, Kent State University
Laura Martinez, Ph.D., University of New Mexico
Sandra L. Schwanberg, Ph.D., University of New Mexico
Geoff Shuster, D.N.Sc., University of California (San Francisco)

Assistant Professors

Kathryn Ann Caudell, Ph.D., University of Washington
Patsy L. Dufhorne, M. N., University of Washington
Cheryl Learn, Ph.D., University of Colorado
Barbara Overman, Ph.D., University of Colorado
Graham Patrick, Ph.D., University of Washington
Beth Baldwin Tigges, Ph.D., Columbia University
Diane Viens, D.N.Sc., University of San Diego

Lecturers

Joanne Bartram, M.S.N., University of Colorado
Phyllis Bergman, M.S.N., University of Texas (Austin)
Geraldine Bogdan, M.S.N., Boston University
Joan Bradley, M.S.N., University of New Mexico
Judy Brown, M.S., University of New Mexico
Marsha Coberly, M.S.N., University of Texas (El Paso)
Jean Giddens, M.S.N., University of Texas (El Paso)
Julie G. Gorwoda, M.S.N., University of New Mexico
Margaret E. Grady, M.S., Boston University
Margaret Greenberg, M.S.N., University of New Mexico
Helen Hamilton, M.S.N., Boston University
Mary Ann Marsh, M.S.N., Sonoma State University
Katheryn McCash, M.S.N., Catholic University
Carolyn Montoya, M.S.N., Yale University
Nancy Morton, M.S., University of Arizona

Professors Emeriti

Charlotte R. Abbink, Ph.D., University of New Mexico
Sara J. Anderson, M.S.N., Wayne State University
Phoebe Becktell, Ph.D., University of New Mexico
Zella A. Bray, Ph.D., University of New Mexico
Jeannette M. Cochran, Ph.D., University of New Mexico
Virginia Crenshaw, Ed.D., Peabody College
Marion Fleck, Ph.D., University of New Mexico
Ruth Franklin, Ph.D., University of Toledo
Chiyoiko Furukawa, Ph.D., University of New Mexico
Catherine N. Harris, Ph.D., University of New Mexico
Idolia M. Hawkins, D.N.Sc., University of California
(San Francisco)
Carol Johnson, M.S.N., Catholic University
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Donea L. Shane, Ph.D., University of New Mexico
Jacqueline Soloman, M.A., University of New Mexico
Edythe M. Tuchfarber, Ed.D., University of New Mexico

Introduction

The mission of The University of New Mexico College of Nursing is to provide nursing education, research, service and leadership through a focus on the delivery of health care, the analysis of health care, and the design and management of health care delivery systems.

In concert with the larger institution, the College of Nursing is committed to the following values in accomplishing its mission: (1) caring about students, faculty, staff and clients, (2) attracting and maintaining diverse student, faculty, and staff population, (3) supporting development and application of critical thinking in clinical practice, social policy and responsible citizenship, (4) supporting development and application of ethical and aesthetic perspectives in education, clinical practice, social policy and citizenship, and (5) promoting an educational environment which stimulates and enhances integrity and diligence in all endeavors.

The College of Nursing is fully accredited by the National League for Nursing, and is approved by the New Mexico Board of Nursing.

Degree Programs

The College of Nursing offers the BSN degree for two distinct populations: basic students and for individuals who are already registered nurses. The RN-BSN Degree Completion Program is offered on campus and through an instructional television program to communities throughout New Mexico, southern Colorado, and eastern Arizona. This program is built upon strong articulation agreements with New Mexico's associate degree nursing programs.

The graduate program offers the Masters of Science in Nursing degree for majors in Nursing Administration and Community Health, and Advanced Practice in Parent-Child, Adult Health, Psychiatric/Mental Health, and Gerontological Nursing. Two Primary Care concentrations are available: Family Nurse Practitioner and Nurse-Midwifery. A dual graduate program leading to the Masters of Science in Nursing and the MA in Latin American Studies is also available.

Licensure Of Graduates

Graduates of the College of Nursing are eligible to take the National Council Licensure Examination to become licensed to practice as registered nurses.

Admission Requirements

All students seeking acceptance to the College of Nursing must meet requirements for admission to the university.

A detailed statement of admission requirements is in the Undergraduate section of this catalog.

Applicants should submit a College of Nursing Application Form to the Student Advisement Office, College of Nursing,

University of New Mexico, Albuquerque, New Mexico 87131-1061. 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 CON 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. 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. Completed at least 30 required hours including English 102 with a grade of "C" or better and 3 science courses, one of which is at the Sophomore level.
3. Maintained a cumulative grade-point of 2.50 based on all college work.

The College of Nursing reserves the right to request the student to supply any additional information as necessary.

Examinations to Establish Credit. All students may request to establish or validate credit by examination for courses according to the policies stated under the General Academic Regulations section of this catalog.

Lower division credit may be earned through the College Level Examination Program (CLEP). Twenty-seven semester credits may be earned by successfully passing the CLEP general examinations. Additional credits may be earned by passing certain CLEP subject examinations. The following courses are lower division requirements for nursing students which are not available for establishing credit by examination: Nurs 225, 239, and 240. RN students may establish credit by examination in Nurs 224L. With respect to Pharm 276, RN/BSN completion students may elect to take the course or be exempted from the requirement by successfully passing an exemption exam.

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.

In addition, R.N.s enrolling for their first semester who have not taken Engl 102 with a grade of "C" or better will enroll in Engl 102 concurrently with any other courses taken that first semester. Failure to comply will jeopardize further progression in the CON RN-BSN program.

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*.

The degree completion plan for registered nurse students allows for some flexible work in the lower division as well as in the upper division nursing major.

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 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.

BSN/MSN Acceleration Program for Registered Nurse Students

This program allows academically qualified RN/BSN completion students to take substitution courses in the Master's program while completing the BSN. The program is intended for the RN student whose career goals extend beyond the BSN and whose professional experiences and capabilities indicate a potential for success in advanced study. The completion of the acceleration program shortens the BSN/MSN sequence by about one semester, compared to proceeding through both programs serially.

Two strategies form the basis for the acceleration. First, a qualified student will substitute 501 for 446, 503 for 432, and 505 for 431. These are conceptually similar courses, but the 500 level courses are more advanced in content. (See catalog descriptions of courses.) Secondly, students who complete the substitution courses for undergraduate credit with grades of B or better will have these course requirements waived as part of their course of studies for the Master's degree. Graduation from the BSN program occurs upon completion of all requirements with the substitution courses listed above. Graduation for the MSN program occurs upon completion of all requirements for the chosen specialty area. Students apply to the Associate Dean for the Graduate Program 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.

Additional Information

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 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 UNM College of Nursing SNA.

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).

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.

Departmental Honors Program

The purposes of the Departmental Honors Program are: (1) to utilize knowledge in related fields and nursing in the study process, (2) to provide the honors student a full opportunity for vital interdisciplinary small-group discussion and written expression.

Requirements for graduation with Departmental Honors are as follows: (1) an overall grade-point average of 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.

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.

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-BSN and the University Student Financial Aid Office. Students in need of assistance are urged to contact the Associate Dean's Administrative Assistant.

Educational Facilities. Zimmerman Library and the Health Science Center Library are both available to nursing students. The latter houses an extensive collection of books, journals, and other multimedia learning aids appropriate to nursing and health science.

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, Lovelace, Presbyterian, St. Joseph Hospital, Veterans Affairs Medical Center, Bernalillo County Mental Health Center, Maternal-Infant Care Clinics, Indian Health Service stations and centers, the Geriatric Education and Health Maintenance Clinic, and other facilities in outlying areas in New Mexico.

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 Program. 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 Expenses 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 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.

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.

In the case of pregnancy, the student must assume complete responsibility for her own safety and welfare.

Uniforms. 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.

Fees. Students enrolled in nursing laboratory courses will be expected to pay a fee. Fees may also be charged for required educational materials. Laboratory and instructional material fees are subject to change. Fees may be charged for standardized nursing achievement tests. 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.

Academic Regulations

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.

Students must have a cumulative grade-point average of 2.50 or better to be eligible to enroll in upper-division nursing courses.

To be eligible for enrollment in Junior Semester I nursing courses or above, students must be admitted to the College of Nursing, be in good academic standing (2.50 cumulative

grade-point average) and have completed all freshman, sophomore prerequisites and lower division electives. Should the number of students eligible to enroll exceed the class size quota, a priority system based on grade-point average, date of admission to the College of Nursing and student status will be used.

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.

Students must earn a grade of C- (1.67) or better on all required nursing, biology and chemistry courses; and Engl 101, Psych 332, and pharmacology. Students receiving a grade of D or F in any Nursing course on the second attempt are not allowed top progress. Students receiving a grade of D or F in any two 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 eligible for 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.

Requirements for Graduation

The Bachelor of Science in Nursing is granted to basic and registered nurse students on fulfillment of the following requirements:

1. Completion of 136 semester hours of course work of the prescribed curriculum.
2. Completion of at least 67 semester hours of upper division course work. Such courses are numbered 300 or above.
3. Compliance with the minimum residence requirements, as stated in the General Academic Regulations section of this catalog.
4. Maintenance of an overall grade-point average of 2.00 minimum.
5. Unanimous recommendation for the degree by the faculty of the College of Nursing.

Curriculum (Basic Program)

The College of Nursing anticipates making curriculum revisions during the 1997-1999 period. Therefore, the curriculum outlined below is subject to change. Contact the College of Nursing Academic Advisement Office for curricular planning.

First Year

Engl 101	Comp I: Exposition	3
Engl 102	Comp II: Analysis & Arg	3
Soc or Anth	(Any Course)	3
Psych 105	General Psych	3
Chem 111L	Elem of Gen Chem	4
Chem 212	Integ Org Ch & Biochem	4
Phil	(Any Course)	3
Biol 123	Biol for Hlth Rel Sci	4

Math 145	Intro to Statistics	3
-or-	Psych 200 (Statistics)	3
Electives		6
		<hr/> 36

Second Year

Nutr 244	Human Nutrition	3
Biol 237	Human Anat & Phys I	3
Biol 247L	Anat & Phys Lab I	1
Biol 239L	Hlth Sci Micro	4
Nurs 225	Fdn in Health Care	2
Nurs 239	Pathophysiology I	2
Biol 238	Hum Anat & Phys II	3
Biol 248L	Anat & Phys Lab II	1
Psych 332	Abnormal Behavior	3
Nurs 224	App G&D to Hlth Care	3
Pharm 276	Prin of Pharmacol	3
Nurs 240	Pathophysiology II	2
Elective		3
		<hr/> 33

Third Year

Nurs 341	Nurs Process	4
Nurs 342	Care of Aging Client	2
Nurs 343L	Nurs Skills	4
Nurs 344L	Adult Health Nursing I	6
Nurs 346L	Nurs Expanding Family	6
Nurs 347L	Psych-Mntl Hlth Nurs	6
Electives	(Upper division)	6
		<hr/> 34

Fourth Year

Nurs 431L	Issues & Trends	2
Nurs 432	Intro Nurs Research	2
Nurs 433L	Adult Health Nursing II	6
Nurs 434L	Nurs Child & Fam	6
Nurs 443L	Public Health Science	3
-and-	444L Public Health Practice	5
Nurs 446L	Integ Nrsng Concepts	5
Nurs 447	Intro Org Behav	2
Electives	(Upper division)	2
		<hr/> 33

Contact the College of Nursing Academic Advisement Office for curricular planning.

Students who participate in the General 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 Undergraduate Committee.

See UNM *Schedule of Classes* for further information prior to registration.

It is the student's responsibility to meet all departmental requirements.

Graduate Program

Nursing Graduate Committee

The College of Nursing Graduate Committee is composed of nine regular or continuing special appointment graduate teaching faculty (one of these is the Associate Dean for the Graduate Program who serves as chair), two graduate student representatives, and a member from the Office of Graduate Studies as an *ex-officio* member. The committee meets regularly during the academic year.

Graduate Program Administrative Assistant

Loretta Campbell.

Completed Application Deadline

Fall semester: June 15 (February 1 for primary care specialties)

Spring semester: October 15

Summer semester: April 15

The nurse practitioner and nurse-midwifery specialties are available for Fall admission only.

NOTE: Early application is recommended. Clinical courses cannot be taken until the student is accepted into the program, and is licensed as an RN in New Mexico.

Degrees Offered

MSN in Nursing

Concentrations: administration of nursing, community health, advanced practice in parent-child, adult health, gerontological, psychiatric/mental health nursing, and primary care nursing (family nurse practitioner or nurse-midwifery).

NOTE: A minimum enrollment is required for a concentration, option, 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 39 credits (including 6 credits of thesis) in nursing and related subjects. Under Plan II for these students a minimum of 42 credits in nursing and related subjects is required, and must include one of the following: (1) a minimum of a 12 credit minor outside of nursing; (2) a second nursing concentration, including fieldwork; or (3) a combination of nursing and non-nursing supporting courses approved by the student's advisor. Under both plans the student must complete the courses required for the concentration chosen. For primary care students the credits required under Plan II are 50 (FNP) or 49 (nurse-midwifery). Plan I for these students requires an additional 6 credits of thesis. Individual review of records may allow waiver of some of the specialty courses; however, the minimum credit requirement for Plan I (39) or Plan II (42) must be met by all degree seeking candidates. Instructions on the application procedures are available from the College of Nursing.

Applicants to the graduate program in nursing must:

1. Hold a bachelors degree (e.g., BSN) from an accredited college or university, with an upper-division major in nursing. (Graduates from non-accredited programs (N.L.N.) and RNs with a baccalaureate degree in non-nursing fields are considered on an individual basis.)
2. Have a minimum GPA for baccalaureate work of B (3.0) or better.
3. Have taken the GRE aptitude test (verbal and quantitative) within the last five years.
4. Submit three letters of recommendation directly from persons knowing the applicant professionally.
5. Submit a letter stating personal goals for graduate education, and specifying the desired concentration, to the Associate Dean for the Graduate Program in Nursing.
6. Be registered in or eligible for nursing licensure in New Mexico, with New Mexico RN license obtained within the first semester enrolled.
7. Submit a resume identifying clinical practice experience (1-2 years is required).

NOTE: Physical assessment skills are required for clinical nursing courses. A statistics course is required as a prerequisite to the nursing research course (Nurs 503).

Students should expect a minimum of three hours per week per credit for clinical involvement when taking clinical nursing

courses, and approximately twelve hours per week during full time (4 credits for non primary care) Field Work enrollment (Nurs 595). Primary care concentrations require full-time commitment, and their 9 credit field work requires approximately 27 hours per week of clinical.

All students are required to complete a master's examination, normally in the last semester of their program of study. This examination emphasizes the candidates application of coursework to the thesis or comprehensive paper.

Post Masters Professional 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 Program Director or faculty in the specialty area, with approval from the Associate Dean. Course work must be completed within three years and a 3.0 (B) average is required. Any of the majors offered by the College are available, subject to admission criteria and screening for limited enrollment areas.

Dual Degree Program in Nursing and Latin American Studies

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 2 to 3 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.

B.S.N./MSN Acceleration for RNS

This mechanism is designed for the RN student whose academic and professional records suggest a potential for success in graduate study. Students take master's level courses to substitute for conceptually similar but less advanced baccalaureate courses in three areas (Research, Professional Trends, and Nursing Theory). Credit toward the B.S.N. is received for the substitution courses. These graduate courses are then waived as requirements for the MSN. The acceleration option requires about one semester less time than proceeding through both programs sequentially. Substitution courses may be taken by RN students who are in senior standing and have grade point averages of 3.0 (B) or better. Permission of the Associate Dean for the Graduate Program in Nursing is required.

Further information on all graduate programs offered by the College of Nursing can be obtained by writing directly to the Office of the Associate Dean for the Graduate Nursing Program.

As this Catalog goes to press, the faculty are preparing a long range schedule of course offerings. When finalized, this information will be available through the College of Nursing.

NOTE: The faculty reserve the privilege of changing the curriculum if deemed necessary for the progressive development of the program.

Nursing (NURS)

125L. Introduction to Nursing. (1)

Orientation to the nursing profession. Description of professional nursing roles and functions, opportunity to observe working nurses, and an introduction to the nursing process. 2 hrs. lecture and discussion. {Offered upon demand}

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.

224. 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.

Prerequisites: Engl 101, Psych 105. 3 lectures. {Fall, Spring}

225. Foundations in Health Care. (2)

Introduction to concepts relating to the health care delivery system, historical development of nursing, changing roles and functions of health care team members, and the philosophy and conceptual framework of the College of Nursing.

Prerequisites: Engl 102, Soc or Anth, Chem 212, Biol 121L. 2 lectures. {Fall, Spring}

239. Nursing Pathophysiology I. (2)

{Also offered as Pharm 239}. A beginning course in human pathophysiology for pharmacy and nursing students. Space restrictions limit admission to enrolled nursing students or by permission of instructor. Special fee of \$3.00.

Pre- or corequisite: Biol 237 or 239L. 2 lectures. {Fall, Spring}

240. Nursing Pathophysiology II. (2)

{Also offered as Pharm 240.} Continuation of 239.

Prerequisite: 239, Biol 238 and 248L. 2 lectures. {Fall, Spring}

277. Spanish for Professionals. (3)

{See Span 277.}

297. Independent Study. (1-3)

Prerequisite: permission of instructor. {Fall, Spring}

305-306. Problems in Nursing: Selected Topics. (3, 3)

Focus on study of the theoretical bases of selected problems in nursing. {Fall, Spring}

307. Problems in Nursing: Selected Topics. (2, 3)

Focus on study of the theoretical bases of selected problems in nursing. {Fall, Spring}

310. Problems in Nursing: Selected Topics. (2, 2)

Focus on study of the theoretical bases of selected problems in nursing.

341. Nursing Process. (2)

Theoretical study of the nursing process as a problem-solving method in professional nursing. The concepts of communication, teaching-learning, energy, culture, and resources are explored and the nursing process applied.

Prerequisites: 224, 225, Pharm 276. 2 hrs. seminar. {Fall, Spring}

342. Care of Aging Client. (2)

Theoretical study of basic roles of nursing. Emphasis placed upon aspects of the health care delivery system applied to aging clients who are coping with dysfunction related to normal aging changes or chronic disease.

Prerequisites: 224, 225, 239, 240, Pharm 276. 2 hrs. seminar. {Fall, Spring}

343L. Nursing Skills. (4)

Theoretical study, laboratory, and clinical application of basic

roles of professional nursing. Emphasis placed on nursing assessment and intervention skills necessary for making nursing judgements. Clients include adults coping with acute illness.

Prerequisites: 224, 225, 239, 240, Pharm 276. 1 hr. seminar, 6 hrs. lab. {Fall, Spring}

344L. Adult Health Nursing I. [Medical-Surgical Nursing I.] (6) [4]

Theoretical study and clinical application of basic roles of professional nursing in restorative care. Emphasis placed on use of the nursing process with the adult client who is acutely ill.

Prerequisites: 224, 225, 239, 240, Pharm 276. Prerequisites for part-time students: 341, 342, 343L. 2 hrs. seminar, 8 hrs. lab per week. {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: 341, 342, 343L, 344L; pre- or corequisite for part-time students: 345. 2 hrs. seminar, 8 hrs. lab. {Fall, Spring}

347L. Psychiatric Mental Health Nursing. (6)

Theoretical and clinical applications of nursing functions for clients with severe emotional problems. Emphasis placed on communication skills and developing therapeutic relationships with clients in acute and chronic care facilities.

Prerequisites: 341, 342, 343L, 344L; pre- or corequisite for part-time students: 345. 2 hrs. seminar, 8 hrs. lab. {Fall, Spring}

356. Cooperative Nursing Intern Program (2)

Seminar in clinical nursing for nursing students employed as nurse interns by cooperating hospitals. Can study with analysis of nursing process. 2 hours seminar. {Offered upon demand}

397. Independent Study. (1-3)

Upper-division standing.

Prerequisite: permission of instructor. {Fall, Spring}

404L. Physical/Psychosocial Assessment. (2-4)

Theoretical and laboratory application of concepts, tools and skills necessary to perform nursing assessments of clients of all ages.

Prerequisites: upper division RN, or generic student 343L and 344L. Variable credit; RNs 3 hrs. seminar, 1 hr. lab. Generic students 1 hour seminar, 1 hour lab. {Fall, Spring}

*407. Problems in Clinical Nursing: Electives. (3, 3, 3)

Focus on study of the theoretical bases of selected problems in clinical nursing with application in a laboratory situation. {Offered upon demand}

408, 409. Problems in Clinical Nursing: Electives. (2, 2)

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}

414L. Professional Clinical Applications. (2)

A clinical course designed for RN students to explore own learning needs and apply concepts of professional nursing related to nursing process, aging, human responses, physical/psychosocial assessment and research to selected client assignments.

Pre- or corequisites: RN students, 342, 345, 404L, 409, 432. 2 hrs. lab. Offered on a CR/NC basis only. {Fall, Spring}

***429. Workshop. (1-6)**
(Offered upon demand)

431. Issues and Trends in Nursing. (2)

Theoretical presentation of current issues and trends that impact the nursing profession. Emphasis placed upon analysis of current literature surrounding selected topics. Prerequisites: 345, 346L, 347L. 2 hrs. seminar. {Fall, Spring}

432. Introduction to Nursing Research. (2)

Introduction to concepts and issues in nursing research as a problem solving approach. Emphasis placed upon reading nursing research. Prerequisites: 345, 346L, 347L. 1 hr. seminar. {Fall, Spring}

433L. Adult Health Nursing II. [Medical Surgical Nursing II.] (6)

Theoretical laboratory and clinical applications of nursing functions with clients experiencing complex problems. Emphasis is placed upon application of nursing process with adult clients in multiple phases of illness. Prerequisites: 345, 346L, 347L; pre- or corequisites for part-time students: 431, 432. 2 hrs. seminar, 8 hrs. lab. per week. {Fall, Spring}

434L. Nursing of Children and Families. (6)

Theoretical and clinical application of nursing functions with children and families experiencing complex problems. Emphasis placed upon application of the nursing process to children and the families in multiple phases of illness. Prerequisites: 345, 346L, 347L; pre- or corequisites for part-time students: 431, 432. 2 hrs. seminar, 8 hrs. lab. per week. {Fall, Spring}

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. Prerequisites: Senior status. 2 credits lecture, 1 credit clinical lab.

444L. Public Health Practice. (5)

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. Prerequisites: Senior status. 1 credit lecture, 4 credits clinical laboratory.

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. Prerequisites: 431, 432, 433L, 434L; pre- or corequisite for part-time students: 447. {Fall, Spring}

446L. Integration of Nursing Concepts. (5)

Theoretical and clinical study of nursing responsibilities with client groups needing preventive or restorative care. Emphasis on integration of knowledge and skills and acculturation to professional practice. Student selects experience with faculty advisor. Prerequisites: 444L and 445L. 1 cr. seminar and 4 cr. lab.

447. Introduction to Organizational Behavior in Health Care Settings. (2)

Theoretical introduction to concepts of organization, management, leadership, and change as related to health care settings. Emphasis placed upon change in the health care environment which can be initiated and implemented by professional nurse managers. Prerequisites: 431, 432, 433L, 434L. Corequisites: 444L, 445L and 446L. 2 hrs. seminar.

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 grade-point average. {Fall}. Offered on a CR/NC basis only.

