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# CATALOG

2014-2015



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# Welcome

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UNM-Los Alamos Catalog 2014-15

*“Move confidently in the direction of your dreams,”* advised Henry Thoreau, *“and live the life you have imagined.”*

The University of New Mexico is the sum of many dreams, from those of the first 75 people who took classes in Albuquerque over a century ago, to the 36,000 undergraduate, graduate and professional students now attending

UNM and its branches. We invite you to be a part of those dreams as well.

UNM-Los Alamos strives to give its students the distinctive opportunities unique to a branch campus of a flagship institution, in an environment that supports their individual aspirations. Working directly with faculty in classrooms, laboratories, workshops and clinical sites, they pursue their academic goals at every level from certificate to associate to bachelor’s to master’s degrees. They explore their passions and hone their interests through the university’s many student clubs, interest groups, and extra-curricular activities. They contribute to the welfare of the campus and community through their performances, internships, service projects and other special programs.

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

Go Lobos!



Wynn Goering, Ph.D.  
Chief Executive Officer





# Academic Calendar

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## Fall 2014

Instruction begins	August 18, Monday
Fall enrollment cancellation due to lack of financial commitment	August 29, Friday
Registration ends - last day to add courses or change sections	
16-week term . . . . .	August 29, Friday
First 8-week term . . . . .	August 22, Friday
Second 8-week term . . . . .	October 10, Friday
Labor Day, Holiday, Campus Closed	September 1, Monday
Last day to drop a course with 100% refund	
16-week term (end of third week) . . . . .	September 5, Friday
First 8-week term (end of second week of course) . . . . .	August 29, Friday
Second 8-week term (end of second week of course) . . . . .	October 24, Friday
Last day to change grading options (in person)	
16-week term (end of fourth week) . . . . .	September 12, Friday
First 8-week term (end of second week of course) . . . . .	August 29, Friday
Second 8-week term (end of second week of course) . . . . .	October 24, Friday
Mid-Semester (eight week)	October 11, Saturday
Columbus Day (no lower division classes) Campus open	October 13, Monday
Fall Break (upper division and graduate only) Campus open	October 9–10, Thursday–Friday
Veterans Day