499. Honors Study. (3)

Second part of departmental honors. Prerequisite: 498. {Spring}

500. Advanced Family Theory. (2)

An introduction to family theories about development, systems, and stress including application to clinical practice. {Offered upon demand}

501. Advanced Nursing Theory I. (3)

Study of the nature and function of theory and analysis of concepts. Selected theories and nursing conceptual models are reviewed and analyzed. Their application for nursing education, practice, administration, and research is explored. {Fall, Spring}

502. Advanced Nursing Theory II. (2)

The concepts of theory development and levels of theory are examined through a study of existing nursing theories and conceptual models. Their application to nursing education, practice, administration, and research is explored. Prerequisite: 501. {Offered upon demand}

503. Research in Nursing I. (3)

An introductory course in the methods commonly utilized in researching clinical nursing problems. Emphasis is on: conceptualization of research problems, relating research to various levels of theory, research design, and concepts of measurement. Both inductive and deductive approaches are addressed. Prerequisite: upper division course in inferential and descriptive statistics. {Fall, Spring}

504. Research in Nursing II. (3)

Focuses on procedures and processes in data collection and analysis. Experience with writing research reports and computer use is included. Prerequisites: 503. {Offered upon demand}

505. Professional Seminar. (3)

Examines professional, political, and practice issues relevant to nursing and health care. {Fall, Spring}

506. Advanced Psychiatric Mental Health Nursing with the Family as Client. (3)

Examines in seminar psychoanalytic, experiential, Bowenian, and postmodern models and methods of family therapy, including cultural and historical contexts and nursing research, and evaluation strategies. Each student develops a therapeutic relationship with a family under the direct supervision of a preceptor, who is preferably an advanced practice psychiatric nurse. 3 hrs. lab per week. {Offered upon demand}

507. Advanced Individual & Group Psychiatric Mental Health Nursing. (3)

Examines intrapsychic, interpersonal, and developmental models of looking at the dysfunctional individual. Both individual and group treatment are explored. Supervised clinical experience required. Prerequisite: 506. {Offered upon demand}

508. The Neurobiologic Basis for Psychiatric Nursing. (3)

This course covers the neurobiologic basis for advanced nursing therapeutics from a developmental/normative perspective. There will also be a focus on historical and current scientific basis for nursing interventions, psycho-pharmacotherapeutics, cognitive/behavioral strategies, and alternative/complementary practices.

509. Principles of Curriculum Development in Nursing. (3)

Study of the curriculum process for the purpose of acquiring the requisite skills to plan, evaluate, and revise undergraduate nursing curricula or other curricula for nurse learners. (Offered upon demand)

510. Teaching in Nursing Programs. (3)

Examination of the various roles and functions of the teacher in nursing. Each student applies the principles of teaching to a selected professional, technical, or vocational program in nursing. (Offered upon demand)

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. (Spring)

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. (Fall)

516. Advanced Community Health Nursing I. (3)

Investigation of contemporary health problems for rural and urban populations from epidemiological perspective. *Emphasis on assessing communities, defining and prioritizing health problems.*

Pre- or corequisite: Graduate level epidemiology course and 514. 3 hrs lab per week. (Offered upon demand)

517. Advanced Community Health Nursing II. (3)

Examines the role of nurses working with aggregates including using epidemiological methods and developing strategies for intervention and evaluation. Implementation of the refined intervention strategies is a course expectation.

Prerequisite: 516. 3 hrs lab per week. (Offered upon demand)

518. Advanced Child Health Nursing I: Foundations in Family-Centered Care. (3)

Study of the conceptual and theoretical foundation of family-centered nursing. Child growth and development, health promotion, assessment and nursing interventions for common parenting issues, and childhood problems are discussed. 3 hrs. lab per week.

519. Advanced Parent-Child Nursing: Normal and High Risk Childbearing Family. (3)

Study of specific physiological, cultural, interpersonal, developmental, and psychosocial concepts which provide the framework for nursing intervention with selected maternity clients, and families. Analysis of individual and family adaptations in normal and high risk childbearing situations. 3 hrs. lab per week. (Offered upon demand)

520. Advanced Child Nursing Health II: Children with Special Health Care Needs (3)

Expanded study of child health nursing emphasizing the individual child within a family context. Concepts relevant to care of children with complex chronic conditions and special needs are the focus. Explores access to community resources. Prerequisite: 518 or permission of instructor. 3 hrs. lab per week.

521. Advanced Child Nursing Health III: Care Coordination for Complex Health Needs (3)

Study of service coordination, case management, and home care for children with complex needs within the environment of managed care. Emphasis is on the role of the advanced pediatric nurse within interdisciplinary systems of care. 3 hrs. lab per week.

522. Applications of Epidemiology to Community Health Problems. (3)

Prepares students to utilize principles and methods of epidemiology in analyzing community health problems. Prerequisites: upper division statistics course and a community health or epidemiology course or permission of instructor.

Prerequisite: upper division statistics course. (Course may be taken with permission of instructor.) (Offered upon demand)

523. Advanced Parent/Child Nursing: Parent/Child Relations. (3)

Study of various adaptive and maladaptive patterns of parent/child interactions. Theories and concepts related to patterns of interaction, assessment, diagnosis, and intervention are explored. Clinical experiences are individually arranged and provide opportunities for in depth assessment, intervention, and evaluation of parent/child relationships. 3 hrs. lab per week. (Offered upon demand)

526. Pathophysiology in Advanced Practice Nursing. [Advanced Medical-Surgical Nursing I.] (3)

Focuses on the pathophysiological bases of advanced nursing assessment. Clinical case studies are used to apply theoretical principles to clinical practice. (Spring)

527. Concepts in Adult-Health Nursing. [Concepts in Medical-Surgical Nursing.] (3)

The etiology, assessment, nursing diagnoses, and psychosocial in adult health nursing are explored in depth, with the goal of deriving and implementing nursing interventions. Knowledge is applied in clinical settings. 3 hrs lab per week. (Offered upon demand)

528. The Psychophysiological Basis for Human Responses in Health and Illness. (3)

This course analyzes the psychophysiological mechanisms and responses that influence health and illness. Concepts covered include the neurophysiology, immunology, the stress response, and psychosocial mediating factors.

529. Biobehavioral Therapeutics in Medical-Surgical Nursing. (3)

Principles of biobehavioral nursing therapeutics are examined in relation to health and illness. Independent, therapeutic nursing interventions for facilitating wellness and coping with illness are developed and implemented.

Prerequisite: 528.

530. Functional Implications of Aging. (3)

Biophysical aspects of functional changes and common health problems of the aged are the focus. Emphasis on assessment of functional status of elderly individuals, nursing diagnoses and interventions, and related research findings. 3 hrs. lab per week. (Offered upon demand)

531. Geriatric Mental Health. (3)

The course focuses on the psychosocial aspects of aging from a developmental view, and relates these to neuro-biological changes. Topics include role loss, sexuality, dementia, depression, bereavement, and substance abuse. Knowledge is applied in a field experience. 3 hrs. lab per week. (Offered upon demand)

532. Social/Political Issues of Aging. (3)

A critical analysis of sociodemographic and political factors which influence the nursing and multidisciplinary care of the elderly. Issues drawn from politics, culture, economics, ethics, law, and professional issues are synthesized to propose comprehensive health services for the older population. (Offered upon demand)

536. General Principles of Oncology Nursing. (3)

This course provides the students information pertaining to carcinogenesis, current epidemiological trends, prevention and early detection, treatment modalities, symptoms and

symptom management, psychological issues, cultural diversity, community and national health resources, and health policy.

537. Nursing Care of Individuals with Specific Cancers. (3)

Course provides epidemiology, risk factors, biological characteristics, screening and diagnosis, medical treatment, complications, and nursing management of selected cancers. {Offered upon demand}

539. Critical Thinking Skills Related to Pathophysiology for Primary Care Students. (3)

Application of analytic reasoning and problem-solving focused on the pathophysiological bases and clinical presentations of a broad variety of diseases and problems common to adults and children seen in primary care settings.

540. Advanced Health Assessment. (3)

Building upon prerequisite nursing health assessment skills, this course presents the theoretical principles of health assessment throughout the life cycle and introduces the student to advanced health assessment techniques. Restricted for primary care concentration. 6 hrs. lab per week. {Fall}

543. Pharmacological Principles of Clinical Therapeutics. (2)

This course focuses on the application of advanced pharmacological and pharmacokinetic principles of drug categories commonly used in health care across the life span. {Summer, Fall}

544. Primary Care: Antepartum/Postpartum/Well Child. (6)

Primary care students study, analyze and apply concepts of management process to ante/postpartum periods and well child care. Within cultural and rural context, health maintenance preventive care and health policy throughout the life span is covered. 9 hrs. lab per week. Restricted for primary care concentration. {Spring}

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. 9 hrs. lab per week. Restricted for FNP concentration. {Fall}

546. Primary Care III: Pediatrics. (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. 6 hrs. lab per week. Restricted for FNP concentration. {Fall}

548. Women's Health. (4)

Theories and concepts applied by family nurse practitioners and nurse-midwives in the promotion of the health of adolescent and adult women. 6 hrs. lab per week. Restricted for primary care concentration. {Spring}

549. Primary Health Care Concepts (3)

Overview of concepts relevant to the assessment, planning and delivery of primary health care services by advanced practice nurses. Topics include health care systems, culture and health, rural populations, and the advanced practice role. Restricted for primary care concentration. {Spring}

550. Primary Care: Intrapartum. (7)

Techniques of labor and birth, triage of complications and cultural effects all guide development of the management process of nurse-midwifery students. Role development, health policy, and existing health care systems are studied. 12 hrs. lab per week. Restricted for midwifery concentration. {Fall}

551. Newborn Care. (3)

Study of the normal neonate within the cultural structure of the family. Common physiological, pathological problems and their management by nurse-midwife emphasized in classroom and clinical experience. 3 hrs. lab per week. Restricted for midwifery concentration. {Fall}

570. Interdisciplinary Bioethics. (3)

An interdisciplinary experience in the exploration of contemporary ethical issues in health care and the health care delivery system.

591. Graduate Problems. (1-6)

Independent study and research on a topic agreed upon by instructor and student.

Prerequisite: permission of instructor. May be repeated on different topic. {Summer, Fall, Spring}

593. Topics. (1-6)

Specialized courses about a particular topic in nursing. A variety of topic courses are offered according to demand. Different sections indicate different topic content. Prerequisite: permission of instructor. {Summer, Fall, Spring}

595. Advanced Nursing Field Work. (1-5)

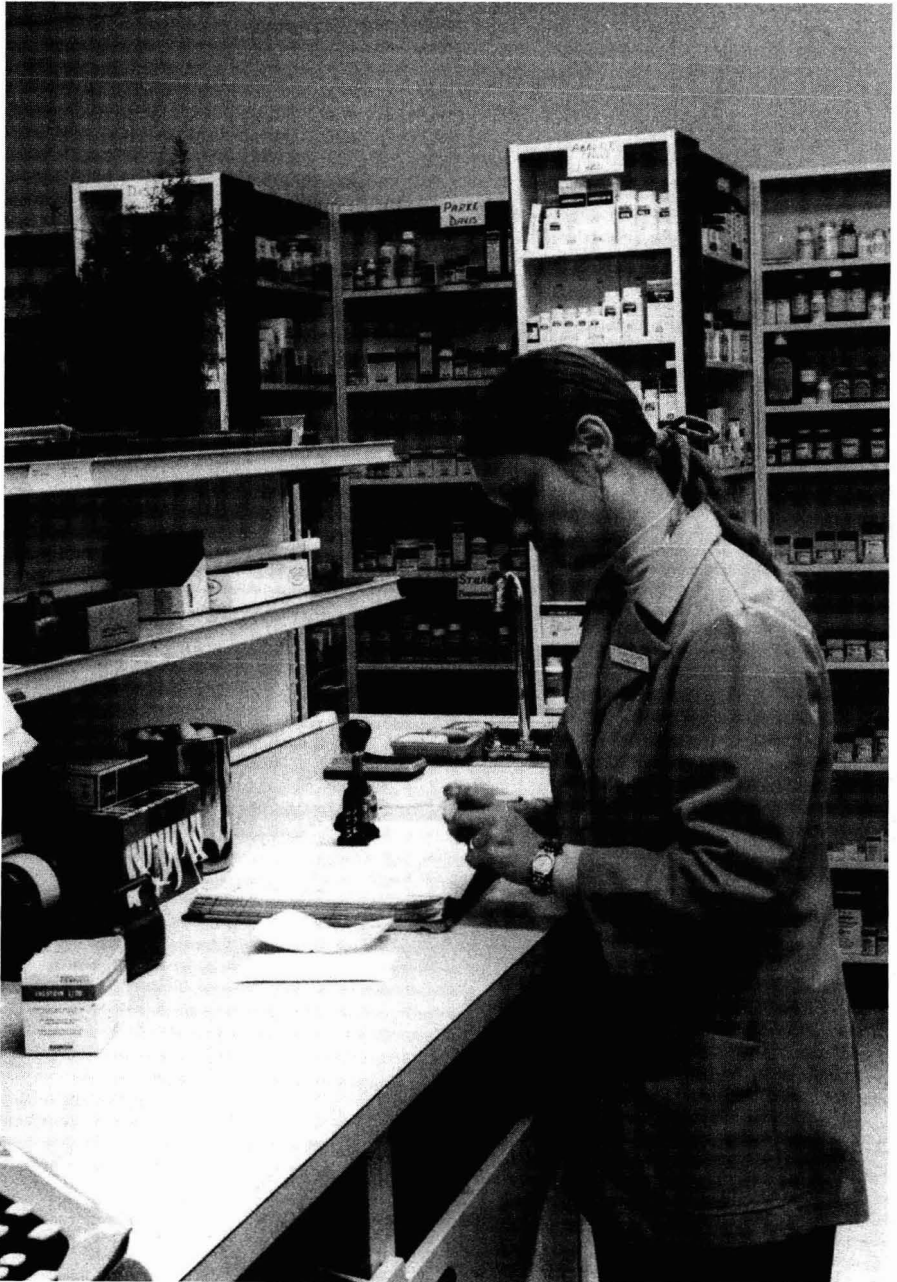
A minimum of 4 field work credits is required in the major area of study and normally will be taken after core and specialty required courses in the concentration have been completed. Students enroll with faculty in specialty area on an independent basis. The faculty member oversees selection of sites and preceptors for experience and monitors students progress toward achievement of objectives established by specialty area faculty for the concentration. 3 lab hrs. per week, per credit.

Prerequisites: 506 and 507. Total of 5 credits required.

599. Nursing Thesis I. (1-6)

Prerequisite: permission of instructor. Offered on a CR/NC basis only.





COLLEGE OF PHARMACY

The University of New Mexico
College of Pharmacy
Nursing/Pharmacy Building
Albuquerque, New Mexico 87131
(505) 272-2461 or 272-9625
Fax: (505) 272-6749

William M. Hadley, Dean
Reynaldo V. Saenz, Associate Dean for Student Affairs
Scott W. Burchiel, Assistant Dean for Graduate Programs and Research

Professors

Jerry L. Born, Ph.D., University of Iowa
Scott W. Burchiel, Ph.D., University of California (San Francisco)
William M. Hadley, Ph.D., Purdue University
H. William Kelly, Pharm.D., University of Minnesota
William G. Troutman, Pharm.D., University of California (San Francisco)

Associate Professors

Jamie Barnhill, Ph.D., University of Connecticut
William B. Hladik III, M.S., University of Kansas
Mark T. Holdsworth, Pharm.D., State University of New York (Buffalo)
Paul L. Mann, Ph.D., University of Toronto
Craig Marcus, Ph.D., University of Wisconsin (Madison)
Steven Peterson, Ph.D., University of California (Davis)
Glynn G. Raymond, Ph.D., Northeast Louisiana University
Reynaldo V. Saenz, Ph.D., University of Texas (Austin)

Assistant Professors

Ernest J. Dole, Pharm.D., University of Tennessee
Donald A. Godwin, Ph.D., University of South Carolina
Petur S. Gunnarsson, Pharm.D., University of North Carolina (Chapel Hill)
Gireesh V. Gupchup, Ph.D., Purdue University
Raymond Hammond, Pharm.D., University of Tennessee
Joseph Hubbard, Pharm.D., University of Arizona
Carol A. Kengott, Pharm.D., University of Kentucky
Katherine A. Kramer, Pharm.D., University of Arizona
Jeffrey Norenberg, M.S., University of New Mexico
Robert B. Palmer, Ph.D., University of Washington
Shay L. Reichert, Pharm.D., University of New Mexico

Professors Emeriti

Carman A. Bliss, Ph.D., Purdue University (Dean Emeritus)
Joachim J. Hermann, Ph.D., University of Michigan
Hugh F. Kabat, Ph.D., University of Colorado
G. Phillip Lehman, Ph.D., University of Connecticut
Kenneth H. Stahl, Ph.D., University of Maryland
Roland L. Watkins, Ph.D., University of Iowa

Introduction

The College of Pharmacy at UNM offers a professional program leading to the Doctor of Pharmacy (Pharm.D.) degree. This program consists of two years (65 credits) of prerequisite course work, followed by four years of professional training. The Pharm.D. program emphasizes student-centered, problem-based learning, and requires nine clerkships during the fourth year, including ambulatory care, community based, and institutional settings. The Pharm.D. is the only entry level degree offered by the College of Pharmacy.

A Non-Traditional Doctor of Pharmacy program is available for post-baccalaureate pharmacists to provide an avenue for

the practicing pharmacist to obtain a Pharm.D. degree. Training requirements were developed considering the knowledge, skills, and ability that the practicing pharmacist has acquired.

In addition to the Pharm.D., a Master of Science degree in Pharmaceutical Sciences with concentrations in Hospital Pharmacy, Radiopharmacy, Toxicology and Pharmacy Administration is offered. A Doctor of Philosophy in Pharmaceutical Sciences with concentrations in Hospital Pharmacy, Radiopharmacy, Toxicology and Pharmacy Administration is also offered. Inquiries should be addressed to the Chairperson of the Pharmacy Graduate Committee.

The College of Pharmacy provides consultation to the profession of pharmacy and other health sciences 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, University Hospital, Presbyterian Hospital, the New Mexico Regional Federal Medical Center and USPS Indian Hospital, and the State Hospital at Las Vegas, New Mexico.

The mission of the University of New Mexico College of Pharmacy is to educate professional and graduate students to serve the health needs of the people of New Mexico. The College contributes to the development of new knowledge in pharmacy practice and pharmaceutical sciences through research and other scholarly activities. The College provides leadership and service derived from its teaching and scholarship to pharmacists, other health professionals and society.

Professional training focuses on the teaching of those facts, concepts, and skills that the pharmacist will require as a health scientist in the future. In addition to their scientific training, emphasis is placed on instilling the students with a moral, civic, and social responsibility to the public, the profession, and to other health professionals, as is the role of the pharmacist as a consultant to the public on health-related matters.

Opportunities in Pharmacy

The profession of pharmacy offers, to properly trained individuals, a wide variety of opportunities for practice in interesting and satisfying positions. Opportunities in community pharmacy practice are available in independent pharmacies, prescription centers, and chain pharmacies. An increasing number of graduates are entering the practice of hospital pharmacy in civilian and governmental hospitals, as well as in skilled nursing facilities. Others occupy positions as nuclear pharmacists, manufacturing pharmacists, medical service representatives, mail order pharmacists, analysts for state and federal food and drug departments, and as pharmacists in clinics and managed care organizations in the Army, Navy, Air Force, Public Health Service, and Department of Veterans Affairs. Limited numbers of pharmacists are engaged as administrators in pharmaceutical organizations and editing or writing for pharmaceutical publications. Positions as research scientists in the pharmaceutical industry and as teachers in colleges of pharmacy are open to those who prepare themselves by pursuing advanced degrees.

Recognition

The College of Pharmacy's professional program is accredited by the American 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

In order to become eligible for licensure as a registered pharmacist, a person must graduate from an accredited college of pharmacy and serve a designated period of internship. It may be possible to be eligible for Board of Pharmacy examinations and licensure immediately upon graduation if the internship requirement is completed.

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 from an accredited college of pharmacy and meet other requirements established by regulation of the Board of Pharmacy".

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 not less than one year of internship experience and pass an examination prepared and administered by 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, 1650 University Blvd. NE, Suite 400B, Albuquerque, New Mexico 87102.

High School Preparation Recommendations

It is important that the high school student wishing to pursue the pharmacy program at the University of New Mexico College of Pharmacy orient his or her subject selection in the proper direction as early as possible. It is recommended that the student intending to obtain a degree 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 sciences and/or humanities; and two years of a foreign language. These are recommended high school 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 UNM College of Pharmacy exchanges students with are Alaska, Hawaii, and Nevada. 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, Colorado 80302, telephone (303) 497-0214.

Certificate Program in Radiopharmacy

An eleven-month non-degree academic program in radiopharmacy is available to graduates of schools/colleges of pharmacy. Upon the satisfactory completion of 22 semester credit-hours of prescribed course work, a certificate is awarded which specifies the primary areas of training received. The certificate program exceeds the didactic

requirements of the Nuclear Regulatory Commission and Agreements State agencies for listing of an individual as an authorized user on a radioactive materials license.

Doctor of Pharmacy

Admission Requirements

The College of Pharmacy admits students for the fall semester only. The deadline for receipt of applications and transcripts from all secondary schools attended through the previous fall semester is March 1st. Transcripts from spring semester must be submitted by June 15.

At the University of New Mexico freshmen students are admitted to Undergraduate Studies. A detailed statement of admission requirements to Undergraduate Studies 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 65 credit hours, including:

	Credit hrs
General Chemistry	8
Organic Chemistry	8
General Physics	6
General Biology	4
Microbiology	4
Human Anatomy and Physiology	8
Calculus	6
Statistics	3
English Writing	6
Microeconomics	3
Computer Literacy	3
Electives	6
Total	65

2. An appropriate grade point average on all required courses.
3. A completed College of Pharmacy application package, including:
 - a. application form
 - b. letter of intent expressing professional goals
 - c. three letters of recommendation
 - d. official transcripts and courses in progress
 - e. \$25.00 non-refundable application fee
4. Appropriate application, transcripts, and fee sent to the University of New Mexico Office of Admissions, if not currently enrolled at UNM, or enrolled at UNM in non-degree status.

Application Procedures

In addition to meeting and completing the requirements described previously, applicants must follow the specific procedures outlined below.

From Undergraduate Studies and UNM Degree Granting Colleges

To apply to the UNM College of Pharmacy students must submit to the College an application package consisting of:

- a. A College of Pharmacy Application Form.
- b. A letter of intent expressing your statement of professional goals.
- c. Three letters of recommendation.
- d. An advisement copy of your UNM transcript.
- e. Official transcripts from other post-secondary institutions attended if applicable.
- f. A \$25.00 non-refundable application fee payable to the UNM College of Pharmacy.

From UNM Non-Degree Students

To apply to the UNM College of Pharmacy students must submit to the University of New Mexico Office of Admissions:

- a. An undergraduate application for admission to UNM.
- b. Official transcripts from other post-secondary institutions attended if applicable.*

AND submit to the UNM College of Pharmacy an application package consisting of:

- a. A College of Pharmacy Application Form.
- b. A letter of intent expressing your statement of professional goals.
- c. Three letters of recommendation.
- d. An advisement copy of your UNM transcript.
- e. Official transcripts from other post-secondary institutions attended if applicable.*
- f. A \$25.00 non-refundable application fee payable to the UNM College of Pharmacy.

Transfer from Other Post-Secondary Schools

To apply to the UNM College of Pharmacy students must submit to the University of New Mexico Office of Admissions:

- a. An undergraduate application for admission to UNM.
- b. Official transcripts from other post-secondary institutions attended if applicable.*
- c. A \$15.00 non-refundable application fee payable to the University of New Mexico

AND submit to the UNM College of Pharmacy an application package consisting of:

- a. A College of Pharmacy Application Form.
- b. A letter of intent expressing your statement of professional goals.
- c. Three letters of recommendation.
- d. Courses in progress which are not included on transcripts.
- e. Official transcripts from other post-secondary institutions attended if applicable.*
- f. A \$25.00 non-refundable application fee payable to the UNM College of Pharmacy.

For additional information and advisement on admission requirements and procedures students should contact:

Chairperson, Student Services Committee
 The University of New Mexico
 College of Pharmacy
 Albuquerque, NM 87131-1066
 (505) 272-0912

* 2 copies of the official transcript(s) are required, one for the University of New Mexico Office of Admissions and one for the College of 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.

Pharm.D. Graduation Requirements:

- 1. Complete all course work outlined in the Pharm.D. Curriculum including:
 - a. 201 semester hours of course work. Students are responsible for insuring completion of sufficient elective credit hours to meet the 201 hour requirement.
 - b. A minimum of 24 hours of electives must be taken from at least four of six categories. No more than nine hours in any one category will be allowed for credit:

Categories:

- 1) Communications: English writing, communication and journalism, or linguistics. (English 100, 101, or 102 are not acceptable.)
- 2) Humanities: literature (including American, English and foreign and comparative literature), history, or philosophy.
- 3) Social/Behavioral Sciences: anthropology, psychology, economics, geography, political science or sociology. (The introductory Studies Social Science 100 course is not acceptable.)
- 4) Foreign Languages.
- 5) Artistic Expression: selected courses in the history, appreciation and criticism of art, music, theatre and dance.
- 6) Health Promotion, Physical Education and Leisure Programs: Acceptable courses include first aid, health and physical education (NMT 2 hrs) and nutrition courses.
- c. All required courses
- 2. Maintain a 2.00 in all UNM course work and a 2.00 in all pharmacy required (including professional electives) courses.
- 3. No student will be allowed to graduate with an "F" grade in any pharmacy course unless repeated with a higher grade.
- 4. Satisfy the minimum residence requirement.

Doctor of Pharmacy (Pharm.D.) Curriculum

The Doctor of Pharmacy (Pharm.D.) program consists of a 2-4 professional plan. The first two years of pre-pharmacy courses may be completed at the University of New Mexico or at any two or four year college. Equivalent courses taken at these schools will transfer as part of the pre-pharmacy program. Verify equivalencies with the UNM College of Pharmacy advisement office.

Admission to the Doctor of Pharmacy program will require completion of all pre-pharmacy courses, an appropriate grade point average, a letter stating goals for the practice of pharmacy, and three letters of recommendation. Once admitted to the Doctor of Pharmacy program, the student will have four years of professional study.

NOTE: Students must be admitted to the pharmacy program to enroll in pharmacy courses.

First Pre-Professional Year		Credits
First Semester		
Engl 101	Comp I: Exposition	3
Math 180	Elements of Calculus I	3
Chem 121L	Gen Chem	4
Econ 106	Intro Microeconomics	3
Nonprofessional electives		3
		16

Second Semester		Credits
Engl 102	Comp II: Anlys & Arg	3
Math 181	Elements of Calculus II	3
Chem 122L	Gen Chem	4
Biol 123L	Biol for Hlth Rel Sci	4
Nonprofessional elective		3
		17

Second Pre-Professional Year		Credits
First Semester		
Chem 301	Organic Chem I	3
Chem 303L	Organic Chem I Lab	1
Biol 237	Hum Anat and Physiol I	3
Biol 247L	Hum Anat and Physiol I Lab	1
Physcs 151	Gen Physics	3

Math 145	Intro to Statistics	3
C S 150L	Computer Literacy	3
		<hr/>
		17
Second Semester		
Chem 302	Organic Chem II	3
Chem 304L	Organic Chem II Lab	1
Biol 238	Hum Anat and Physiol II	3
Biol 248L	Hum Anat and Physiol II Lab	1
Biol 239L	Microbio/Health Sci	4
Physcs 152	Gen Physics	3
		<hr/>
		15

First Professional Year

Fall Semester

Pharm 701	Pharmaceutics I (Pharm, Dosage Forms I)	4
Pharm 705	Pathophysiology	4
Pharm 707	Admin Pharm	2
Pharm 709	Basic Patient Interaction	1
Pharm 711	Student-Centered Prob-Based Lrng	1
Chem 423	Biochemistry	3
Electives		2
		<hr/>
		17

Spring Semester

Pharm 702	Pharmaceutics II (Pharm, Dosage Forms II)	3
Pharm 702L	Pharm Dosages Lab	1
Pharm 708	Social and Epidemiol Pharm	2
Pharm 710	Mechanisms of Drug Action	5
Pharm 712	Student-Centered Prob-Based Lrng	1
Pharm 714	Pharm Biotechnology & Immunology	3
Pham 716	Practical Patient Exp	1
		<hr/>
		16

Second Professional Year

Fall Semester

Pharm 721	Student-Centered Prob-Based Lrng	1
Pharm 723	Experiential	1
Pharm 725	Pharmaceutics III (Pharm, Dosage Forms III)	3
Pharm 727	Pharm Law & Ethics	2
Pharm 731	Mechanisms of Drug Action	5
Pharm 731L	Mechanisms of Drug Action Lab	1
Electives		3
		<hr/>
		16

Spring Semester

Pharm 722	Student-Centered Prob-Based Lrng	1
Pharm 724	Experiential	1
Pharm 726	Pharmacokinetics	2
Pharm 728	Drug Information/Literature Eval	2
Pharm 731L	Mechanisms of Drug Action Lab	1
Pharm 732	Mechanisms of Drug Action	5
Electives		6
		<hr/>
		18

Third Professional Year

Fall Semester

Pharm 741	Student-Centered Prob-Based Lrng	1
Pharm 743	Experiential	1
Pharm 745	Clinical Pharmacokinetics	3
Pharm 747	Pharm Practice Research	2
Pharm 751	Pharmacotherapy I	5
Electives		6
		<hr/>
		18

Spring Semester

Pharm 742	Student-Centered Prob-Based Lrng	1
Pharm 744	Experiential	1
Pharm 748	Research Project (initial)	1
Pharm 750	Physical Assessment (Adv., ACLS)	4
Pharm 752	Pharmacotherapy II	5
Pharm 756	Patient Counseling and Prof. Inter.	2
Electives		2
		<hr/>
		16

Fourth Professional Year

Fall and Spring Semesters

Pharm 758	Research Project (Completion)	1
Pharm 770	Clinical Clerkships*	36
Total		<hr/>
		37

* Clerkships: 9 total as follows:
3 ambulatory care, community based, 3 institutional, and 3 electives. Each clerkship will be four weeks in duration and worth 4 credits each. **A one month 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 physico-chemical and biopharmaceutical principles. Introduction to the metrology and calculations involved in the compounding and dispensing of pharmaceutical preparations.

702. Pharmaceutics II. (3)

Continuation of 701.

702L. Pharmaceutical Dosages 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. Basic Patient Interaction. (1)

Basic physical assessment skill as well as cardio-pulmonary resuscitation (CPR) certification. Patient interviewing skills including how to take a drug history. (Multiple sections with maximum 10 students per section.) **Offered on a CR/NC basis only.**

710. 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) and the toxicology of anti-infective agents.

Prerequisites: Biochemistry, Microbiology, Computer Literacy.

711. Student-Centered, Problem Based Learning. (1)

Small group session with facilitator/tutor utilizing problem-based approach integrating information gained in 701, 703, 705, 707, 709.

Pre or co-requisites: 701, 705, 707, 709.

Offered on a CR/NC basis only.

712. Student-Centered, Problem-Based Learning. (1)

Small group session (maximum of 8 students) for 8 weeks with facilitator/tutor utilizing problem-based approach inte-

grating information gained in 708, 710, 714, and/or 709.
Pre- or corequisites: 704, 708, 709, 710, 714. **Offered on a CR/NC basis only.**

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.
Prerequisite: Microbiology; pre- or corequisite: Biochemistry.

716. Practical Patient Experience. (1)
The student is introduced to a patient requiring chronic care being followed on a regular basis at a UNM Health Sciences Center facility. The student will see the patient at each routine follow-up visit for the four professional years of the student. The purpose is to instill an understanding of all aspects of patient care, particularly the concept of continuity of care.
Prerequisites: 705, 707, 709. **Offered on a CR/NC basis only.**

721. Student-Centered Problem-Based Learning. (1)
Small group session (maximum of 8 students) for 8 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.
Pre- and or corequisites: 723, 725, 727, 731. **Offered on a CR/NC basis only.**

722. Student-Centered Problem-Based Learning. (1)
Small group session (maximum of 8 students) for 8 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.
Pre- and or corequisites: 724, 725, 726, 727, 728, 731, 732. **Offered on a CR/NC basis only.**

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.
Pre- or corequisites: 721, 722, 725, 726, 731, 732. **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. Drug Information/Literature Evaluation. (2)
An examination of the structure of the biomedical literature using drug-related literature as examples; incorporates literature retrieval and analysis, including the introduction to the principles of statistics.

731. Mechanisms of Drug Action. (5)
Continuation of 710 addressing pharmacology, toxicology, SAR, and elimination of prototypes in specific drug classes.
Prerequisites: 710, 714.

731L. Mechanisms of Drug Action Lab. (1)
An interactive computer lab designed to demonstrate the principles of pharmacology and medicinal chemistry.
Pre- and corequisites: 710, 714, 731, 732.

732. Mechanisms of Drug Action. (5)
Continuation of 710, and 731 addressing pharmacology, toxicology, SAR, and elimination of prototypes in specific drug classes.
Prerequisites: 710, 714, 731.

741-742. Student-Centered Problem-Based Learning. (1, 1)
Small group session (maximum of 8 students) for 8 weeks with facilitator/tutor utilizing problem-based approach integrating information gained in all previous curriculum. A SCPBL case will be covered each 4 weeks with preceptors from 743 and 744 acting as co-facilitators with college faculty. **Offered on a CR/NC basis only.**

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.
Pre- and corequisites: 725, 726, 728, 732. **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.
Pre- and corequisites: 725, 726, 728, 732. **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.

747. Pharmacy Practice Research. (2)
Basic principles of research and different types of research methodologies used in pharmaceutical research. Students will learn how to design research studies and how to analyze, interpret, and present research data using computer software programs.

748. Research Project (Initial). (1)
Student formulates hypothesis for research project and establishes methodologies for completion under guidance of faculty. Research project approved by committee. **Offered on a CR/NC basis only.**

750. Advanced Physical Assessment. (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.
Pre- or corequisites: 705, 751, 752.

751. Pharmacotherapy I. (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. Incorporates both lecture and case-study sections. (Maximum of 10 students each.)
Pre- or corequisites: 724, 725, 726, 727, 728, 731, 732.

752. Pharmacotherapy II. (5)

Continuation of 751. Incorporates both lecture and case-study sections. (Maximum of 10 students each.)
Pre- or corequisites: 724, 725, 726, 727, 728, 731, 732, 751.

756. Patient Counseling and Professional Interactions. (2)

Develops effective communication skills with patients and other health professionals. The course involves actual "hands on" instruction in communication with different patient groups and health care professionals. Small group patient or professional educational presentations.

758. Research Project. (1)

Student completes research project in final year. Presents research as poster at year-end Health Sciences Center Student Research Day. Up to four students may work collaboratively on one project.
Offered on a CR/NC basis only.

770. Clinical Clerkships. (0)

Consist of 4-week clinical experiences (40 hours/week) where students provide direct pharmaceutical care to patients. **Offered on a CR/NC basis only.**

Additional Information

Academic Advisement

The College of Pharmacy Advisement Center is located in rooms 179A and 183 of the Pharmacy/Nursing Building.

Financial Aid

In addition to financial aid that is generally available to university students, certain scholarships and loans are available specifically to students in the College of Pharmacy. Federal loans and grants are processed through the main campus Student Financial Aid office. College of Pharmacy scholarships are awarded to pharmacy students based on academic merit, financial need, and possible additional criteria as determined by the scholarship sponsor. Information on scholarship availability is published in the College of Pharmacy Student Newsletter, and posted throughout the College during each semester.

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, Student Services Committee of the College of Pharmacy for consideration by the College faculty.

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.

Rules for Progression in the Doctor of Pharmacy Program

1. Students are expected to complete the professional curriculum in four years. Any delay in progression toward completion of the curriculum in four years must be approved by the Student Services Committee.

2. Students must successfully complete all pharmacy courses of a semester before any pharmacy courses of the subsequent semester may be taken.
3. Students who fail a course must repeat the course and the *Problem Based Learning* course for that semester.
4. A student who fails a course more than once or receives an "F" in another Pharmacy course taken in a later semester will be subject to suspension from the program.
5. Students who have more than three "D" grades in Pharmacy prefixed courses will not be able to graduate from the program until they remove the "D" grades by repeating courses so that there are no more than three "D" grades.

Probation and Suspension Guidelines

There are two kinds of probations possible for students in the College of Pharmacy:

1. Students must maintain at least a 2.0 on all course work attempted at the University of New Mexico. Students whose GPA falls below 2.0 on course work attempted at UNM will be placed on UNM probation. Failure to remove the probation by the next semester will result in suspension from the university.
2. There is also a College of Pharmacy probation. Failure to maintain a 2.0 on all courses with a pharmacy prefix will result in being placed on College of Pharmacy probation. Failure to raise the GPA in courses with a pharmacy prefix above a 2.0 within one year of being placed on probation will result in dismissal from the College of Pharmacy.

If a student is dismissed from the College of Pharmacy, he/she can petition for readmission after one semester. He/she can be readmitted, space permitting. If a student is dismissed or suspended for a second time, the student will not be allowed to return to the College of Pharmacy.

Pharm.D. Track-In Program Curriculum

Summer Semester		
Pharm 793	Clinical Rotations	4
Pharm 795	Comm Pharm Extern	4
Pharm 797	Hospital Pharm Extern	4
		12
Fall Semester		
Pharm 787	Adv Pathophysiol & Thera I	12
Pharm 785	Clinical Seminar	1
Pharm 783	Health Services	1
Pharm 784	Applied Clinical Pharmacokinetics	3
		17
Spring Semester		
Pharm 788	Adv Pathophys & Thera II	8
Pharm 785	Clinical Seminar	1
Pharm 789	Physical Assessment	4
Statistical Methodology		3
Elective		3
		19
Summer, Fall, Spring		
Pharm 786	Clinical Clerkships	36
Elective Clerkships		(8)
Pharm 785	Clinical Seminar	3
		39

Pharm.D. Track-In Courses (Pharm)

782. Clinical Toxicology. (3)

Study of the acute toxicity in humans as well as household, environmental and industrial chemicals with emphasis on symptomatology and treatment.

Prerequisites: 432, 442, 476.

783. [703.] Health Services. (1)

A seminar course covering the place of pharmacy in the health care system. Management styles and functions as well as program development, justification and implementation are covered. Specific topics on human behavior in health and illness are covered including patient compliance and appropriate use of the health care system.

Prerequisite: enrollment in the Doctor of Pharmacy program.

784. [704.] Applied Clinical Pharmacokinetics. (3)

An advanced course in clinical pharmacokinetics and therapeutic drug monitoring using patient examples.

Prerequisites: Enrollment in the Doctor of Pharmacy program and 347.

785. [705.] Clinical Seminar. (1)

Seminars presented by faculty, Doctor of Pharmacy candidates and guests. Topics presented are diverse, encompassing all aspects of clinical pharmacy including: clinical practice, research, administration, therapeutic controversies, education, computer use, etc. Doctor of Pharmacy students enroll in this course every semester and credit will be received for each semester enrolled.

Prerequisite: enrollment in the Doctor of Pharmacy program.

786. [706.] Clinical Clerkship. (4 each, 36 total)

Professional pharmacy practice site experiences in which the student accepts increasing responsibility for providing Clinical Pharmacy Services.

Prerequisite: Completion of all first year Pharm.D. courses.

Offered on a CR/NC basis only. (Summer, Fall, Spring)

787. [701-702.] Advanced Pathophysiology and Therapeutics I & II. (12) [12 each]

788. Advanced Pathophysiology and Therapeutics II. (9) [12]

An advanced pathophysiology and therapeutics course emphasizing pharmaceutical care. The course is taught by a combination of seminar, problem based case studies and practical immersion.

789. Physical Assessment. (3)

This course, through lecture, videotapes, and "hands-on" practice, develops skills including the ability to perform a medical history and physical examination to determine pharmacotherapy outcomes.

793. [733.] Clinical Rotations. (1-4)

Prerequisites: 476, 462, 432. (Summer)

795. [735.] Community Pharmacy Externship. (4)

Prerequisite: 445L.

797. [757.] Hospital Pharmacy Externship. (4)

Prerequisite: 445L.

799. Non-Traditional Pharmacy. (2-to a maximum of 12)

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.

Math 245 or Mgt 290. Introduction to Business Statistics. (3)

Prerequisites: Math 180 or equivalent (calculus).

Non-Traditional Doctor of Pharmacy Curriculum

The Non-Traditional Doctor of Pharmacy Curriculum consists of a didactic component and an experiential component.

Didactic Education Component

Pharmacists with a baccalaureate degree may receive credit for the didactic component by documenting completion of an appropriate statistics course (which may have been completed before entry into the program), and completion after acceptance into the program of one of the following options by self-study:

- Obtaining certification as a Board Certified Pharmacotherapy Specialist (BCPS).
- Completion of the American Society of Health-Systems Pharmacists (ASHP) *Clinical Skills Program* (CSP) and a complete series of the *Pharmacotherapy Self-Assessment Program* (PSAP) published by the American College of Clinical Pharmacists (ACCP). After acceptance into the Non-Traditional Pharm.D. program, the applicant will be required to successfully complete CSP and submit answer sheets for each module of PSAP to the College of Pharmacy, on a regular schedule, before the module answer book has been released by ACCP.

CSP is a self-study course that teaches basic problem-solving skills needed to provide patient-specific drug information, and 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 modules (e.g. cardiovascular) emphasize the integration and utilization of new drug therapy knowledge in pharmacotherapy practice.

Experiential Education Component

Recognizing the experience of a registered pharmacist, applicants will be given credit for a one-month community based ambulatory care clerkship and a one-month institutional pharmacy practice clerkship. The applicant will need to complete 7, 4-week clerkships to fulfill the experiential requirements for the Pharm.D. degree. Applicants having extensive experience in a specialized pharmacotherapy area may be given credit for an additional clerkship in the specialized areas. The faculty may grant credit for one clerkship for completion of a pre-approved on-the-job project that implements a suitable pharmaceutical care program at the place of employment.

Required clerkships may be taken at sites used by traditional Pharm.D. students, at approved off-campus sites on services where the student is not employed or a combination of these. Types of required and elective clerkships will be the same as those for entry-level Pharm.D. students. The clerkship must be supervised by a preceptor meeting the standards appropriate for the specific clerkship. Students completing clerkships not precepted by full-time faculty members will be required to pass an oral and/or written examination given by a full-time faculty member. Each clerkship will be counted as 4 credit hours. Students will pay tuition for credit hours granted for previous experience prior to beginning experiential education (i.e. 8-12 hours depending on number of clerkships waived).

The student must submit a plan for experiential courses desired to the Experiential Program Coordinator one full semester before the course is to be taken. This advanced notification is necessary to allow sufficient time to find suitable clerkships that will not conflict with assignments for traditional Pharm.D. students completing clerkships, and to

coordinate these assignments with preceptors. All clerkships will be completed within two years of beginning experiential training. The entire program must be completed within 6 years of being accepted into the program. If a student drops out of the program, the student must reapply for admission and start the program from the beginning.

Once admitted to the program, the applicant will register for Non-Traditional Pharmacy (Pharm 799), a two credit hour course, which will allow a mechanism for tracking the students progress, granting credit for the didactic requirements of the program, and assigning tuition fees. Students will register for this course every semester from entry into the program until all didactic requirements are completed, and for any semester in which the student is not completing experiential courses.

Pharm 799	Non-Trad Pharm semester, when not taking clerkships	2 hrs each
Pharm 706	Clinical Clerkships	36 hrs total

Graduate Programs

Pharmaceutical Sciences Graduate Committee

The Pharmaceutical Sciences Graduate Program is administered by the College of Pharmacy Graduate Committee. This committee is composed of faculty members from each of the concentrations in which a program is offered, the Assistant Dean for Graduate Programs and 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, located in the Dean's office, and are reviewed as they are received throughout the year. Foreign 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 Programs of Study for graduate students are determined by the Committee on Studies for each concentration. In general, this program consists of core and elective coursework required of all students. However, in some cases the Committee on Studies may approve a Program of Study that takes advantage of previously completed coursework or provides interdisciplinary training of interest to particular students.

Students wishing to pursue a graduate degree in Pharmaceutical Sciences must meet the minimum requirements for admission to graduate study as well as the specific prerequisites listed below for the Hospital Pharmacy, Pharmacy Administration, Radiopharmacy or Toxicology programs. More specific information on the programs is given below and may be obtained through the Office of the Dean.

The Master of Science degree is offered with concentrations in the areas of hospital pharmacy (major code #240), pharmacy administration (major code #241), radiopharmacy (major code #239), and toxicology (major code #242).

The Doctor of Philosophy degree is offered with concentrations in the areas of Pharmacy Administration (major code #241) and Toxicology (major code #242).

Hospital Pharmacy

A program leading to a M.S. degree with emphasis in the area of Hospital Pharmacy is offered to individuals who have received a professional degree in pharmacy. Residencies accredited by the American Society of Hospital Pharmacists are available at local hospitals (concurrent with the masters degree program) for those students desiring experiential training in Hospital Pharmacy; however, no academic credit is given for the residency training. General requirements for completion of the degree are listed on earlier pages of this Catalog. The student's program will be developed by and supervised by a Committee on Studies.

The student may select either the Plan I (thesis) or the Plan II (non-thesis) option. Although the masters program includes course work in virtually all aspects of hospital pharmacy practice, the primary goal of the program is to develop strong administrative skills in potential leaders in the field of hospital pharmacy. Students seeking admission to the program must meet the general requirements for admission to graduate study specified on earlier pages of this Catalog and have a professional degree in pharmacy.

Pharmacy Administration

This is a program of study and research leading to the M.S. and/or Ph.D. 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 and illness, cultural determinants, health service systems organization, finance and economics. Individuals holding a professional degree in pharmacy 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. An individual program of coursework 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 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. 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 Plan II (non-thesis) 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 program is dedicated to evaluating harmful effects of chemicals including drugs, food additives, pesticides and industrial solvents, reagents and by-products on humans, animals and the environment. Individuals are trained at the applied level to evaluate and work with harmful chemicals as well as to do basic research concerning the biochemical mechanisms that result in the toxic actions of chemicals. An individual program of coursework is determined for each student according to his/her career goals by a Committee on Studies. M.S. (Plan I or Plan II) and Ph.D. degrees in toxicology are offered. Although most students

conduct their thesis or dissertation research in the College of Pharmacy or at the Lovelace Inhalation Toxicology Research Institute under a joint graduate program in toxicology, students can work in other on-campus laboratories or may arrange to study at off-campus research facilities such as the Los Alamos National Laboratories or the Sandia National Laboratories. In addition to the general admission requirements specified on earlier pages of this Catalog, admission to the toxicology program requires a baccalaureate degree in pharmacy or a related field in the life sciences or chemistry. Organic chemistry and mathematics through integral calculus are prerequisites.

Pharmacy (Pharm)

239. Pharmacy Pathophysiology I. (2)

(Also offered as Nurs 239.) A beginning course in human pathophysiology for pharmacy and nursing students. Space restrictions limit admission to enrolled pharmacy students or by permission of instructor. Special fee of \$3.00. Pre- or corequisite: Biol 237 or 239.

240. Pharmacy Pathophysiology II. (2)

(Also offered as Nurs 240.) Continuation of Pharm 239. Special fee of \$3.00. Pre- or corequisite: Biol 237 or 238.

246. Pharmaceutical Dosage Forms I. (3)

Study of the classification, fundamental principles, processes and biopharmaceutics of dosage forms. Prerequisite: Admission to College of Pharmacy.

247. Pharmacy Dosage Forms II. (2)

Continuation of 246. Prerequisite: 246. Corequisite: Concurrent enrollment in 248L.

248L. Pharmaceutical Formulations (1).

A course designed to introduce the student to the principles of extemporaneously preparing non-sterile and sterile pharmaceutical formulation. Prerequisite: 246; corequisite: Concurrent enrollment in Pharm 247.

276. Principles of Clinical Pharmacology. (3)

Examines the dynamics of drug absorption, distribution, metabolism and excretion (pharmacokinetics); the biochemical and physiological effects of drugs and their mechanisms of action (pharmacodynamics); and the use of drugs in the prevention and treatment of disease (pharmacotherapeutics) in the human body. Pre- or corequisites: Biol 237-238 and/ or Nurs 239, 240 or permission of instructor.

291. Pharmacy Drugs and Health Care. (3)

A study of factors affecting the contemporary practice of pharmacy.

302. Immunology for Pharmacy. (3)

The basics of molecular and cellular immunology with special emphasis on the effects of drugs on the immune system. Introduction to vaccines, anti-toxins, and immunotherapeutic agents. Prerequisite: Biol 239L or permission of instructor.

310. Pharmacy Practice Management I. (3)

Planning, organizing, operationalizing and controlling human and financial resources in pharmacy practice. Prerequisites: 291, Econ 201,

311. Pharmacy Practice Management II. (2)

A continuation of Pharm 310. Planning, organizing, operationalizing and controlling human and financial resources in pharmacy practice. Prerequisite: 310.

333. Drug Information. (2)

An examination of the structure of the biomedical literature using drug-related literature as examples incorporates literature retrieval and analysis, including an introduction to the principles of statistics. Prerequisite: 291, 473.

343. Pharmaceutical Calculations. (2)

Metrology and the arithmetic involved in compounding and prescription work. Prerequisite: Admission to College of Pharmacy.

345. Physical Pharmacy. (3)

The physicochemical principles and concepts that form the basis for the study of pharmaceutical delivery systems are presented. Topics considered include intermolecular forces, thermodynamics, states of matter, ionic equilibria, solubility, partition phenomena and chemical kinetics. Prerequisites: 247, 248L and 343, Physics 152.

347. Pharmacokinetics. (3)

Introduction to pharmacokinetic principles and their application to the evaluation of absorption, distribution and elimination profiles of drugs in man. Designed to emphasize the manner in which pharmacokinetic equations are used to develop safe and effective drug dosage regimens. Prerequisites: 247, 343, 345.

*402. Immunology for Pharmacy. (3)

The basics of molecular and cellular immunology with special emphasis on the effects of drugs on the immune system. Introduction to vaccines, anti-toxins, and immunotherapeutic agents. Prerequisite: Biol 239L or permission of instructor.

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: 347, and permission of instructor.

412. Radiopharmaceutical Chemistry. (1)

Introduces undergraduate students to inorganic chemistry as applicable to radiopharmaceuticals.

*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.

414. Basics of Nuclear Pharmacy Practice. (2)

Introduces students to a variety of concepts which are fundamental to the practice of nuclear medicine. Prerequisite: 428L.

416. 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. Prerequisites: 302, 347, 473.

*418L. Clinical Nuclear Pharmacy. (3)

Involvement in clinical aspects of radiopharmacy practice including interprofessional communications; clinical consultations and problem solving; scan analysis. Role of radiopharmaceuticals and nuclear medicine in patient management is stressed. Patient case studies are presented. Prerequisite: 416.

***419. Radiopharmacy Management. (1)**

Focuses on unique principles and procedures used in the operation of commercial radiopharmacies.

Prerequisite: permission of instructor.

420. Pharmacy Law and Ethics. (2)

Health law and ethics relating to the practice of pharmacy. Concerns the quality and costs of care, professional liability, antitrust, health care institutions, and health insurance.

Prerequisite: Students must have completed the fourth year. Permission of instructor only.

421. Sociology of Medical Practice. (3)

(Also offered as Soc 321.) 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.

425. Seminar in Pharmacy Administration. (3)

Reports and discussions on current literature and recent advances in the field. Student presentations on topics concerned with administrative, legal and socio-economic aspects of pharmacy practice.

Prerequisite: 291 or permission of instructor.

***426. Pharmaceutical Marketing. (3)**

The pharmaceutical market and marketing institutions with emphasis on the industrial sector. Includes principles of drug product development, pricing, promotion, distribution, control, and competition.

Prerequisite: 291.

***427. International Pharmacy. (3)**

Strategic, administrative and organizational problems associated with managing the drug supply in both industrial and third world nations.

428L. Nuclear Pharmacy Externship I. (3)

Structured professional practice experience in nuclear pharmacy under the guidance of pharmacy practitioners.

Prerequisite: 432, 438, 439L, 445L, 462, 476. Offered on a CR/NC basis only.

429L. Nuclear Pharmacy Externship II. (3)

A continuation of Pharm 428L. Prerequisite: 428L. Offered on a CR/NC basis only.

***431. Clinical Therapeutics I. (4)**

Introduction to disease states; laboratory tests used in their diagnosis and treatment; clinical drug therapy, adverse reactions, drug interactions and interferences with laboratory procedures inherent in such therapy.

Prerequisites: 333, 347 and 473, 461, 475. 3 lectures. 2hrs. conference.

***432. Clinical Therapeutics II. (4)**

Continuation of 431.

Prerequisites: 475, 431; corequisites: 462, 476. 3 lectures, 2 hrs. conference.

***433L. Clinical Pharmacy Rotations I. (1-4) Δ**

A directed experience with the student functioning at a professional level as a member of a health care team.

Prerequisites: 432, 438, 445L, 462, 476 and 439L. Faculty reserves the right to "even out" enrollment within several sections of 433L. Offered on a CR/NC basis only.

***434L. Clinical Pharmacy Rotations II. (1-3)**

Optional rotations in clinical pharmacy.

Prerequisite: 433L. Faculty reserves the right to "even out" enrollment within several sections of 434L. Offer on a CR/NC basis only.

435L. Community Pharmacy Externship I. (3-5) Δ

Professional practice experience in community pharmacy under the guidance of pharmacy practitioners.

Prerequisites: 432, 438, 439L, 445L, 462, 476. Offered on a CR/NC basis only.

436L. Advanced Pharmacy Externship. (1-5)

Professional practice experience in nontraditional settings under the guidance of pharmacy practitioners. Potential sites include drug manufacturing, nursing home consulting, rural health clinics, cancer center pharmacy, research pharmacy, and home care pharmacy.

Prerequisite: 435L or 457L. Offered on a CR/NC basis only.

437. Therapeutic Drug Monitoring and Drug-Induced Diseases. (3)

A study of clinical pharmacokinetics and pharmacodynamics of drugs that are commonly monitored with plasma concentration determinations. The most clinically significant drug-induced diseases will be evaluated using an organ systems approach.

Prerequisites: 432, 476.

438. O.T.C. Drugs and Products. (3)

Lectures on various OTC drugs and products with emphasis on the pharmacist's role in assisting the patient in appropriate product selection based upon a comprehensive knowledge of the patient's health status. This course will be coordinated with the Clinical Therapeutics Sequence. (Phar 431, 432).

Prerequisite: 431. Pre-corequisite: 432.

439L. Communications in Pharmacy Practice. (2)

Communication skills used in pharmacy practice will be addressed.

Prerequisites: 311, 333.

440. Pharmacy Interdisciplinary Training. (3)

This course consists of student centered problem-based learning tutorials with students from several health care disciplines. Coursework is completed during a Fall and Spring semester, followed by Summer experiential courses in rural areas.

444. Applications of Therapeutic Nutrition in Pharmacy. (2)

Concepts in therapeutic nutrition to include fundamentals of nutrition, vitamin therapy, enteral and parenteral nutrition products and delivery systems, and influences of nutrition on drug action.

Prerequisite: 431. Corequisite: 432.

445L. Dispensing. (1)

Designed to introduce and prepare the student for the functions of dispensing medications in a community pharmacy.

Prerequisites: 333, 347, 473.

448. Pharmaceutics for Hospital Pharmacy Practice. (3)

Extemporaneously compounded preparations relevant to hospital pharmacy practice are discussed using principles and methodologies of pharmaceutics. Special emphasis is placed on understanding the rationale of stability and solubility-related incompatibilities in intravenous therapy.

Prerequisite: 347.

***451. Institutional Pharmacy Practice I. (3)**

Objectives, principles, and methods for the organization of comprehensive pharmaceutical services in meeting modern patient care goals in organized health care settings.

Prerequisite: 291.

453. Medication Errors. (2) Raymond

A study of the existence of medication errors, reasons for these errors, and suggested methods to prevent them from occurring.

Prerequisites: 247, 343.

***455. Pharmacy Practice for the Geriatric Patient. (2)**

The course will provide the student with a comprehensive understanding of caring for the geriatric patient from the pharmacist perspective.

Prerequisite: Pharm 431 or prior approval of the instructor.

457L. Hospital Pharmacy Externship I. (3-5) Δ
 Professional practice experience in hospital pharmacy under the guidance of pharmacy practitioners.
 Prerequisites: 432, 438, 439L, 446L, 462, 476. Offered on a CR/NC basis only.

458L. Hospital Pharmacy Externship II. (1-5)
 An optional continuation of Pharm 457L.
 Prerequisite: 457L. Offered on a CR/NC basis only.

***459. Sterile Products. (3)**
 Theory and application of principles involved in the formulation, preparation, packaging, and sterilization of sterile pyrogen-free products. Sterile techniques and control procedures are stressed.
 Prerequisites: 343, 345.

***459L. Sterile Products Lab. (1)**
 Application of principles involved in formulation, preparation, packaging, and sterilization of sterile pyrogen-free products. Sterile techniques and control procedures are stressed.
 Prerequisites: 431, 444, 475. Corequisite: 459.

461. Organic Pharmaceutical Chemistry I. (3)
 A study, from the chemical viewpoint, of organic substances used in pharmacy and medicine.
 Prerequisite: 302, 423, Chem 301. Corequisite: 475.

462. Organic Pharmaceutical Chemistry II. (3)
 A continuation of 461.
 Prerequisite: 461; corequisite: 476.

***473. Pharmacology I. (3)**
 Study of the general principles of pharmacology followed by an examination of important classes of drugs beginning with the autonomic nervous system. Pre- or corequisites: 239-240, Biol 237-238, Chem 423.

***475. Pharmacology II. (4)**
 A continuation of 473. Coverage includes drugs affecting the autonomic and central nervous systems and cardiovascular and endocrine system pharmacology. The actions of the more important drugs are demonstrated.
 Prerequisites: 473, 461 Chem 423 or permission of instructor.

***476. Pharmacology III. (4)**
 A continuation of 475.
 Prerequisite: 462, 475 or permission of instructor.

477. Immunotoxicology. (2)
 Prerequisites: fifth year standing, 302, 476, or permission of instructor.

480. General Toxicology. (3)
 An in depth introduction to the basic principles and concepts of toxicology. Categories of chemicals causing toxic effects, the manner of exposure to toxic substances, the environmental and biological effects and laws and regulations will be considered.
 Prerequisite: 476.

481. General Toxicology II. (2)
 A continuation of Pharm 480.
 Prerequisite: 480.

482. Clinical Toxicology. (3)
 Study of the acute toxicity in humans of drugs as well as household, environmental, and industrial chemicals with emphasis on symptomology and treatment. Special emphasis will be directed toward industrial, economic and therapeutic toxicity problems encountered by the hospital and community pharmacist.
 Prerequisites: 432, 476.

485. Biochemical Toxicology. (3)
 The interaction of drugs and other chemicals with life forms

at the biochemical or molecular level. Desirable and undesirable effects will be covered, and mechanisms of metabolism and excretion will be emphasized.
 Prerequisite: Chem 423 or equivalent.

487. 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: 476 or permission of instructor.

496. Topics in Pharmacy. (1-3) Δ
 Prerequisite: 291.

497. Problems in Pharmacy. (1-5)
 Research and library problems in some phase of pharmacy.
 Prerequisite: permission of instructor.

498. Problems in Pharmacy. (1-5)
 Research and library problems in some phase of pharmacy.
 Prerequisite: permission of instructor.

511. Nuclear Pharmacy Instrumentation. (3)
 Structure and properties of atoms, radiation and radioactive decay, production of radio nuclides, 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. 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.

514. Basics of Nuclear Pharmacy Practice. (2)
 Introduces students to a variety of concepts which are fundamental to the practice of nuclear pharmacy. Prerequisite: permission of instructor.

516. Radiopharmacology. (3)
 Study of the physicochemical characteristics of radiopharmaceuticals; kinetics of radiopharmaceuticals; structure-distribution relationships of radiopharmaceuticals; considerations in the design of new radiopharmaceuticals.
 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.
 Prerequisite: 411 or 511 and permission of instructor.
 Corequisite: Pharm 518.

521. Radiopharmaceuticals. (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.

547. Pharmacy Practice Research. (3)

Research process, methods, measurement, tools, designs and ethics.

549. Advanced Pharmacokinetics. (3)

Graduate students will be required to write computer programs for the pharmacokinetic analysis and modeling of drugs in biologic systems.
Prerequisite: 442

551. Institutional Pharmacy Practice II. (1-3)

Advanced aspects of institutional pharmacy. Students select 3 from a variety of special topics including drug information, pharmacokinetics, sterile products, pharmacoconomics, or pharmacoepidemiology over several semesters.
Prerequisite: enrollment in pharmacy graduate program.

552. Pharmacy Resource Management. (3)

Specialty areas of institutional pharmacy practice will be discussed such as nuclear pharmacy, computer applications, research activities, supportive personnel training. The function, composition, and organization of major hospital departments and committees with which pharmacy departments interact are described.
Prerequisites: graduate status, 451 or permission of instructor.

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.
Prerequisites: graduate status, 451 and 552.

554. Project in Pharmaceutical Sciences Field. (2-5)

Field study off-campus.
Prerequisites: graduate student status and permission of instructor.

564. Chemistry of Xenobiotics. (3)

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, 302, 476, or permission of instructor.

580. General Toxicology I. (3)

An in depth introduction to the basic principles and concepts of toxicology. Categories of chemicals causing toxic effects, the manner of exposure to toxic substances, the environmental and biological effects, and the laws and regulations will be considered.
Prerequisite: graduate standing.

581 General Toxicology II. (2)

A continuation of 480/580.
Prerequisite: 480/580.

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.
Prerequisite: Chem 423 or equivalent. One 3 hours lab per week.

586. Toxicology Research Conference. (1)

Group discussion of issues and practices in toxicology.

587. Pollution Toxicology. (2)

Prerequisite: 476 or permission of instructor.

589. Inhalation Toxicology. (2)

An overview of the major aspects of inhalation toxicology with emphasis on exposure systems, basic biology of the respiratory tract, and the response of the lung to inhaled toxicants.
Prerequisite: Pharm 580.

591. Seminar in Administrative Pharmacy. (1)

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.
Prerequisite: graduate status.

592. Seminar in Radiopharmacy. (1)

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.

593. Seminars in Toxicology. (1)

Students will be required to present a seminar on a selected topic of interest based upon library research or their own experimental studies at least once per semester. May be counted once toward graduation credit.

597. Research Problems in Pharmaceutical Sciences. (1-5)

Research in pharmaceutical sciences.
Prerequisites: graduate status and permission of instructor.

598. Topics in Pharmaceutical Sciences. (1-3)

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. Thesis. (1-6)

Offered on a CR/NC basis only.

699. Dissertation. (1-9)

Offered on a CR/NC basis only.

SCHOOL OF PUBLIC ADMINISTRATION

T. Zane Reeves, Director
The University of New Mexico
School of Public Administration
Social Science Bldg., Room 3024
Albuquerque, NM 87131-1216
(505) 277-3312

Professors

F. Lee Brown, Ph.D., Purdue University
T. Zane Reeves, Ph.D., University of Southern California

Associate Professors

Bruce J. Perlman, Ph.D., Claremont Graduate School
Alan B. Reed, Ph.D., University of Texas
Jose A. Rivera, Ph.D., Brandeis University

Assistant Professors

Santa Falcone, Ph.D., Syracuse University
Suzanne Kotkin-Jaszsi, Dr. P.H., University of California
(Berkeley)

Emeriti and Visiting Professors

Larry Gordon, M.Ph.H., University of Michigan
Ferrel Heady, Ph.D., Washington University
Leonard Stiteman, Ph.D., University of Colorado

Public Administration Graduate Committee

The entire faculty serves as the Graduate Committee for the School of Public Administration.

Application Deadlines

Fall semester: June 15
Spring semester: November 1

Introduction

The school offers an interdisciplinary Master 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.

The school offers concentration areas for persons interested in health services administration, budget-financial management, gerontology administration and personnel administration. It is not necessary to choose a concentration and many students select a general program. Joint degree programs with the School of Law, and Community and Regional Planning enable 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 *Graduate Programs* section of this catalog. For a description of the Water Resources Administration Program, please see the section under that heading.

Graduate Program

Degrees Offered

Master of Public Administration (M.P.A.)

Concentrations: budgeting-financial management, gerontology administration, health care administration, personnel administration; inactive concentrations in criminal justice administration and natural resource administration.
Master of Water Resources Administration (M.W.R.A.)

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

See also Individual Dual-Degree Programs, and Community and Regional Planning, page 99.

The School offers a Master of Public Administration degree with the concentrations listed above. The degree prepares men and women interested in public service 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. The degree is also offered through the Center for Graduate Studies at Santa Fe. The entire curriculum for the M.P.A. is also taught in Spanish on main campus.

The Master of Water Resources Administration is an interdisciplinary program involving faculty and courses from ten academic units on campus and is governed by a steering committee appointed by the Natural Resources Center. Its curriculum and guidelines are described in a separate brochure available on request. In addition to University requirements, the School utilizes the following criteria to evaluate applicants:

A background and qualifications form, three completed reference forms, GRE scores (sometimes required), and official transcripts must be received before application for admission will be considered. Application folders must be completed by the indicated deadlines.

Admission Requirements

The School will admit new students to the graduate program only in the fall and spring semesters of each year; exceptions to this procedure are rare. Since competition for admission is strong, only applicants with strong academic and professional records will be admitted. The following minimum requirements are expected of all applicants.

1. A baccalaureate degree from an accredited college or university.
2. Grade point average during the last two years of undergraduate work of at least a 3.0 on a 4.0 scale, or equivalent. Students with less than a 3.0 may be admitted if their professional record in public service is exceptionally strong, and they show academic promise on the GRE.
3. Completed background and qualification form which includes the Public Administration Writing Proficiency Entrance Statement administered by the School.
4. Three professional and/or academic references evaluating your potential for graduate work. Forms are available from the School office.
5. The Graduate Record Exam is sometimes required for admission into the MPA program. Please make arrangements to take the exam in plenty of time so that the Admissions Committee has the results when reviewing your file.
6. Successful completion of an undergraduate or graduate course in basic statistics within the last five years or approved enrollment by the Director in the first semester of admission in an approved statistics course. An appropriate statistics course must be completed before enrolling in the Schools methodology courses Pub Ad 596 or 597.
7. The Schools admissions committee may require an interview with any applicant.

Non-Degree and Post-Degree Status

Students who take Public Administration courses in non-degree and post-degree status fall into several categories. Some applicants may be advised by the admissions committee to take six credit hours in non-degree status before applying again for admission. Such students must achieve at least a 3.5 grade point average (i.e., one A and one B) in Pub Ad 500, Pub Ad 521, or Pub Ad 525 to be eligible for admission to the program.

A second category of non-degree students are those students who have already completed a graduate degree. Such students may enroll in non-degree status with prior approval of the School director. Other individuals may be allowed to enroll in non-degree status on a case by case basis by obtaining signatures on a gold Pub Ad card from the Graduate Advisor or School director.

Degree Requirements

Degree requirements involve completion of a common core curriculum of 15 units by all students which consists of the following courses:

Pub Ad 500 Contemporary Public Administration
 Pub Ad 521 Administrative Behavior
 Pub Ad 525 Public Personnel Administration
 Pub Ad 544 Public Budgeting
 -and-
 Pub Ad 596 Field Research Methods
 -or-
 Pub Ad 597 Program Evaluation

Only students who have received credit in a 3-semester-hour course in basic statistics may enroll in either Pub Ad 596 or Pub Ad 597.

Following completion of the core, students must successfully complete the qualifying examination (see below).

Following successful completion of the qualifying examination and prior to beginning work on the thesis or professional paper described below, the student must take Pub Ad 546 and two other courses as follows:

1. Either: Pub Ad 524 - Intergovernmental Administration
 -or-
 Pub Ad 535 - Comparative Public Administration
2. Either: Pub Ad 527 - Employee Relations in the Public Sector
 -or-
 Pub Ad 596 or 597 (whichever course was not used for core requirements)
 After successful completion of 24 hours, students are required to file a Candidacy Application.

Degree requirements may be satisfied by two alternative plans. Under the thesis option, the student completes 36 course credit hours, including six hours outside the School, plus six thesis credit hours for a total of 42 credit hours. Under the non-thesis option, the student completes a minimum of 42 course credit hours, including six hours outside the School. The student pursuing the non-thesis plan must also enroll in Pub Ad 553 to complete a professional paper under the guidance of a faculty advisor. Students pursuing either option must complete a minimum of 42 units.

For additional details on degree requirements and graduate assistantships, consult with the School office.

Water Resources Administration

School of Public Administration
 Social Sciences Bldg. 3036
 Albuquerque, NM 87131-1216
 (505) 277-7759

The Interdisciplinary Steering Committee

Richard J. Heggen, Chair (Civil Engineering), Ph.D., Oregon State University
 Shaul Ben-David (Resource Economics), Ph.D., Cornell University
 F. Lee Brown (Economics and Public Administration), Ph.D., Purdue University
 Michael E. Campana (Geology), Ph.D., University of Arizona
 Denise D. Fort, Academic Director, J.D., Catholic University of America, School of Law
 Ruth L. Kovnat (Law), LL.B., Southern Methodist University
 Charles T. DuMars, (Law), J.D., University of Arizona College of Law
 James R. Richardson (Architecture and Planning), M.Arch in Advanced Studies and M.C.R.P., Massachusetts Institute of Technology
 Carleton S. White (Biology), Ph.D., University of New Mexico

Administration

Director, School of Public Administration
 Roberta Lopez, Graduate Advisor

Application Deadlines

Fall semester: April 15
 Spring semester: October 15

Degree Offered**Master of Water Resources Administration**

The Master of Water Resources Administration (MWRA) is a professional degree designed to prepare students for careers in water management. Its program of study assumes a basic proficiency in at least one water-related discipline—engineering, resource economics, law, community planning, geology, and biology among others—or substantial professional experience in a water resources field.

The MWRA is offered by the School of Public Administration, which confers the degree, provides support staff to the program, and serves as its administrative headquarters. Governance of the MWRA program rests with a Steering Committee composed of faculty members drawn from the participating academic units: Civil Engineering, Biology, Geology, Economics, Political Science, Public Administration, Law, and Architecture and Planning.

Admission Requirements

The steering committee reviews and acts on applications twice a year, observing the deadlines mentioned above. Applicants must meet the general requirements for admission to graduate status as well as specific requirements for admission to the MWRA program. The following are expected of all applicants:

1. A baccalaureate degree from an accredited college or university.
2. A grade point average during the last two years of undergraduate work of at least 3.0 on a 4.0 scale, or equivalent. Students with less than a 3.0 may be admitted if their professional records are exceptionally strong.
3. Three completed reference forms from persons in a position to make a critical and informed appraisal of the applicants academic or professional qualifications for the MWRA program. Forms are available from the MWRA Student Advisors office (277-1092).
4. Successful completion of MWRA prerequisites: two semesters of Calculus (Math 162 & 163 or equivalents), two semesters of Introductory Chemistry (Chem 121L & 122L or equivalents), one semester of Probability and Statistics (Math 345 or equivalent), and one semester of Intermediate Microeconomics (Econ 300 or equivalent). NOTE: Although, normally, students must satisfy the prerequisites before they can be admitted to the program, the steering committee may approve the admission of some students who

have not yet met the prerequisites on the condition that these students complete the prerequisites before taking courses in the program.

- A completed Background and Qualification form. This form includes a Writing Proficiency Entrance Statement for use by the steering committee in assessing an applicants particular aptitude for the program.

To applicants who do not meet these criteria, the steering committee may recommend taking 6-12 units in non-degree status. A maximum of 12 units taken in non-degree status may be transferred to the MWRA degree program.

Degree Requirements

To receive the MWRA degree all students must complete a prescribed 36-credit-hour curriculum and receive passing evaluations on a masters examination based on a professional project. Thirty (30) of the 36 credit hours must be earned by completing the core curriculum; the remaining 6 credit hours can be earned by taking two 3-credit-hour courses from a list of approved options. The core curriculum is unified by three interdisciplinary courses designed expressly for the MWRA program. The interdisciplinary courses, all 4-credit-hour courses, are sequentially integrated and should be taken in order. Each of these courses includes a communications laboratory component. On petition to the Academic Director, for good cause shown, students are permitted to make adjustments in certain of these requirements, due to causes such as scheduling conflicts, or course unavailability.

Core Curriculum:

Pub Ad 571	Interdisciplinary Water Resources I: Basin Survey & Communications Lab (fall semester)
Pub Ad 572	Interdisciplinary Water Resources II: Technical Modeling & Communications Lab (spring semester; also offered as Econ 545)
Pub Ad 573	Interdisciplinary Water Resources III: Field Based Problem Solving & Communications Lab (summer session)
*C E 552	Environmental Engineering
*E&PS 462	Hydrogeology
*LAW 547	Water Law
Pub Ad 521	Administrative Behavior
Pub Ad 525	Public Personnel Administration
Pub Ad 544	Public Budgeting

* Students who begin the program having taken one of these courses or equivalent courses meet the requirement by taking a more advanced course in the same subject (see course descriptions, below).

Options (two courses):

Econ 442	Resource Economics
Pol Sc 470	Public Policy Analysis
Pub Ad 574	Environmental Policy, Planning, and Law
LAW 580	Environmental Law

NOTE: Additional courses may be added as they are developed.

Professional Project

The Professional Project is required as a condition of graduation. It is ordinarily based on the work done in the third interdisciplinary course, the Field Project. A student should enroll in the Field Project near the end of his or her studies and participate with other students in the preparation of the comprehensive field report.

The following course descriptions are presented for the convenience of the students; a current class schedule should be consulted for confirmation. In addition, please note that Law School classes may have special registration prerequisites, and may be on a different schedule from those of the main campus.

C E 431. Intermediate Hydrology. (3)

(Alternative for students who have taken Engr-N 337.) Hydrometeorology, interception, depression storage, infiltration, hydrograph analysis, flood routing, urban hydrology, groundwater analysis and utilization. Prerequisite: 332. (Fall)

C E 433. Groundwater Engineering. (3)

(Alternative for students who have taken E&PS 462.) Hydraulics of groundwater flow, well hydraulics, subsurface water quality and groundwater management. Prerequisite: 332 or permission of instructor. (Spring)

C E 552. Problems/Environmental Engineering. (3)

Closed circuit and open channel flow, streamflow, hydrostatics, hydrometeorology, hydraulic structures, abstractions, and reservoir operation. Required.

E&PS *462. Hydrogeology. (3)

Hydrologic and geologic factors controlling groundwater flow; well hydraulics. Interactions between surface and subsurface hydrologic systems. Regional flow systems; groundwater geochemistry and contamination. Prerequisites: 105L, Chem 122L, Math 163L, Physcs 160 or permission of instructor.

E&PS *472. Subsurface Fate and Transport Process.

[Groundwater Analysis.] (3) Campana, Crosse (Alternative for students who have taken 432.) Physicochemical, hydrogeological, biological, and mathematical aspects of chemical fate/transport in subsurface porous/fractured media. Application of geochemical models to subsurface flow systems; mass transport/geochemical coupling. Introduction to multiphase/nonaqueous phase liquid flow. Prerequisites: 462 or C E 433 and E&PS 415, or C E 437L, or permission of instructor.

Econ *442. Topic/Environment and Natural Resource Economics. (3)

Land, water, mineral, energy resources; development, allocation, pricing; productivity and effects on national income and balance of payments. Prerequisite: 300.

Econ 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.

Econ 542. Environmental and Natural Resource Economics: Survey. (3)

(Alternative for students who have taken Econ 442.) 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.

Law 547. Water Law. (3)

Explores the law relating to acquisition, transfer, sale, abandonment, and forfeiture of water rights. Examines federal and constitutional water-related issues as well as the overall economics and environmental policy questions that are implicated. Required. Alternatives for students who have taken course: 605 or 680. (Spring)

Law 580. Environmental Law. (1-3)

Focuses on Federal environmental legislation, and the interplay between the courts, administrative agencies, and the Congress. While students will receive an introduction to the breadth of environmental law, the emphasis will be on the National Environmental law, and a selected statutory scheme, such as the Clean Water Act. Areas of special interest to the Southwest will be covered.

Law 605. Water Law Problems. (3)

(Alternative for students who have taken 547.) Seminar on a variety of Western water issues. Class discussion centers on student research.

Pol Sc 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 those problems. Option. Alternative for students who have taken course: 570. Prerequisite: 200.

Pol Sc 570. Pro-seminar in Public Policy. (3)

(Also offered as Pub Ad 570.) (Alternative for students who have taken 470.) Review of representative theories of public policy, including policy formation, implementation, impact analysis.

Pub Ad 521. Administrative Behavior. (3)

Pub Ad 525. Public Personnel Administration. (3)

Pub Ad 544. Public Budgeting. (3)

Pub Ad 571. Interdisciplinary Water Resources I: Basin Survey & Communications Lab. (4)

Pub Ad 572. Interdisciplinary Water Resources II: Water Modeling & Lab. (4)

(Also offered as Econ 545)

Pub Ad 573. Interdisciplinary III: Field Based Problem Solving & Communications Lab. (4)

Prerequisite: 572

Pub Ad 574. Seminar on Environmental Policy and Administration. (3)

Public Administration (Pub Ad)

***421. Introduction to Public Management. (3)**

(Also offered as Pol Sc 375.) The organization, administration, and operation of federal, state, and local agencies with emphasis on the dynamics and problems involved in carrying out public policy. (No credit for division students.)

500. Contemporary Public Administration. (3)

(Also offered as Pol Sc 500.) Basic concepts, problems, and issues in management of public agencies at federal, state, tribal, and local government levels. (Required)

521. Administrative Behavior. (3)

Socio-psychological basis of behavior in large public organizations. Deals with such problems as relationship of employee to agency, group dynamics, nature of authority, communications, psychology of decision making, problem solving. (Required.)

523. Administration of Urban and Local Government. (3)

Organization processes, policies and programs of urban, county, school and special district governments. Administrative problems and techniques, budgeting, planning, decision-making.

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. Public Personnel Administration. (3)

Concepts, policies, and practices of federal, state, and local public agencies in the personnel field. Recruitment, placement, classification, compensation, training, employee unions, affirmative action. (Required.)

527. Employee Relations in the Public Sector. (3)

Introduction to employee relations among public sector agencies in unionized and non-unionized organizations. Particular attention will be given to legal framework, negotiations, impasse resolution, contract administration, grievance handling, and employee conflict resolution.

530. Health Services Administration. (3)

Administrative and organizational arrangements for health care; manpower needs and resources; problems of coordination, supervision, and delivery. Problems of preventive medicine with particular emphasis on environmental factors in health care.

535. Comparative Public Administration. (3)

(Also offered as Pol Sc 535.) 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. {Fall, Spring}

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)

Examines the laws and processes by which governmental budgeting decisions are made. Particular attention will be devoted to the legal, historical, and political aspects of these processes. Proposals to reform government budget process are examined and evaluated. Budget theories, behavior and strategies employed in budget preparation are also reviewed. (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 hrs. per semester)

A topic relevant to public administration is developed, resulting in a paper of substantial length. Prerequisite: permission of instructor.

553. Professional Paper. (1-3)

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 be continuously enrolled until their professional paper is approved.

555. Workshop for Interns. (1-3 hrs. per semester, to a maximum of 6)

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.

569. Rural Community Development. (3)

(Also offered as CRP 569.) Reviews rural development policy with emphasis on the Southwestern context; examines key policy-planning issues in rural and small town development including administrative approaches to policy implementation.

570. Pro-seminar in Public Policy. (3)

(Also offered as Pol Sc 570.) Review of representative theories of public policy, including policy formation, implementation, impact analysis.

571. Interdisciplinary Water Resources I - Basin Survey and Communications Lab. (4)

Through comprehensive examination of a single river or groundwater basin and of a specific water management problem within that basin, this course illustrates the interaction of natural and human systems in shaping water supply and water quality issues. Lab classes focus on small group processes and written communication. Assignments concern contemporary water issues and emphasize collaboration and audience sensitivity. Required for Water Resources students. (Fall)

572. Interdisciplinary Water Resources II - Modeling and Communications Lab. (4)

(Also offered as Econ 545.) Focuses on the use of technical models in the management of water resources. Includes both conceptual formulation and practical application from an administrative perspective. Covers surface flow, reservoir storage, groundwater, economic, and ecological models. Lab emphasizes design and use of graphic aids for explaining quantitative and technical information to both professional and public audiences. Required for Water Resources students.

Prerequisite: 571. (Spring)

573. Interdisciplinary Water Resources III - Field Based Problem Solving and Communications Lab. (4)

Intensive, interdisciplinary experience with a single water resource problem. Students work successively through problem identification and definition, collection and analysis of field data, and presentation of conclusions and recommendations in appropriate forums. Lab devoted to production of research reports and defense of the reports in mock administrative, legislative, or judicial hearings. Required for Water Resources students.

Prerequisite: 572. (Summer)

574. Seminar on Environmental Policy and Administration. (3)

Examination of issues and problems associated with the implementation of U.S. environmental policies and pro-

grams. Administration of natural resources on federal, state and local levels, with special reference to the Southwest.

575. Natural Resource Economics. [Seminar: Energy Policy and Administration.] (3)

(Also offered as Econ 343, 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: 105 and 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 policymaking processes in criminal justice agencies and institutions, with particular focus on corrections, law enforcement, and court administration.

585. Tribal Administration. (3)

Administration 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. Field Research Methods. (3)

Introduction to basic research designs and techniques that are used in the administrative setting. Survey research methodologies are emphasized including questionnaire design and administration, interview techniques, data preparation and applications to organizational development and personnel workshops.

Prerequisite: statistics.

597. Program Evaluation. (3)

An applied course in public policy and program evaluation techniques. Topics include PERT, quasi-experimental design, impact analysis, and program monitoring techniques. Students will learn to conduct a case study of an agency or a program within an agency.

Prerequisite: 500.

599. Master's Thesis. (1-6 hrs. per semester)

Offered on a CR/NC basis only.



OFFICE OF UNDERGRADUATE STUDIES

Janet Roebuck, Dean
The University of New Mexico
University Student Services Center Rm. 114
Albuquerque, NM 87131-1456
(505) 277-2631

Introduction

This academic unit contains the Office of Undergraduate Studies, and the Testing Center of the University.

The Office of Undergraduate Studies

All undergraduate students who are admitted to the university but have not yet met the requirements to enter a degree-granting college are supervised by the Office of Undergraduate Studies, which is responsible for applying the academic regulations of the university for these students and for their academic advisement. The Office of Undergraduate Studies maintains an academic advisement center and coordinates the work of the 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, the Office of Undergraduate Studies maintains their records and is responsible for their general academic oversight and advisement until they are admitted to a 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 Office of Undergraduate Studies. 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

The Office of Undergraduate Studies accepts all undergraduate students who are admitted to UNM 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 the Office of Undergraduate Studies to any UNM degree-granting college or school are:

- Twenty-six hours of earned credit acceptable to that college.
- 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.

Testing Center

The Testing Center administers many national testing programs related to university admission such as the Graduate Record Examinations, Miller Analogies Test, Law School Admission Test, ACT, (American College Test), GED (high school equivalency test), the National Teacher's Examination, and numerous community oriented testing programs. The Center is also responsible for the administration of the various programs internal to the university, such as testing for placement, challenge, and admission. The Center administers many inventories (personality, career interests, values, etc.) used as counseling aids to enhance self-understanding.

Information concerning the above services may be obtained by calling the Testing Center (277-5345).

INTRODUCTORY STUDIES

Kris L. Ford, Assistant Dean
T-VI /UNM
Oñate Hall B-2
Albuquerque, New Mexico 87131
(505) 277-5970

Introduction

Students whose ACT or SAT scores fall below specified levels must enroll in certain developmental courses.

An operating agreement exists between UNM and T-VI founded on the recognition of the need and opportunity to provide quality developmental courses and services to UNM students in the most positive and convenient manner. Under this agreement, the following introductory studies courses are offered by T-VI and are taught by T-VI instructors.

Introductory Studies Program

Students who need developmental course work should consult with a Office of Undergraduate Studies Advisor and refer to the appropriate T-VI Bulletin.

English (IS-E)

100. Writing Standard English II. (3)

This course reviews the conventions of standard American English in the context of writing well-developed paragraphs within short essays. Students are introduced to a variety of strategies for organizing essays. Satisfactory completion of ENGL 100 meets prerequisite for ENGL 101. **Offered on a CR/NC basis only.**

Mathematics (IS-M)

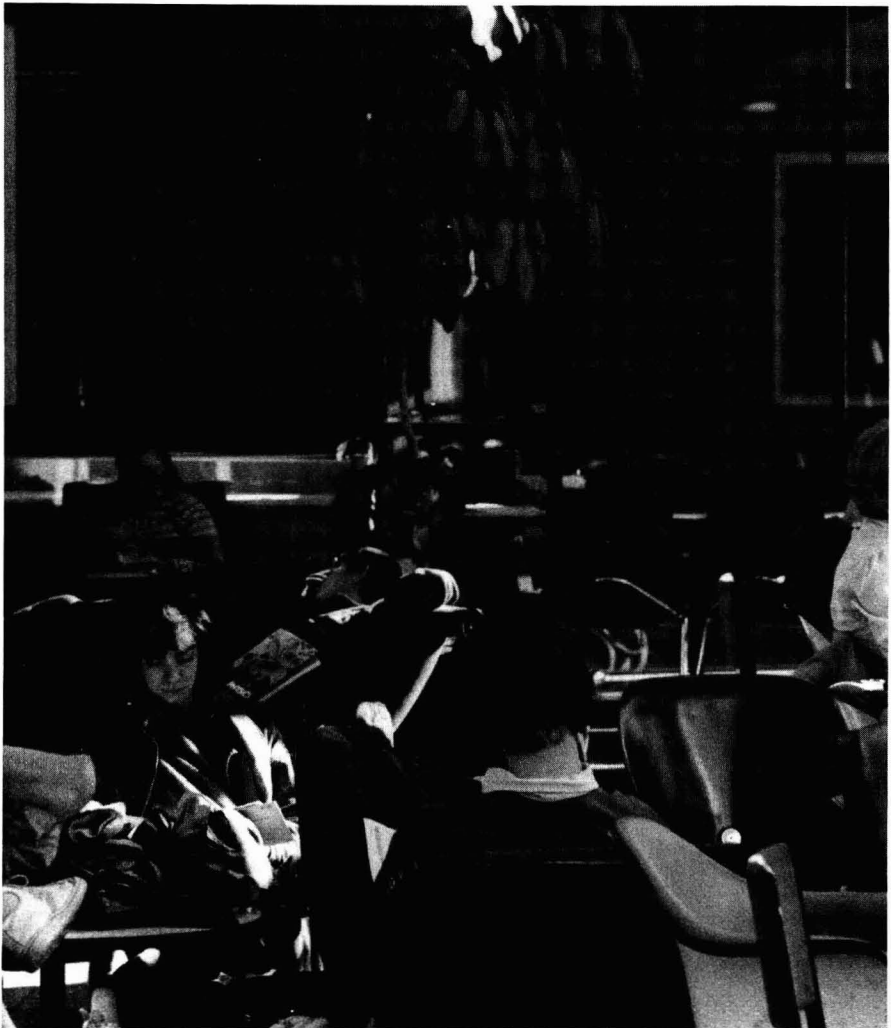
100. Elementary Algebra for College Students. (3)

This course is for students who are not prepared to enter Math 120. Topics include linear equations, polynomials, factoring, formulas, graphing, and application problems. Satisfactory completion of Math 100 meets prerequisite for Math 120. **Offered on a CR/NC basis only.**

Reading (IS-R)

100. College Preparatory Reading. (3)

This course focuses on building critical reading skills essential for success in college and in the workplace. Skills application is provided through readings in social science, science, and humanities. **Offered on a CR/NC basis only.**



UNIVERSITY COLLEGE

BACHELOR OF UNIVERSITY STUDIES

Barry Gaines, Director
The University of New Mexico
Student Services Center, Rm. 121
Albuquerque, NM 87131-1456
(505) 277-2631

The degree of Bachelor of University Studies (B.U.S.) is offered by the faculty of the University of New Mexico. This program, initiated in 1969, is administered through the University College.

This interdisciplinary baccalaureate degree program provides the opportunity for individual students to take responsibility for developing a unique program of studies not available through other UNM degree-granting colleges. The program permits both interdepartmental and intercollegiate combinations of courses that would be difficult or impossible to obtain if students were meeting the specific requirements of a disciplinary major. Students may structure a program of studies by choosing areas of concentration (30+ hours) and/or focus (15-30 hours) so that the sequence and combination of courses reflect either a specialized or a broad pattern of educational experience. This program is not intended for the undecided student. It may not be used for a second undergraduate degree.

Strict compliance with degree program academic requirements is mandatory for entrance and continuation in the program. An entry advisement interview is required. This interview is not used to restrict entrance to the program but to give students the opportunity to review their educational plans and strategies in light of the program requirements. Students will indicate their area(s) of concentration and/or focus at the entry advisement interview, and changes in this degree plan must be made in consultation with an advisor. The advisement of students is under the supervision of the Dean of the College and the Director of the Program and is subject to periodic review by the B.U.S. committee.

Students in the B.U.S. program must meet the general academic regulations of the university for admission, academic standing, and for 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 Catalog upon readmission.**

Questions regarding any aspect of the program should be addressed to the Director of the B.U.S. Program, currently located in The Office of Undergraduate Studies. The B.U.S. Program and The Office of Undergraduate Studies has information about any new revised requirements in the Program that have become effective subsequent to the preparation of this issue of the UNM Catalog.

Pre-Forestry and Pre-Veterinarian. For information regarding degrees and curriculum requirements for these programs, please contact the Director of the B.U.S. program.

Courses for which Degree Credit is and is not given.

Credit toward a degree will not be given for:

1. any course numbered 100, (eg., IS-English 100, IS-Math 100).
2. practicum or activity courses (eg., typing, shop work); courses which are primarily technical or vocational, or

other courses which lead to separate certificates (eg. Allied Health Sciences such as Radiation Therapy Technology; Dental Hygiene); courses with a "T" suffix; courses taken in a 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 credits for them unless they have the explicit prior approval of the B.U.S. Committee.

Credit toward a degree will be given for:

1. up to 4 hours of ensemble music and/or dance.
2. up to 4 hours of non-professional physical education.
3. up to 18 hours of problems courses, independent study courses, or similar variable-credit courses, unless special permission is granted. 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.

B.U.S. Grade-Point Average. The B.U.S. grade-point average is based on all attempted UNM courses that are acceptable to the B.U.S. Program (see definition above).

Admission to B.U.S. Program

Requirements for transfer into the B.U.S. program are as follows:

1. Twenty-six hours of earned credit acceptable to this program.
2. A minimum cumulative grade-point average of 2.00 on all courses acceptable to the B.U.S. Program.
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. A score of 57 or better plus a passing essay on the College Composition CLEP Subject Examination.
 - e. Credit for Engl 102 through CEEB advanced placement program.
4. A mandatory advisement interview prior to transfer.

Students must begin the admission process in the Office of Undergraduate Studies.

Transfer from other accredited institutions. Students seeking transfer into the program from another accredited institution must meet the UNM general admission requirements for transfer and also present a minimum of 26 transferable semester hours of credit acceptable to this program. Acceptable transfer credits will be reduced if credits are subsequently earned in comparable UNM courses. Also, note that transfer work is not computed into the UNM grade-point average. The required entry advisement interview must be held no later than the end of the initial semester in the program.

Graduation Requirements

Students are encouraged to apply for graduation during the semester preceding that in which they plan to graduate. Students planning to graduate at the end of a given semester **MUST** apply for the degree in the Office of Undergraduate Studies by the end of the fourth week of that semester. Following the application, a summary specifying the work remaining for the degree will be prepared and sent to students. However, students are solely responsible for completing all the requirements for graduation.

The specific graduation requirements are:

1. A minimum of 128 semester hours of earned credit acceptable to the program (see definition, above).
2. A minimum B.U.S. grade-point average of 2.00 (see definition above).
3. A minimum of 50 semester hours earned in courses at the upper division level (300 level or higher).
4. A minimum grade-point average of 2.00 on all upper division course work attempted at The University of New Mexico.
5. A minimum of 24 semester hours of academic work earned while enrolled in the B.U.S. Program. These must include the final 24 hours of enrollment prior to graduation from the B.U.S. Program.
6. Fulfillment of UNM's residence credit requirement.

Natural Science (ns)

No major or minor offered.

For information, call Professor Bel Campbell, (505) 277-5148

261. Physical Science. (4)

For pre-service K-8 teachers only. A broad, inter-disciplinary introduction to the science of geology, chemistry, physics,

and astronomy, with emphasis on the science processes and inquiry. The course is activity-based, utilizing a problems-and-issues based approach; various teaching methods are modeled and practiced by students.

262. Life Science. (4)

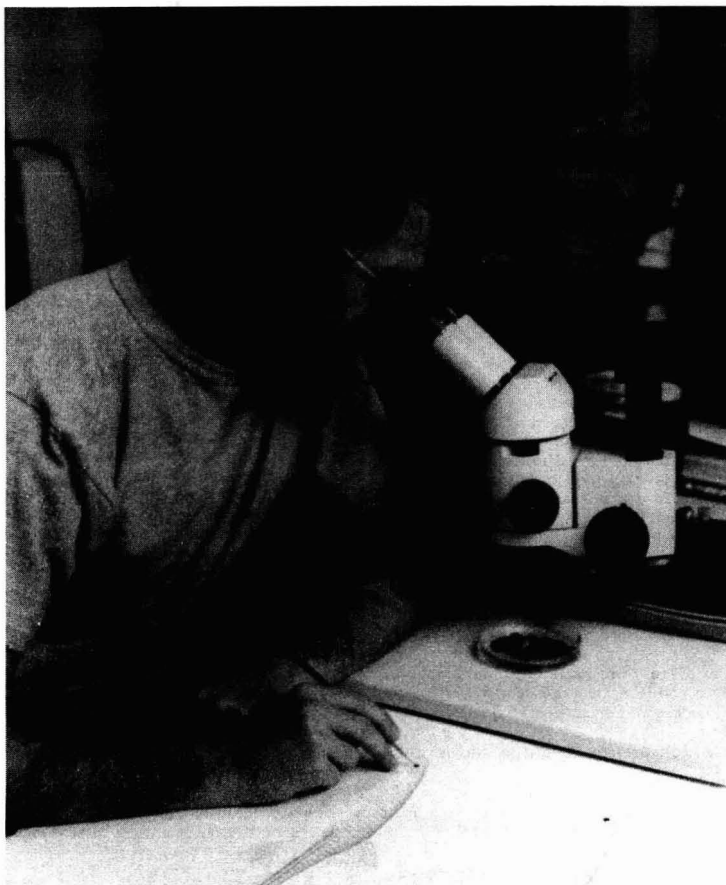
For pre-service K-8 teachers only. An activity-based study of science topics including botany, cell biology, genetics, microbiology, and zoology with emphasis on science processes and inquiry. Various teaching methods are modeled and practiced by students; some field experiences may be required.

Prerequisite: 261.

263. 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. Course topics include current issues on population, healthy ecosystems, and natural resources. Various teaching methods are modeled and practiced by students.

Prerequisites: 261, 262.



INTERDISCIPLINARY STUDIES

Aging Studies

Leonard Stitelman, Coordinator
The University of New Mexico
Social Science Bldg., Room 3012
Albuquerque, New Mexico 87131
(505) 277-7757

Aging Studies was established in 1987 under the Interdisciplinary Center for Aging. Courses are offered through academic departments. Courses and topics vary from semester to semester. Consult current Schedule of Classes for latest offerings. Several graduate degree-granting programs offer a concentration or minor in aging studies or gerontology.

Arch 471: Psycho Social Aspects of the Environment. (3)

Couns 561: Counseling Issues in Death and Dying. (3)

Econ 335: Health of Economics. (3)

PayFdn 503: Principles of Human Development. (3)

PayFdn 513: Aging and Education. (3)

FS 415: Aging and the Family. (3)

H Ed 292: Workshop. (3)

H Ed 473: Health Issues in Death and Dying. (3)

H Ed 487: Physical Activity and Aging. (3)

H Ed 577: Stress Management. (3)

Law 688: Legal Problems of the Elderly. (2-3)

Nurs 530: Functional Implications of Aging. (3)

Nurs 531: Geriatric Mental Health. (3)

Nurs 532: Social and Policy Issues of Aging. (3)

Nutr 424: Nutrition in the Life Cycle. (3)

Nutr 593: Topics—Nutrition and Aging. (3)

Pharm 455: Pharmacy Practice/Geriatric Patient. (2)

P E-P 487: Physical Activity and Aging. (3)

P E-P 489: Fitness Program Leadership. (3)

Pub Ad 530: Health Services Administration. (3)

Pub Ad 560: Public Policy and Aging. (3)

Recrea 486: Introduction to Therapeutic Recreation. (3)

Recrea 487: Physical Activity and Aging. (3)

Soc 310: Sociology of Aging and the Aged. (3)

OLIT 561: The Adult Learner. (3)

Established in 1969, Chicana/o Studies is an interdisciplinary program of study of the Chicano experience. Chicana/o Studies courses focus on the Mexican American experience in New Mexico, the Southwest and across the United States. Courses are offered in the social sciences and humanities through a wide range of university departments and interdisciplinary programs. A number of Chicano Studies courses are also offered for graduate credit.

Minor Study Requirements

A minimum of 24 hours, including Ch St 201 (or Am St 251, or Hist 283); at least 3 hours of Spanish (Span 201 or above. One course in language study must be taken in residence at UNM); Ch St 401 Advanced Seminar in Chicana/o Studies; 9 hours chosen from Course Listing A, "Chicanos as a Central Focus", distributed across 3 departments; at least 6 of the 9 hours must be upper division courses 300 level or above, and 6 hours chosen from either Course Listing A, "Chicanos as a Central Focus" or Course Listing B, "Chicano/Hispano-Related Courses".

Course Listing A: Chicanos/Hispanos as a Central Focus

Am St 251, 360, 362, 363; Anth 345; C & J 473 (Hispanic & Mexican Cultures); CRP 470/570; ETSCS 383/Sp Ed 383; Engl 211 (Chicano Lit); Hist 283, 320 (20th Century/Chicano Hist), 381; Ling 332; Pol Sc 308; Soc 328; Span 301 (New Mexican Culture), 301 (Chicano Culture), 370, 371, 375, 377, 479; Wm St 231.

Course Listing B: Chicano/Hispano-Related Courses

Am St 185, 186; Anth 238, 337, 344, C & J 473; Bil Ed 446; Econ 239, 320, 335, 427; Bil Ed 481; FS 484; Geog 344; Hist 260 or 360, 270, 380, 385, 386, 479; Ling 331, 432; Music 374; Pol Sc 301, 307; Psych 411; Relig 471, 482; Soc 216, 326, 420; Wm St 200, 322.

Special Topics courses and additional courses not listed in Course Listings A or B may count toward the minor if course material is relevant and such courses are approved by the Chicana/o Studies Director for approval of specific courses.

Chicano 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.

301. Topics in Chicana/o Studies. (3) A

Special topics in Chicana/o Studies. Topics will be interdisciplinary in nature, drawing from the humanities and social sciences. May be repeated for credit as subject matter varies.

401. 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.

CHICANO STUDIES

Eduardo Hernández-Chávez, Interim Director
The University of New Mexico
1829 Sigma Chi NE
Albuquerque, New Mexico 87131
(505) 277-6414

GENERAL HONORS

Rosalie Otero, Director
The University of New Mexico
Dudley Wynn Honors Center, Humanities 112
Albuquerque, NM 87131-1566
(505) 277-4211

Faculty

Leslie A. Donovan, Ph.D., University of Washington
 Celia López-Chávez, Ph.D., University of Seville (Spain)
 Rosalie C. Otero, Ph.D., University of New Mexico
 Diane Rawls, Ph.D., University of New Mexico
 Ron Reichel, Ph.D., University of New Mexico
 Michael Thomas, Ph.D., University of Washington

Introduction

The General Honors Program is designed to increase opportunities for liberal arts education for highly motivated and academically committed undergraduates from all UNM colleges and schools. Small (15-18 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, Humanities Building, Rm. 112. Participation in this program, leading to graduation with Honors in General 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 scores), record in 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 designed to examine personal value systems and social ethics, gain experience as student teachers, or pursue independent research.

Students are encouraged to join the General Honors Program in the first semester of their freshman year and to continue taking Honors seminars as group requirements in various colleges and as electives. However, second-semester freshmen, and sophomores, and first-semester juniors may join the program.

Formal requirements for graduation with Honors in General Honors are:

1. Completion of 21 credit-hours in General Honors seminars:
 - 3-6 credit hours at the 100 level.
 - 3-6 credit hours at the 200 level.
 - 6-9 credit hours at the 300 level.
 - 6 credit hours at the 400 level.
2. A minimum 3.20 cumulative grade-point average.
3. Recommendation by the Director and Certification by the General Honors Council.

The General Honors Program uses a unique grading system. Students receive grades of A, CR, NC, 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 UNM 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 each 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 General Honors Program. Information on this and other aspects of the General Honors Program may be obtained at the Honors Center. Students working towards Honors in General Honors are encouraged to undertake Departmental Honors as well.

General Honors Program (GN HON)**121-122. Freshman General Honors Core Seminar. (3, 3) Δ**

Surveys of major ideas basic to the intellectual, historic, and artistic traditions of Western Culture. One core seminar required for graduation. (Fall, Spring)

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.

221-222. Sophomore General Honors Seminar. (3, 3) Δ

Broad, general reading and class discussion for sophomore honors students. Instructors and topics will vary from semester to semester. (Fall, Spring)

299. Individual Study. (1-3) 1**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. (Fall, Spring)

399. Individual Study. (1-3) 1

(Not to be counted as part of 300 or above requirement for graduation with Honors except with permission of Director.)

403-404. Senior Honors Colloquium. (3, 3) 1

Educationally broadening seminars of various options specially designed to meet the needs of senior students in the program. Required for graduation, except when waived by Director. (Fall, Spring)

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. (Fall, Spring)

491. Senior Honors Thesis. (3)

Prerequisite: 490. (Fall, Spring)

492. Senior Teaching Preparation (3)

Prerequisite for completing Honors senior Teaching graduation option. Permission of instructor required before registration. (Fall, Spring)

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. (Fall, Spring)

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). (Fall, Spring)

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). (Fall, Spring)

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.

1 May be repeated for credit with permission of program director.

The Undergraduate Seminar Program (USP)

Topics and instructors vary from section to section and from semester to semester. Open to all undergraduate students. No prerequisites. Enrollment limited to 18 students per class. Grading on A pass/fail (CR/NC) or pass/fail (CR/NC) 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.)

GENERAL LIBRARY

Robert Migneault, Dean of Library Services
The University of New Mexico
General Library, Zimmerman Library
Albuquerque, NM 87131-1466
(505) 277-4241

Professors

Russ Davidson, Ph.D., Vanderbilt University;
M.S.L.S., University of North Carolina (Chapel Hill)
Marilyn Fletcher, M.L.S., Louisiana State University
Robert Migneault, M.A.L.S., University of Denver

Associate Professors

David Baldwin, M.A.L.S., University of Iowa
Claire-Lise Benaud, M.L.S., Columbia University
Judith Bernstein, M.A., Cornell University; M.L.S., Columbia University
Bruce Boling, M.A., State University of Iowa; Ph.D., Harvard University; M.L.S., University of California (Berkeley)
Sever Bordeianu, M.A., University of Mississippi;
M.L.I.S., University of Texas (Austin)
Donna Cromer, M.A., University of Washington;
M.L.S., University of Washington
Susan Deese-Roberts, Ph.D., University of New Mexico
Mina Jane Grothey, M.A., Duke University;
M.L.S., University of Texas (Austin)
Carol Joiner, M.A., University of Denver; M.A., University of New Mexico, M.L.S., University of California (Los Angeles)
Kathleen Keating, M.L.S., University of Arizona
Linda Lewis, M.L.S., University of Oklahoma
Maria Teresa Marquez, M.P.A., University of New Mexico;
M.L.S., University of Illinois (Urbana-Champaign)
Diana Northup, M.S., University of New Mexico, M.S.L.S., University of Illinois (Urbana-Champaign)
Nancy Pistorius, M.S.L.S., University of Illinois (Urbana-Champaign)
Stephen Rollins, M.L.S., University of Rhode Island
Virginia Seiser, M.S., Portland State University;
M.A.L.S., University of Chicago
Dena Rae Thomas, M.L.S., University of Washington

Assistant Professors

Daniel C. Barkley, M.L.I.S., University of Kentucky
Christina Carter, M.A., San Diego State, M.L.S., University of Arizona
Nancy K. Dennis, M.S.M.I.S., West Coast University
M.S.L.S., Case Western Reserve University
Carolyn Dodson, M.A., City University of New York;
M.L.S., Pratt Institute
Mary Ellen Hanson, Ph.D., University of New Mexico;
M.A.L.S., University of Denver
Peter Ives, M.S.L.I.S., University of Illinois (Urbana-Champaign)
Harry Lull, M.A.L.S., University of Michigan
Ann Massmann, M.L.I.S., University of Texas (Austin)
Karen Matthews, Ph.D., University of New Hampshire
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
Jacqueline C. Shane, M.S.L.I.S., University of Illinois (Urbana-Champaign)
Elizabeth N. Steinhagen, M.A., West Virginia University;
M.A.L.S., University of Wisconsin (Madison)
Nina Stephenson, M.L.I.S., University of California (Berkeley)
Mary Alice Tsosie, M.S.L.S., University of Wisconsin (Madison)
Johann A. Van Reenen, M.S., M.Dip.L.S., University of Pretoria;
Paul Weiss, M.L.I.S., University of California (Berkeley)
Frances C. Wilkinson, M.P.A., The University of New Mexico; M.L.S., University of Arizona

Visiting Assistant Professors

Christy Crowley, M.S., University of Washington; M.L.S., Emporia State University
Henry Guenther, M.L.S., University of Arizona
Susan J. Magee, M.L.S., Emporia State University
Beverly Moreno, M.A.L.S., University of Michigan
Barbara S. Rosen, M.A., University of New Mexico; M.L.S., University of Arizona

Introduction

The General Library offers courses designed to assist students with the acquisition of lifelong learning skills. Information research is emphasized.

Library (LIBR)

120. [Acad 120.] Introduction to Learning Strategies. [Introduction to Academic Strategies.] (3)
Designed for development and analysis of learning strategies. Students explore academic skills and apply critical thinking strategies to textbook reading, test-taking, and library research. Assessment and use of learning styles included.
Prerequisite: completion of any IS-100 requirements.

160. [Acad 160.] Freshman Forum. (3)
Orientation in major subject areas of the humanities and sciences; development of reading, critical thinking, and class discussion skills; introduction to independent research and use of specialized library resources. For students who score 24 or higher on the ACT.
Prerequisite: permission of instructor. (Fall, Spring)

220. [111.] Introduction to Information Research Strategies. (3) [2]
Designed to prepare students to use information storage and retrieval systems found in libraries including electronic sources such as the Internet. Critical thinking and evaluation is applied to information structure and access.

MILITARY STUDIES

Timothy L. Thorson, Captain, U.S.N. Command
The University of New Mexico
Naval Science Building
Albuquerque, NM 87131
(505) 277-3744

Patrick R. Daly, Lt. Col., USAF, Commanding
Officer
Aerospace Sciences Building
277-4502

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 22 hours, including 16 hours in Aerospace Studies and six hours of 200/200+ level courses offered by the History and Political Science departments. Normally, students will complete the 16 hours in Aerospace Studies by completing the Air Force ROTC course of studies described under the listing for Department of Aerospace Studies.

Navy Option

The minor in Military Studies (Navy Option) is available to students in the Naval ROTC Program.

The minor requires 22 hours, including 19 hours in Naval Science and three hours in elective courses offered by Departments of the College of Arts and Sciences. Students will complete the 19 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 22 hours, including 16 hours in Naval Science and six hours in elective courses offered by Departments of the College of Arts and Sciences. Normally, students will complete the 16 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

Patrick R. Daly, Lt. Col., Commanding Officer
The University of New Mexico
AFROTC Detachment 510
(Aerospace Studies Building)
1901 Las Lomas
Albuquerque, NM 87131
(505) 277-4502

Professor

Patrick R. Daly, M.S., Pennsylvania State University

Assistant Professors

Paul R. Ackerman, Major, USAF, M.E., University of Florida
Russell W. Burley, Capt., USAF, M.S., Purdue University

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, judgment, 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 require one hour of non-credit 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.

TWO-YEAR OPTION. Entry into the professional officer course (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. Minority students in any major and non-minority pursuing degrees in areas critical to the Air Force (announced annually) may qualify for a scholarship if they maintain a 2.65 cumulative GPA, and meet scholarship age requirements.

Uniforms and textbooks for Air Force ROTC courses are provided by the Air Force. Participants receive approximately \$700 for the six-week summer training period and \$500 for the four-week summer training period (in addition to travel pay or an airline ticket) and \$150 per month for 20 months. (POC cadets.) Additionally, students who qualify may receive an AFROTC scholarship which will pay full tuition, laboratory fees, books, and \$150 per month subsistence throughout the academic period that the scholarship is in effect. Scholarships are available for 4, 3, and 2 year periods. Students who qualify for the POC and are not already on AFROTC scholarship may qualify for a \$1000 per semester scholarship. 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 an ROTC background can receive credit for previous ROTC experience.

Processing of new students for the four-year program is accomplished during registration for the fall semester. 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.

THE GENERAL MILITARY COURSE (GMC) (four-year program). The GMC is an introduction to U.S. military forces and the development of air power and is designed to prepare cadets for entry into the POC. The standard GMC is a two-year course in aerospace studies normally offered to freshmen 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. Aerospace 120 (fall semester) and Aerospace 121 (spring semester) are taught on alternate years with Aerospace 250 (fall semester) and 251 (spring semester). All four courses are required, but Aerospace 120/121 may be taken before or after Aerospace 250/251.

THE PROFESSIONAL OFFICER COURSE (POC) (two- and four-year programs). The POC subject matter includes theoretical and applied leadership, management and communication skills and national security and defense policy to prepare cadets for active duty as commissioned officers. It is a two-year course of instruction in aerospace studies and is normally for juniors and for 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 positions and responsibilities among cadets. These experiences take place within the cadet corps and are led and managed by cadets.

General Military Course

Fall Semester	AF ASP 120 Air Force Today	1
Spring Semester	AF ASP 121 Air Force Today	1
Fall Semester	AF ASP 250 Development of Airpower	1
Spring Semester	AF ASP 251 Development of Airpower	1
Professional Officer Course		
Fall Semester	AF ASP 300 Air Force Leadership and Management	3
Spring Semester	AF ASP 301 Air Force Leadership and Management	3
Fall Semester	AF ASP 400 National Security Forces in Contemporary American Society	3
Spring Semester	AF ASP 401 National Security Forces in Contemporary American Society	3

Aerospace Studies (AF ASP)

010. Leadership Laboratory. (0)
Meets weekly for one hour. Provides students with progressively challenging leadership and management experiences within the cadet corps designed to develop each student's potential for assuming the responsibilities of an Air Force officer. Enrollment in the laboratory is required. Offered on a CR/NC basis only.

120. The Air Force Today. (1)
Deals with the organization and missions of Air Force organizations, officership and professionalism, and includes an introduction to Air Force communication skills. (Fall)

121. The Air Force Today. (1)
Deals with the organization and missions of Air Force organizations, officership and professionalism, and includes an introduction to Air Force communication skills. (Spring)

250. Development of Air Power. (1)
Focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine; an assessment of communication skills, and introduction to leadership. (Fall)

251. Development of Air Power. (1)
Focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine; an assessment of communication skills, and introduction to leadership. (Spring)

300. Air Force Management Leadership. (3)
Examines leadership and quality management fundamentals, professional knowledge, Air Force doctrine, leadership ethics, and communication skills for Air Force officers. Case studies are used to demonstrate the practical application of the concepts being studied. (Fall)

301. Air Force Management Leadership. (3)
Examines leadership and quality management fundamentals, professional knowledge, Air Force doctrine, leadership ethics, and communication skills for Air Force officers. Case studies are used to demonstrate the practical application of the concepts being studied. (Spring)

400. National Security Forces in Contemporary American Society. (3)
Examines national security, the formulation of defense policy, conflict management, regional security, alliances, arms control, and terrorism. Special topics include military profession, officership, the military justice system, and current issues affecting the military. (Fall)

401. National Security Forces in Contemporary American Society. (3)
Examines national security, the formulation of defense policy, conflict management, regional security, alliances, arms control, and terrorism. Special topics include military profession, officership, the military justice system, and current issues affecting the military. (Spring)

Naval ROTC

Timothy L. Thorson, Captain, USN, Commanding Officer
The University of New Mexico
Naval ROTC, Naval Science Bldg. 130
Albuquerque, NM 87131
(505) 277-3744

Faculty
Captain Timothy L. Thorson, USN, M.S., Naval War College
Regina, Newport, Rhode Island
Captain Catherine E. Hine, USN, M.A., University of New Mexico
Lieutenant Darin E. Perrine, USN, B.S., United States Naval Academy
Lieutenant Daniel Geiger, USN, B.S., University of New Mexico
Major John R. Raney, USMC, B.S., University of Mississippi

Introduction

The NROTC program provides a means whereby the student can be financially assisted toward attainment of an undergraduate degree through the four-year scholarship program, the two-year scholarship program, the four-year college program, or the 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 heavily weighs 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 UNM NROTC Unit at any time. Applications for the two-year NROTC college program may be made to the UNM NROTC Unit during the fall semester of the sophomore year or 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.

Students in the NROTC scholarship program receive tuition and scholastic fees, textbooks, uniforms, and \$150 per month for a maximum of 40 months. Students in the NROTC college program receive naval science textbooks and uniforms for the entire time they are in the program and \$150 per month subsistence allowance during their junior and senior years.

Further information concerning the program may be obtained from high school and college counselors, recruiting stations, and the:

The University of New Mexico
 NROTC Unit
 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

First Year—First Semester		
Nav Sc 101 Prin and Con of Naval Sci		1
Second Semester		
Nav Sc 105 Naval Ships Sys I		3
Second Year—First Semester		
Nav Sc 201 Naval Ships Sys II		3
Second Semester		
Hist 474 U.S. Naval History		3
Third Year—First Semester		
Nav Sc 303-303L Navigation		3

Second Semester		
Nav Sc 304 Naval Operations		3

Fourth Year—First Semester		
Nav Sc 407 Principles of Naval Leadership and Management		3

Second Semester		
Mgt 361 Organizational Theory		3

Marine Corps subjects, given below, are substituted by Marine Corps applicants during the junior and senior years:

Third Year—First Semester		
Nav Sc 331 Evolution of Warfare		3

Second Semester		
Three Hour Elective		3

Fourth Year—First Semester		
Three-hour elective		3

Second Semester		
Nav Sc 431 Amphibious Warfare		3

All NROTC students attend two 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.

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. (1)
 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}

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}

407. Principles of Naval Leadership. [Principles of Naval Leadership and Management.] (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. (Spring)

NATIVE AMERICAN STUDIES

Richard Holder, Interim Director
 The University of New Mexico
 Native American Studies Center
 Mesa Vista Hall Rm. 3080
 (505) 277-3917, FAX (505)277-1818

The Native American Studies Center was founded in 1970. The program was established as a support program for Native American students at the University of New Mexico. Since then, it has matured into a full academic program and is housed in a Center that provides faculty, staff and a variety of academic support activities.

The NAS Center contains a full complement of academic resources for the student and the university community. The Center houses an Information and Materials Resource Collection, a state-of-the-art Macintosh environment computer lab, faculty and staff offices, and a conference room. The major resource components are staffed by full-time professionals and the Center serves as a meeting place for students and the tribal community at large. Undergraduate and graduate advising for Native American students is available and resources for peer tutoring in Math and English are offered. In addition, limited resources for emergency funds and research grants are available on a case-by-case basis.

In 1993, an interdisciplinary degree specialization in Native American Studies was established. Not intended as a major or minor, the NAS interdisciplinary degree allows undergraduate students to apply Native American Studies to their curriculum content for their chosen major. The degree specialization offers students information and resources necessary for understanding the cultures and ideas of Native American people and the skills to apply this knowledge to their own education.

All students, regardless of ethnicity, are encouraged to apply. Students may formally request to be admitted into the program at any time during their regular studies. All requests are reviewed by an interdisciplinary committee that is comprised of Native American faculty or non-native faculty associated with the program. Students will be required to submit a two-page letter indicating the type of undergraduate degree being sought and indicating why the NAS interdisciplinary degree is important to their career goals. In addition, students must provide copies of both their high school and/or university transcripts (if applicable).

Once admitted, students must complete a minimum of 18 credit-hours and maintain a cumulative GPA of 2.50 or higher. Students admitted into the program must also have a degree plan approved by the student advisor. They

may enroll in NAS 150 or petition to substitute another course from a general listing of Native American content courses offered outside of the NAS program. Students must take the three core courses (NAS 250, NAS 251, and NAS 350) for a total of 12 credit-hours. Students must then take a minimum of one directed independent study (3 units) or an internship (3 units). Students can complete the degree requirements by taking an additional Topics course (NAS 450 or equivalent).

Native American Studies (NAS)

150. Introduction to Native American Studies. (3)
 Examines the unique aspects of tribalism and provides an introduction and foundation for understanding the social, geographic, and linguistic differences among indigenous populations in North America. (Fall)

250. Introduction to Socio-Political Concepts in Native American Studies. (3)
 Reviews the impacts of regional, national, and international public policies in defining Native Americans in the process of Westernization. Examines important theories used to model tribal community development, and interprets major policies, beginning with colonialism and ending with nationalism. (Spring)
 Prerequisite: 150 (or equivalent).

251. Introduction to Information & Resources in Native American Studies. (3)
 Emphasizes research paradigms and research techniques useful for interpreting materials and collections dealing with Native American Studies. Provides training on research methodologies, technical writing and resource assessment of Native American materials. (Fall)
 Prerequisites: 150, 250.

293. Topics in Native American Studies. (3 to a maximum of 6)
 Topics courses taught by Native and non-Native faculty from UNM and the community, varying according to instructor's expertise. May be repeated up to 6 hrs. as topic varies.

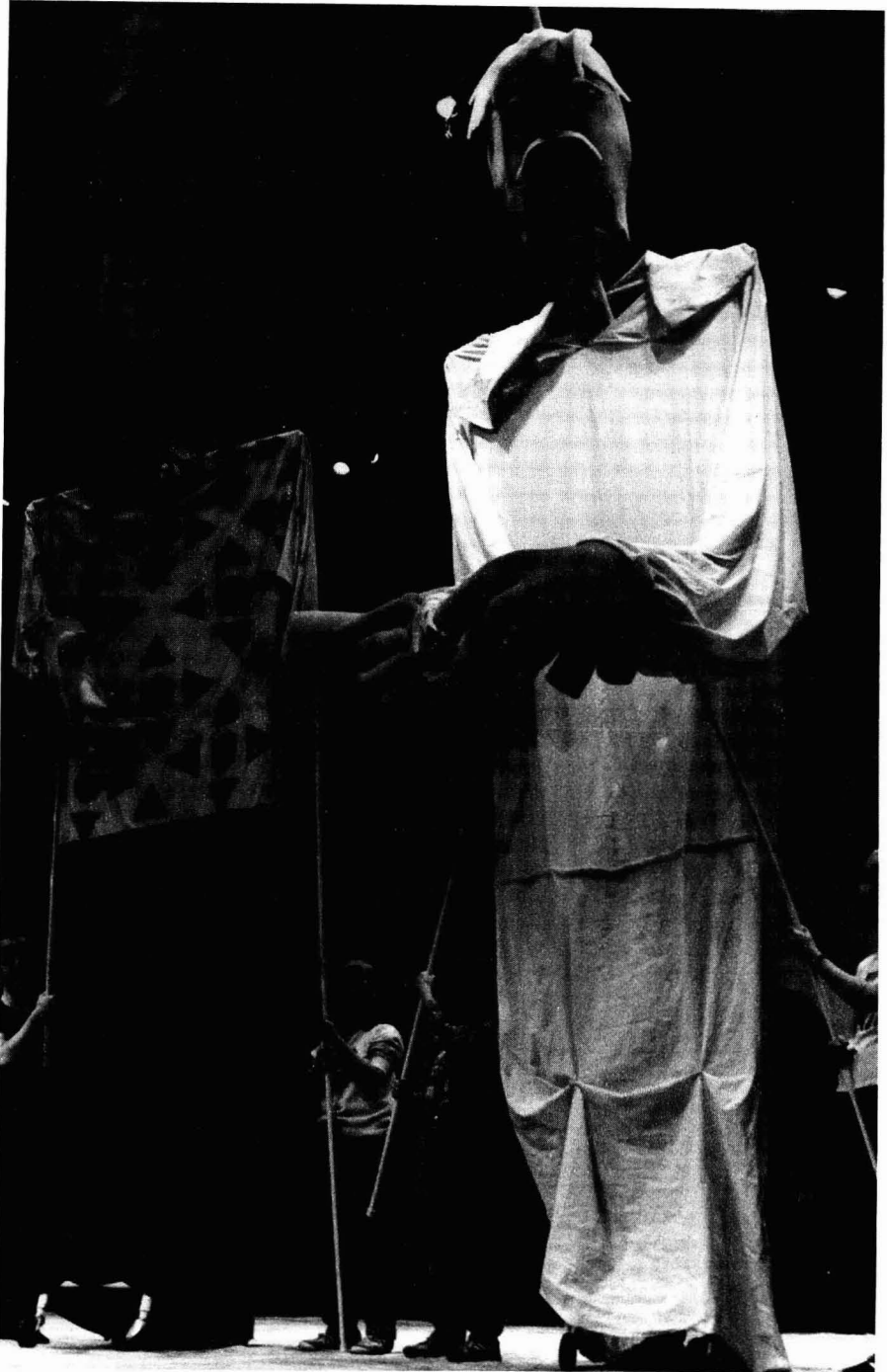
350. Indigenous Worldviews in Native American Studies. (3)
 Focuses on the impact of stereotyping on indigenous images and the attempts of Native Americans to correct or dispel these images. The course emphasizes the contributions of Native Americans to visual arts and literature as reflections of the philosophies and ideologies of a distinct indigenous worldview and identity. (Spring)
 Prerequisites: 150, 250, 251.

351. Individual Study. (1-6)
 Directed topics related to Native American Studies. (Summer, Fall, Spring)

352. Internship. (1-6)
 Internships in off-campus learning experiences related to the study of Native American cultures. Students must select a sponsoring institution or program to oversee internship.

450. Topics in Native American Studies. (3).
 Topics courses taught by faculty from UNM and the surrounding community. Sample topics include: Native American Language Analysis, Native American Art in Theory and Practice, Native American Religion and Spirituality, Native American Government Perspectives, etc.
 May be repeated once as topic varies.

INTER-DISCIPLINARY STUDIES



SPECIAL PROGRAMS

DIVISION OF CONTINUING EDUCATION AND COMMUNITY SERVICES

Jeronimo Domínguez, Dean
The University of New Mexico
Division of Continuing Education
and Community Services
1634 University Blvd NE
Albuquerque, New Mexico 87131
(505) 277-2527

The Division of Continuing Education and Community Services is a separate unit of the University of New Mexico, responsible for conducting instruction by independent study, extension classes, and non-credit courses for adults. The Division also supervises the programs of all students enrolled in the university for non-degree work. For additional information see the section on non-degree status under the Admission and Registration section of this catalog.

Credit Programs

Extension. Regular university courses may be offered by extension, provided there is a large enough group in any one center to justify doing so, and as long as the class is not dependent upon the campus library and laboratory facilities. Persons interested in having an extension class offered in a specific community should address their inquiries to Credit Programs, Division of Continuing Education and Community Services, the University of New Mexico, Albuquerque, New Mexico 87131-4006.

Independent Study Courses. A number of regular undergraduate courses are available by correspondence. The courses are developed and graded by qualified university personnel. Credit from these courses may be applied toward an undergraduate degree to the extent of 30 semester hours, subject to the approval of the dean of the college in which the student is enrolled (see *General Academic Regulations*). The bulletin listing Independent Study courses is available through the Division of Continuing Education and Community Services.

Non-degree Students. The Division of Continuing Education supervises the programs and provides academic advisement for all students enrolled in Non-degree status, as well as maintaining the College office records for these students. Non-degree students may contact the Non-degree advisor at the Division of Continuing Education and Community Services for assistance.

Non-degree Satellite Admission/Registration Center. As a special service for those students enrolling in Non-degree status, a Non-Degree Satellite Admission/Registration Center is operated at the Division of Continuing Education and Community Services. Students may apply for admission to Non-degree status, and pay tuition for their courses. They may also initiate withdrawal procedures and request over-load approval.

UNM at Kirtland Air Force Base. Freshman and sophomore - level arts and sciences courses are offered at Kirtland Air Force Base in 8-week evening sessions, five times per year. Classes are open to the public. The UNM - KAFB coordinator is located on base for advisement and registration for UNM - Kirtland and UNM main campus courses. The office is located at the Kirtland AFB Education Center, Room 105, 260-1354.

Non-credit Programs

The Personal Enrichment Program offers a variety of non-credit courses designed for men and women interested in learning in an informal and noncompetitive environment. Registration is open to all adults (18 years and older) regardless of educational background. In some cases, classes are open to younger persons. In all but a few courses, there are no examinations, transcripts, credit or grades, although certificates of completion are issued upon request.

Professional Development Program. The Professional Development Program is a department of the UNM Division of Continuing Education in charge of planning workshops, seminars, conferences, teleconferences and certificate programs for professionals and the general public with a variety of career interests. Training programs are available in such diverse subject areas as computer applications, marketing and sales, project management, general management skills, small business development, and personnel management. The Professional Development Program also provides customized, in-house training and consultative services to New Mexico businesses, corporations, government agencies, and community organizations.

Computer Program. The Computer Program is a department of the UNM Division of Continuing Education that offers classes in operating systems, networking, programming, and computer applications for both PCs and Macintosh. The Computer Program classes offer hands on instruction, one person to a computer, quality instructors and small class size. In addition, certificate programs are available in Computer Literacy, Advanced Computer Literacy, Networking, Database Management, Graphic Design, and Macintosh Business Applications.

Individuals and groups interested in these services should contact the Assistant Dean of the Professional Development Program, Division of Continuing Education, 1634 University Blvd. NE, Albuquerque, New Mexico 87131-4006, (505) 277-2527.

The catalog listing non-credit courses offered each semester may be obtained from the Division of Continuing Education and Community Services, the University of New Mexico, Albuquerque, New Mexico 87131.

Continuing Education Units (CEUs)

In order to systematically record non-credit educational activities held under responsible sponsorship, capable direction and qualified instruction, and in order to recognize the participation in these activities of individuals seeking occupational and technical competency, or general education enrichment or special knowledge or skills, the University of New Mexico, through the Division of Continuing Education and Community Services, will apply continuing education units (CEUs) to those programs approved for such recognition under the contained guidelines and administrative procedures.

A CEU is defined as follows: Ten contact hours of participation or equivalent in an organized non-credit continuing education experience under sponsorship and direction of the University of New Mexico. The CEU is applicable to the appropriate learning experiences of adults at all levels from post secondary to post doctoral; for all University of New Mexico classes of adult learners, whether vocational, technical, professional, managerial or adults bent on personal improvement; and in all formats of teaching and learning known to the field of education. The CEU is expected not only to provide a record for the individual student, but to provide a measure which can be used by the university to

record the amount of its continuing education activity. To apply for the CEU, contact the appropriate Dean in the Division of Continuing Education and Community Services.

The Continuing Education Conference Center

Contained in the nearly 30,000 sq. ft. Conference Center, are meeting rooms from 850 sq. ft. to 7,290 sq. ft. The 540-seat Educational Auditorium is the largest single area in the Center. In addition, there are 4 meeting rooms, a 100-seat dining room (expandable to 300), a modern holding kitchen area, a special display area and a separate computer-assisted registration area.

Complete meal service is available through the University Food Service. From meeting breaks with coffee and rolls to complete lunches and dinners, the Center can meet nearly any need.

State-of-the-art video/audio capability. Teleconferencing is an example of the sophisticated facilities available in the Center. Equipped with big screen monitors, two-way communications can be linked to other centers around the globe through satellite uplinks and network downlinks. In addition, if you need videotape or other audiovisual equipment, the university can meet almost anyone's need.

For information on scheduling a meeting room, contact the Division of Continuing Education, 1634 University Blvd NE, Albuquerque, New Mexico 87131, 277-2527.

BRANCH CAMPUSES, CENTERS FOR GRADUATE STUDIES, AND EDUCATION PROGRAMS

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 UNM 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 Gallup Branch

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 from the Gallup High School to its present campus on over 80 acres. In October of 1985 the college moved into its new complex. It includes a new fine arts wing, additional classrooms, faculty offices, a student services complex, administrative offices, student food services area and remodeling of the Career Education Building. The Library was also expanded to improve services.

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:

- To provide a high quality educational experience
- To provide the first two years of a baccalaureate education
- To provide certification and licensing for special programs
- To provide career education
- To provide general studies
- To provide community education
- To provide public service activities
- To provide student support services
- To provide a preparatory and developmental program of instruction
- To provide a learning environment

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 54 different degree and certificate programs in a variety of academic and technical fields. The student may earn an Associate of Science degree in 4 areas, an Associate of Arts degree in 8 areas, or an Associate of Applied Science degree in 23 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 College Learning Center located on campus. The centers provide instruction in preparation for the GED exam.

The College also serves as an **Area Vocational School** 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 BIA School, Rehoboth Christian School, and the Zuni Public School System.

The College also offers a number of courses at its satellite campus located in Zuni, New Mexico.

Through a grant to the UNM College of Nursing, the Gallup Campus offers a **Bachelor of Science in Nursing Completion** program for RN's. Students may enroll to complete the third and fourth years of the BSN or for continuing education credit. Contact the BSN Completion office at the Gallup Campus.

B.A. Education Degree Program

Through the College of Education (Division of Learning and Teaching), students are able to earn a Bachelor of Arts in Elementary Education or Secondary 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 Upper Division Teacher Education Program at the Gallup Campus, (505) 863-7613.

Students interested in any of the programs offered by the Gallup Branch Campus should carefully check the Gallup Campus General Catalog for specific degree or certificate requirements, or write to the Office of Admissions and Outreach Services, University of New Mexico, Gallup Campus, 200 College Road, Gallup, New Mexico 87301. Call (505) 863-7500, (or 843-7783 from Albuquerque).

Graduate Studies at Gallup

Several Graduate Programs in Education are offered on the Gallup Campus through the UNM College of Education. For information on degrees and individual course offerings call (505) 863-7500, (or 277-5822 in Albuquerque).

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 contact Dr. Sigmund Mierzwa, Division of Learning and Teaching, University of New Mexico, Albuquerque, NM 87131, or call (505) 277-4630. For application packets, you may inquire at UNM-Gallup with the Upper Division Teacher Education Office.

Los Alamos Branch

The University of New Mexico-Los Alamos Campus began offering postsecondary-level courses in August 1980 for the Los Alamos community and the surrounding region.

The University of New Mexico-Los Alamos is committed to the philosophy of comprehensive community college education and to providing, within resources available, high-quality education for all its students.

Guided by this philosophy UNM-Los Alamos has developed a variety of educational programs to meet the changing needs of the community. A policy of open-admissions permits entry to all interested students, regardless of their level of educational preparation. UNM-Los Alamos is pledged to promoting student success.

UNM-Los Alamos offers a wide variety of academic courses, most of which may be transferred to UNM main campus or other institutions.

Academic transfer program. UNM-Los Alamos is authorized to offer any freshman or sophomore course from the UNM main campus catalog for which an appropriate instructor and facilities can be obtained. UNM-Los Alamos may also design courses that respond to student needs. Students may complete most-and, in many cases, all-of the first two years of their UNM course work at UNM-Los Alamos before continuing their studies at UNM or other institutions.

Associate Degrees. Associate degrees are awarded in Business/Marketing, Computer Science, Environmental Science, Environmental and Occupational Safety, Electronics Technology, Financial Accounting, General Studies, Liberal Arts, Microcomputer Technology, Office Administration, Pre-Business Administration, Pre-Engineering, Science, Southwest Studies, and Studio Art.

Certificate Programs. Certificate programs are offered in Business/Marketing, Computer Science, Electro-Mechanical Technology, Electronics Technology, Environmental Science, Financial Accounting, Microcomputer Technology, Office Administration, Southwest Studies, and Studio Art.

College Readiness Program. The College Readiness Program is designed to serve students by helping to

strengthen their academic competencies as well as helping to ensure their successful transition into college-level degree programs. The program offers course placement evaluation for students and introductory studies credit courses to help students enter college at the most appropriate level. Both the Tutoring Center and the Learning Resource Center work in conjunction with College Readiness faculty members to help provide educational opportunities and academic strategies for student success. Also included as part of the College Readiness Program is a mentoring component. Mentoring allows students to work with faculty members in a close relationship which can help facilitate a smooth entry into college as well as help ensure the ultimate success of the students.

Student Support Services. These include the Adult Basic Education, Testing-Assessment-Placement program, student advisement, financial assistance, free tutoring, career services, workshops, and assistance to an extensive co-operative education program is also available.

UNM Community Education-LA offers non-credit, short-term courses of an informational, educational enrichment, and recreational nature. A wide variety of courses are available for two-year-olds through the adult level. A one-week summer *Children's College* is also administered by this department. The "campus day-camp" is for first- through sixth-graders and emphasizes science and art. The Small Business Development Center, a joint effort in conjunction with the Los Alamos Economic Development Corporation, provides training and individualized consultations for business owners and operators, and prospective developers of small business, to support the planning and operation of such enterprises.

UNM-Los Alamos also offers a variety of activities for the community including a lecture series, art shows and various open houses to showcase the campus.

Resources. The Los Alamos campus relies entirely upon an outstanding part-time faculty recruited mostly from Los Alamos and the northern New Mexico region. UNM-Los Alamos is located on a three-acre campus. Its facilities include a computer center, microcomputer laboratory, science and technology laboratories, art studios, photo lab, a library/learning resource center, and multipurpose classrooms. Additional evening classroom space is rented from Los Alamos High School across the street from the campus and from other appropriate locations in the community.

Information. For more information about UNM-Los Alamos and its programs, students should review the UNM-Los Alamos Campus Catalog or write to the Registrar, UNM-Los Alamos, 4000 University Drive, Los Alamos, New Mexico 87544 or call (505) 662-5919 or 1-800-894-5919 toll free in New Mexico, (or from Albuquerque 867-2379).

Los Alamos Graduate and Upper Division Programs

Dr. Alan Reed, Director
4000 University Dr.
Los Alamos, NM 87544
(505) 662-5919 or 867-2379 from Albuquerque

Graduate and Upper Division Programs in Los Alamos are offered primarily under a contract between the Los Alamos National Laboratory and the University of New Mexico to provide selected courses and degree programs for Laboratory employees and members of the surrounding communities.

Courses leading to Master's degrees are offered in biomedical science, chemical and nuclear engineering, civil engineering, communication, computer science, electrical engineering, hazardous waste engineering, mathematics, and

mechanical engineering. Bachelor's degrees or undergraduate courses are offered in chemistry, computer science, electrical engineering, mathematics, mechanical engineering and university studies. Certificate programs are available in waste management and the study of Japanese industry and management of technology.

Research opportunities for graduate students may be available at Los Alamos National Laboratory. Interested students should contact their main campus departments for information on research opportunities.

UNM-Santa Fe Graduate and Upper Division Programs

Dr. Alan Reed, Director
P.O. Box 4187 South Richards Ave.
Santa Fe, NM 87502
(505) 438-1234

At the University of New Mexico in Santa Fe, students can presently obtain a master's degree in Public Administration, Communication, Counseling and Family Studies, and Technology in Education. A Bachelor of Science in Nursing completion program, and a bachelor completion program through University Studies are also available. Graduate level and upper division undergraduate level classes are offered in American Studies, Art and Art History, Curriculum and Instruction in Multicultural Teacher Education (CIMTE), Educational Administration, Educational Foundations, English, Health Education, History, Special Education, Religious Studies, and Women's Health.

UNM-Taos Graduate and Upper Division Programs

Dr. Alan Reed, Director
115 Civic Plaza Drive
Taos, NM 87571
(505) 751-4159

UNM at The Harwood Foundation offers graduate and upper division course work in the following areas: Art Studio, Art History, Curriculum and Instruction in Multicultural Teacher Education (CIMTE), and English. A bachelor of Science in Nursing completion program, and a bachelor completion program through University Studies is also available.

Taos Education Center

Dr. Augustine Martinez, Campus Director
115 Civic Plaza Drive
Taos, New Mexico 87571
(505) 758-7648

The University of New Mexico-Taos Education Center became the parent institution for the Taos Education Center on July 1, 1993. 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. UNM-Taos is authorized to offer any freshman or sophomore course from the UNM main campus catalog for which an appropriate instructor and facility can be obtained. UNM-Taos also designs non-transfer courses that respond to students and the community.

Associate Degrees. Associate degrees are currently awarded in Early Childhood Multicultural Education,

Southwest Studies, Liberal Arts, Human Services, Pre-Business, General Studies, Criminal Justice and Construction Technology. (Increasing possibilities as curriculum develops.)

Certificate Program. Certificate programs are currently offered in Early Childhood Multicultural Education, Human Services, Administrative Assistant, Carpentry, and Construction Technology. (Increasing possibilities as curriculum develops.)

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.

Continuing Education. UNM-Taos offers non-credit, short-term courses of informational, educational enrichment and recreational nature.

Information. For more information about UNM-Taos and its programs, contact UNM-Taos at 115 Civic Plaza Drive, Taos, New Mexico 87571, or call (505)757-7667 or (505)758-7648.

Valencia Branch

The University of New Mexico-Valencia Branch was established in 1981. In order to accommodate its rapidly growing full and part-time student population, the Branch moved from its temporary facilities in Belen to a new spacious campus near historic Tome Hill in mid 1986. The new site, located on 150 acres of land overlooking the Rio Grande Valley, provides UNM-VC with one of the most beautiful and impressive campuses in the region.

In accordance with its mission statement, UNM-VC offers high-quality daytime and evening instruction in academic, technical, and continuing education programs. Each program is committed to the philosophy that post-secondary educational opportunities should be available to all persons regardless of age, gender, race, religious affiliation, or handicap. As a comprehensive community college, UNM-VC is especially proud of its superior teaching, small college atmosphere, and model student services operation.

Baccalaureate transfer-track course work selected from the main campus catalogue is available at the Valencia Campus in many disciplines at the freshman and sophomore levels. Students may complete most, if not all, of the first two years of their baccalaureate course work at Valencia before continuing their studies at UNM-Albuquerque or other institutions. Associate of Arts and Associate of Science transfer track degrees are available in nine separate disciplines.

UNM-Valencia Campus also offers a full range of preparatory and vocational-technical courses leading to twelve different one-year certificates, three Associate of Science degrees, and six different two-year Associate of Applied Science degrees.

A Tutorial Center on campus provides tutorial and individualized instruction at no cost to the student. Special classes in English as a Second Language (ESL), Adult Basic Education (ABE), and General Educational Development (GED) are offered through the 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 at minimal fees to citizens of all ages in Valencia County. Programs include arts, crafts, hobbies, food preparation, language, dance, music, personal development, health and exercise as well as numerous programs for

children. Also offered through Community Education are the Business Assistance Center workshops which include computer training and specialized seminars for the local small business owner.

For more information about the Branch and its various programs, students are urged to obtain the UNM-VC Branch Catalog or to visit the Student Services Center on campus for a personal tour and individual advisement session. UNM-VC's mailing address is 280 La Entrada, Los Lunas, New Mexico 87031. Call (505) 925-8500.

EVENING AND WEEKEND DEGREE PROGRAMS

David E. Stuart, Associate Vice President,
Academic Affairs
The University of New Mexico
Student Services Center, Rm. 263
Albuquerque, NM 87131-1001
(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 shaded print at the END of each Department's listing) in the Schedule of Classes and in the Continuing Education course schedule. For separate course listings, check the posted Addendum to the Schedule of Classes at the Registration Center in the Student Services Center. Call for additional information about nontraditional degree programs and expanded resources (advisement, tutoring, escort service, etc.) 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. About 12,000 students take some of the 1000 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.**

New Majors/Minors/Concentrations leading to Evening degrees and available from 1997 to 2000 include:

Anderson Schools of Management Bachelor of Business Administration:

- a. General Management Concentration
- b. Organizational Behavior/Human Resources Management
- c. Other concentrations -- core courses only

College of Arts and Sciences Bachelor's Degrees in the following:

- a. American Studies - Major
- b. Biology - Major
- c. Communication & Journalism
 1. Communication - Major
 2. Public Relations Sequence of Journalism/Mass Communication-Major
- d. Communicative Disorders - Major
- e. English -- Major in following tracks:
 1. Liberal Arts
 2. Creative Writing
 3. Professional Writing
 4. Pre-Law
- f. History-Major
- g. Political Science-Major
- h. Psychology -- Major, BA Track only
- i. Religious Studies -- Major

- j. Spanish -- Major
- k. A wide variety of college unit requirements in Science, Math, Social Science and Humanities

Over the next three years between 1997 and 2000, the following minors can also be completed in the College of Arts and Sciences:

- a. American Studies
- b. Anthropology
- c. Biology
- d. Communication and Journalism
 1. Communications;
 2. Public Relations/Mass Communication
- e. Communicative Disorders
- f. Economics
- g. English
- h. History
- i. Mathematics
- j. Political Science
- k. Psychology
- l. Religious Studies
- m. Sociology -- Criminology
- n. Spanish

College of Education

College of Education degree, certificate and Licensure program tracks:

Bachelor's Degree tracks in the following:

- a. Technology and Training - full Bachelors degree
- b. Special Education/Licensure Preparation track*
- c. Elementary Education licensure with teaching fields in:*
 1. Math or Science Education
 2. Language Arts
 3. Bilingual Education
 4. ESL
- d. Secondary Education licensure with teaching fields in:*
 1. Math or Science Education
 2. Language Arts
 3. Bilingual Education
 4. ESL
- e. Art Education Licensure*

*Note: The professional sequence in each of these fields requires a Day time commitment, beyond the courses available at night

Master's Degree tracks in the following:

- a. Educational Administration -- full degree
- b. Training and Learning Technologies -- full degree
- c. Special Education with emphasis in:
 1. Bilingual Special Education -- full degree
 2. Severe Disabilities -- full degree
 3. Severe Emotional/Behavioral Disorders - full degree
 4. Collaborative General/Special Education -- full degree
- d. Elementary Education with emphasis in:
 1. Math, Science, and Environmental Education -- full degree
 2. Language Arts -- full degree
 3. Bilingual Education -- full degree
 4. ESL -- full degree
- e. Secondary Education with emphasis in:
 1. Math, Science and Environmental Education -- full degree
 2. Language Arts -- full degree
 3. Bilingual Education -- full degree
 4. ESL -- full degree

- f. Art Education -- full degree
- g. Counseling -- core courses only
- h. Family Studies -- core courses only
- i. Health Education -- core courses only
- j. Psychological Foundations -- core courses only
- k. Technology Education -- core courses only

Ph.D./Ed.D. Degree track in the following:

- a. Administration and Supervision -- full degree
- b. Ed Thought & Sociocultural Studies -- full degree
- c. Training and Learning Technologies -- full degree
- d. Special Education -- full degree
- e. Multicultural Teacher and Childhood Education with emphasis in:
 - 1. Math or Science Education -- full degree
 - 2. Language Arts -- full degree
 - 3. Bilingual Education -- full degree
 - 4. ESL -- full degree
- f. Counseling -- core courses only; daytime practicum required
- g. Family Studies -- core courses only
- h. Health Education, Physical Education & Recreation -- core courses only
- i. Psychological Foundations -- core courses only

Complete Ed.S. Certificate tracks in the following: *

- a. Educational Administration
- b. Training and Learning Technologies
- c. Special Education
- d. Counseling
- e. Health Education
- f. Curriculum and Instruction (Elem & Sec Ed)
- g. Recreation

***Note:** (For teachers/educators) advanced professional studies beyond the Master's leading to a formal certificate (cannot be converted into a doctoral program).

School of Engineering

Bachelor of Science:

- a. Electrical Engineering -- Major

College of Fine Arts

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 wide variety of electives in Media Arts, Art Studio, Art History, Theatre, Dance & Music which meet other College requirements for Fine Arts courses

School of Architecture & Planning

Master's Degrees:

- a. Master of Architecture
- b. Master of Community and Regional Planning -- Core courses and select electives

School of Public Administration

Master of Public Administration:

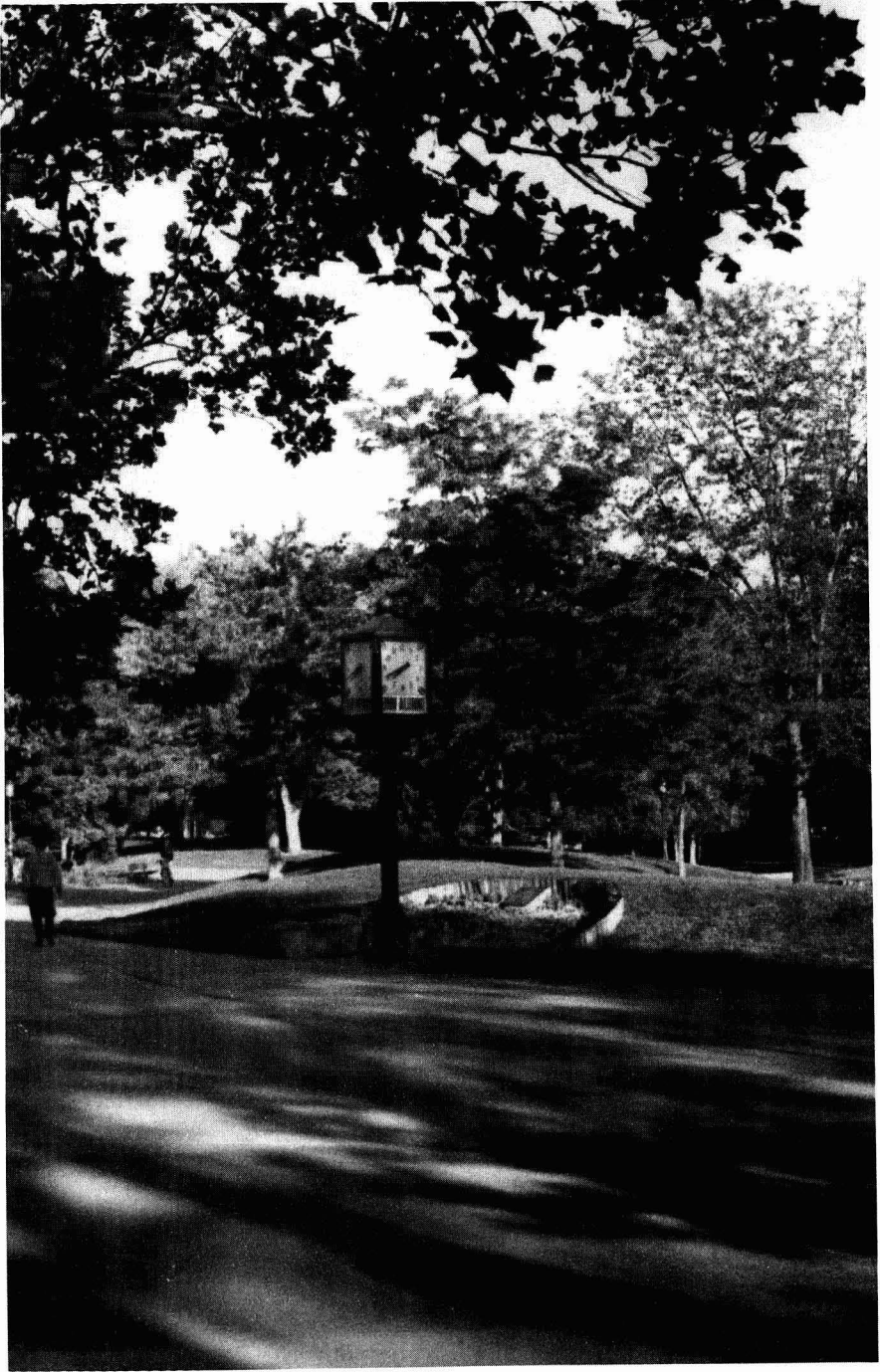
- a. Human Resources Management Concentration
- b. Health Care Administration Concentration
- c. Budgeting and Public Finance Concentration
- d. Public Management Concentration

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. UNM 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 Associate Vice President, David E. Stuart at the Office of Evening and Weekend Degree Programs, Student Services Center, Room 263. This office acts as an advocate for Evening/Saturday students who need specific courses scheduled to meet their needs. One semester's notice of your upcoming needs is helpful. You may phone 277-0896 between 10:00 A.M. and 7:00 P.M. Monday through Friday.





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 number shown in **boldface**, but not all numbered buildings appear in this list. Co-ordinates given are for where major bulk of the 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	Civil Engineering (Tapy Hall) (118).....	H-2
Aerospace Studies (159).....	F-4	Civil Engineering Research Lab (106).....	H-2
African American Studies (43).....	F-3	Clark Hall (Chemistry) (22).....	H-3
Alvarado Hall Dormitory (157).....	G-7	Communications (Journalism) (115).....	I-3-4
Alumni Memorial Chapel (25).....	G-3	Computer & Information Resources & Technology (CIRT) (153).....	F-7
Ambulatory Care Center (269).....	F-6	Continuing Education (259).....	<i>See Inset</i> , D-1
Anderson School of Management (76).....	F-G-5	Coronado Hall Dormitory (155).....	H-7-8
Anderson Grad. School of Management & Parish Library (87).....	F-4-5	Counseling & Family Studies (Simpson Hall) (66).....	G-5-6
Anthropology (11).....	G-2	Crystal Growth Facility (331).....	<i>See Inset</i> , B-7
Anthropology Annex (12).....	H-3	DeVargas Hall Dormitory (75).....	G-6
Anthropology Storage (220).....	E-3-4	Dental Programs (Novitski Hall) (249).....	D-4-5
Archeology (Office of Contract Archeology) (273).....	D-2	Diabetes Control & Complications (264).....	E-6
Architecture & Planning (158).....	J-5-6	Economics (57).....	G-4
Architecture & Planning Annex (162).....	J-6	Education Administration (65).....	G-5
Architecture & Planning Design Studios (164).....	J-5	Education Classrooms (67).....	G-5
Army ROTC (Military Science) (37).....	F-4	Education Offices (63).....	G-5
Art (84).....	I-4	Electrical & Computer Engineering/ Centennial Library (46).....	H-2-3
Art Annex (105).....	I-2-3	Engineering Annex (107).....	H-2
Art Education (Masley Hall) (68).....	G-5	Engineering Computer Center (2).....	H-I-2
Athletics (307).....	<i>See Inset</i> , C-7	Equal Opportunity Programs (13).....	G-4
Automotive (216).....	D-3	Facility Planning (203).....	E-4
Bandelier Hall East (8).....	H-2	Family Practice Center (248).....	D-5
Bandelier Hall West (16).....	H-1-2	Farris Engineering Center (119).....	I-2
Basic Medical Sciences (211).....	E-6	Ford Utilities Center (116).....	H-2
Biology (Casterter Hall) (21).....	I-3-4	Gazebo (124).....	I-2
Biology Annex (19).....	I-3	Geology & Meteoritics (Northrop Hall) (24).....	H-3-4
Biology Research Greenhouse (18).....	I-4	Gymnastics Gymnasium (312).....	<i>See Inset</i> , C-7
Biomedical Research (253).....	E-5	Health, Physical Education & Recreation (Johnson Center) (59).....	H-I-6
Bookstore (102).....	I-5	Health Sciences & Services (266).....	D-6
Bratton Hall (Law School) (218).....	B-C-5	Health Sciences Library (formerly Medical Center Library) (234).....	D-6
Bureau of Business & Economic Research Data Bank (168).....	F-4	Health Services/Alternative Delivery Systems (263).....	D-6
Campus Safety (Occupational Safety) (233).....	C-3	Hodgin Hall (103).....	I-2
Cancer Research & Treatment Center (227).....	E-6	Hokona Hall Dormitory (58).....	F-4-G-5
Carlisle Gymnasium (4).....	H-3-4	Human Resources (Personnel) (26).....	G-2
Carrie Tingley Hospital (270).....	B-1	*Humanities (81).....	H-4
Casterter Hall (Biology) (21).....	I-3-4	Indoor Tennis Dome (311A).....	<i>See Inset</i> , C-7
Centennial Science & Engineering Library (46).....	H-3	Industrial Arts Education (64).....	G-5
Center for Aging Research, Education & Service (UNM CARES) (175).....	E-3	Institute for Applied Research Services (IARS) (154).....	F-4
Center for the Arts (Music, Drama, Fine Arts Library & Art Museum) (62).....	H-I-5	Johnson Center (59).....	H-I-6
Center for Non-Invasive Diagnosis (260).....	B-4	Jonson Gallery (152).....	F-4
Centro de Salud (Senior Health Center & Milagro Program).....	D-6	Journalism (115).....	I-3-4
Chemical & Nuclear Engineering Lab (111).....	H-2	Kiva Lecture Hall (69).....	G-5
Chemistry (Clark Hall) (22).....	H-3	KNME-TV Store & Development (265).....	A-2
Child Care Center (255).....	A-2	KNME-TV Studio (217).....	B-2
Children's Psychiatric Center (236-243).....	C-3-4	Laguna Hall Dormitory (74).....	G-6

Landscape & Grounds Greenhouse (276)	D-2	Purchasing (Materials Management) (42)	485	G-3
La Posada Dining Hall (77)	G-7	Records Management (262)		B-2
Latin American Institute (165)	F-4	Regener Hall (Physics) (35)		I-2-3
Law School (Bratton Hall) (218)	B-C-5	Ridepool (30)		F-3
Lobo Tennis Club (311)	See Inset, C-7	Santa Ana Hall Dormitory (71)		G-7
Logan Hall (Psychology) (34)	I-3	Santa Clara Hall Dormitory (61)		G-6
Manzanita Center (Educational Lab) (70)	G-6	Sara Reynolds Hall (Classrooms) (104)		I-3
Married Student Housing (317-329)	See Inset, B-8	Scholes Hall (Administration Building) (10)		G-3
Marron Hall (9)	I-3	School of Medicine Building No. 2 (201)		E-6
Masley Hall (Art Education) (68)	G-5	School of Medicine Buildings Nos. 4, 5, & 6 (209)		D-5
Math Annex (37)	F-4	Senior Health Center (Centro de Salud) (210)		D-6
Mattox Sculpture Center (123)	See Note, I-1	Service Building (Physical Plant Dept.) (204)		D-3
Maxwell Museum (in Anthropology) (11)	G-2	Shipping (262)		B-2
Mechanical Engineering (122)	I-2	Simpson Hall (Counseling & Family Studies) (66)		G-6
Media Technology Services (in Woodward Hall) (82)	H-4	Small Engine Repair Shop (219)		D-2
Medical Center Storage (213-215)	D-5-6	Speech & Hearing Center (212 & Trailers M & N)		E-7
Medical Center University Counsel (232)	E-7	Social Sciences (78)		G-4
Mesa Vista Hall (56)	H-5	Southwest Hispanic Research Institute & Chicano Studies (171)		F-3
Meteoritics (Northrop Hall) (24)	H-3-4	Speech Communication (Journalism) (115)		I-3-4
Milagro Program (Centro de Salud) (210)	D-6	Stadium (Football & Track & Field Facilities) (301)		See Inset, C-8
Military Science (Army ROTC) (20)	G-3	Student Health Center/University College (73)		H-5
Mitchell Hall (Classrooms) (23)	H-3	Student Resident Center & Commons (88, 89 & 90)		G-H-6-7
Native American Studies (28)	F-3	Student Services (85)		H-6
Naval Science (151)	F-4	Student Union Building (SUB or New Mexico Union) (60)		H-5
New Mexico Children's Psychiatric Center (236-243)	C-3-4	Surge Building (226)		E-7
New Mexico Union (Student Union or SUB) (60)	H-5	Surplus Property (262)		B-2
New Mexico Law Center (230)	C-5	Swimming Pools (in Johnson Center) (59)		H-6
North Golf Course Clubhouse (206)	C-5	Tamarind Institute (163)		J-5
Northrop Hall (Geology) (24)	H-3-4	Tapy Hall (Civil Engineering) (118)		H-2
Novitski Hall (Dental Programs) (249)	D-4-5	Technology Commercialization Center (334)		See Inset, B-7
Nuclear Engineering Laboratory (121)	I-2	Telecommunications (256)		E-F-5
Nursing/Pharmacy (228)	D-6	University Arena (Basketball Arena, "The Pit") (302)		See Inset, C-7
Observatory (208)	D-4	University Coffee Shop (27)		G-3
Occupational Safety (Campus Safety, Hazardous Wastes, Radiation Safety) (233)	C-3	University College/Student Health Center (73)		H-5
Oñate Hall (156)	G-H-8	University House (President's Home) (51)		G-4
Ortega Hall (79)	H-4	University of New Mexico Hospital (235)		E-6
Parish Library (87)	F-4-5	UNM Hospital Business Center (271)		A-1
Parking Services (at corner of Central & University) (125)	I-1	UNM Mental Health Program (221, 225, 231, 246, 247, 258, 268)		D-6, D-7
Parking Structure (172)	F-6-7	UNM Press (183)		E-2
Payroll (33)	G-3	UNM/SNL Advanced Materials Laboratory (337)		See Inset, B-7
Peace Corps (182)	E-3-4	University Research Park, Park Center (332)		See Inset, B-7
Personnel (Human Resources) (26)	G-2	University Research Park, NM Engineering Research Institute (NMERI) (333)		See Inset, B-7
Pharmacy (Nursing/Pharmacy) (228)	D-6	University Stadium (Football, Track & Field Facilities) (301)		See Inset, C-8
Physical Plant Dept. (Service Building) (204)	D-3	Victims' Assistance Program (Police) (45)		G-3
Physics (Regener Hall) (35)	I-2-3	Visitor Center (40)		F-2
Physics & Astronomy (207)	E-4-5	Wagner Hall (Engineering Labs) (117)		H-2
"The Pit" (University Basketball Arena) (302)	See Inset, C-7	Warehouses (205, 250-252)		C-3, D-2-3
Police Investigations & Victims' Assistance Program (45)	G-3	Woodward Lecture Hall (Classrooms & Media Technology Services) (82)		H-4
Police Administration (44) & Annex (41)	F-3	Zimmerman Library (53)		G-4-5
Popejoy Hall (72)	I-5	Zimmerman Library Annex (278)		A-1
Postal Services (262)	B-2			
President's Home (University House) (51)	G-4			
Printing Services (115)	I-4			
Psychology (Logan Hall) (34)	I-3			
Psychology Clinic (31)	F-3			
Public Affairs (27)	G-3			

1 2 3 4 5 6 7 8

A

A

The University of New Mexico

General Campus Map for Visitors



B

B

C

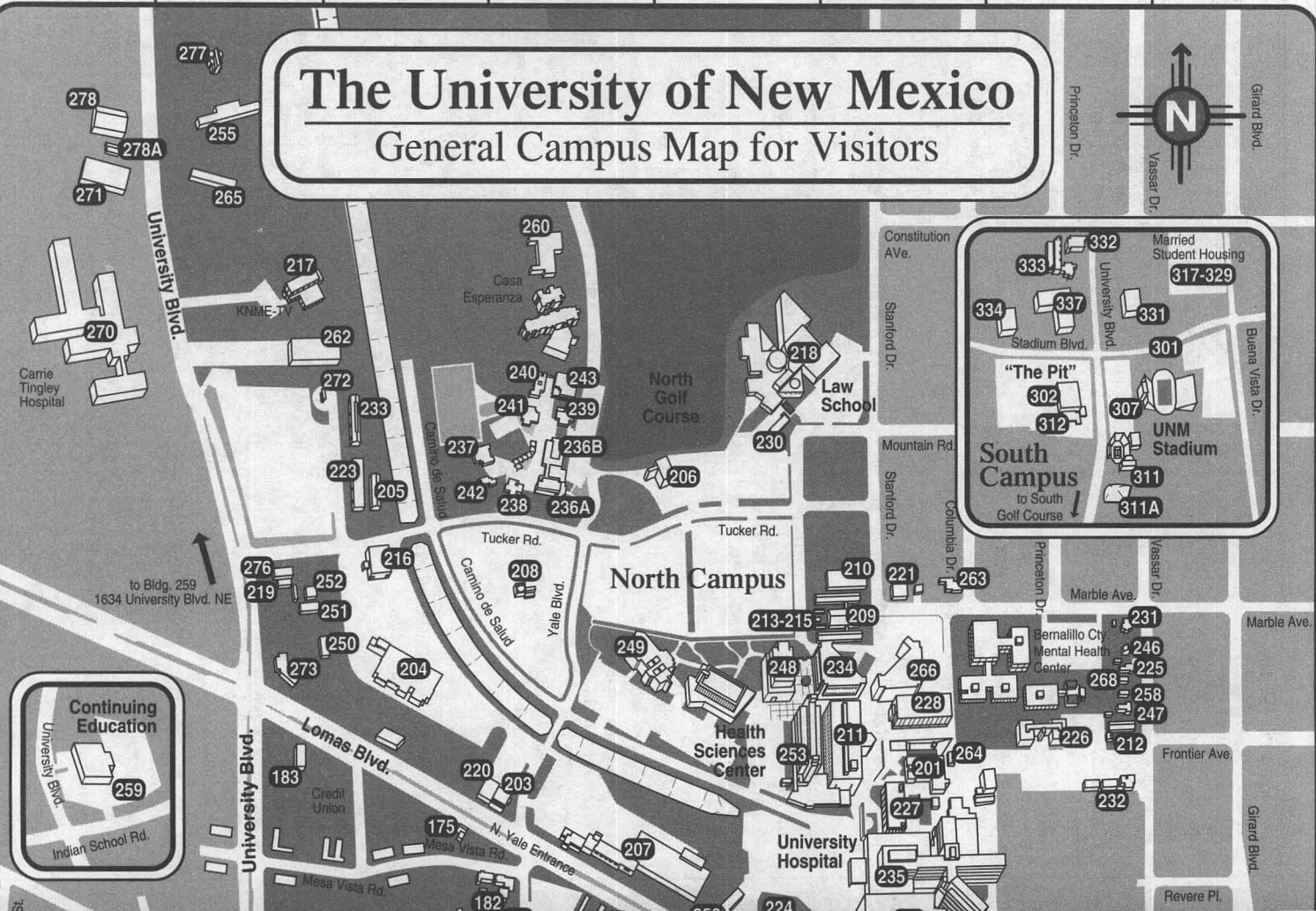
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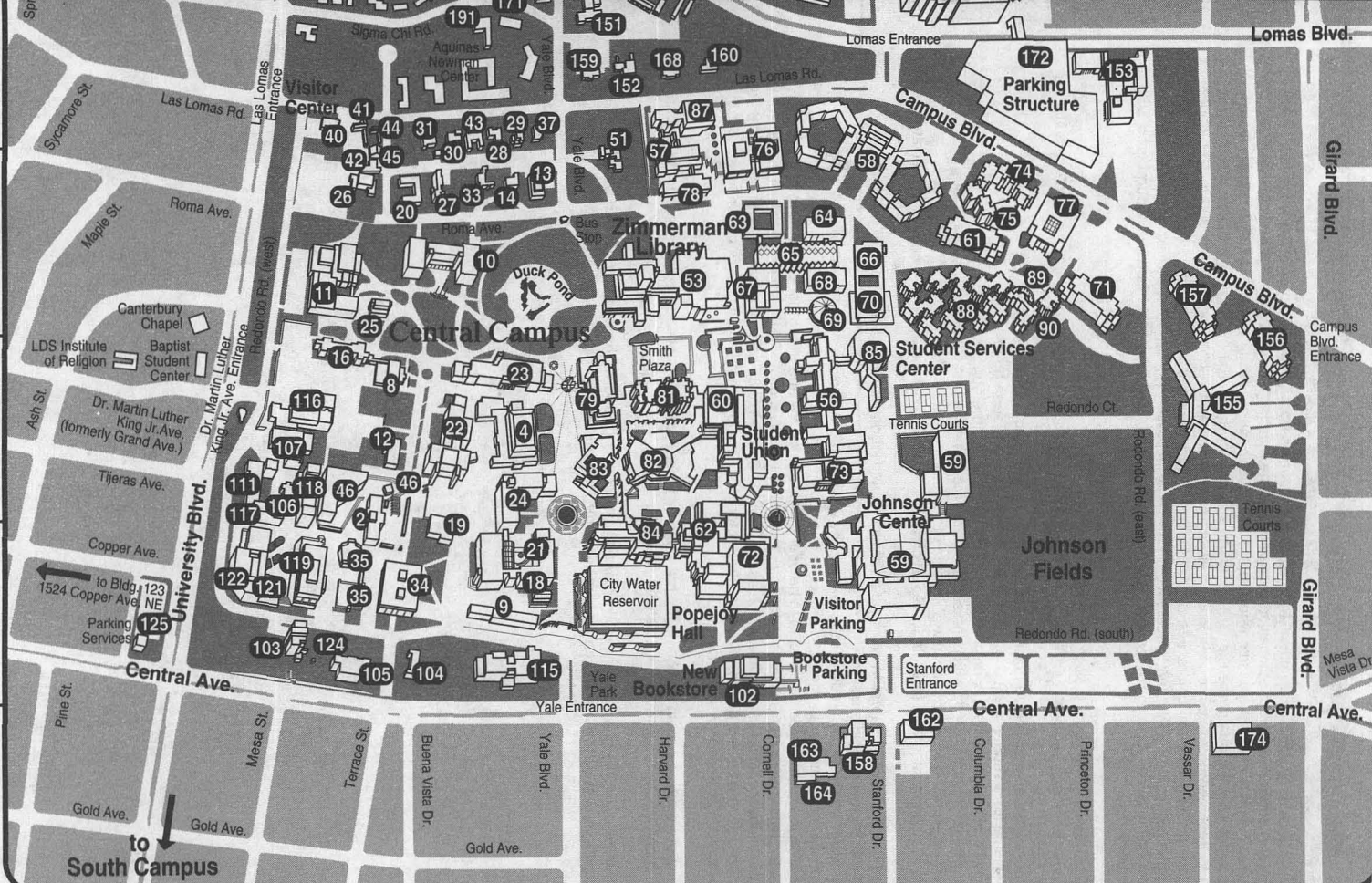
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E

E



THE UNIVERSITY OF NEW MEXICO CATALOG



1 2 3 4 5 6 7 8

Key to Symbols Used in Course Description

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. **See the *Graduate Programs Bulletin* for descriptions of courses numbered 500 and above.**

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.

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.**

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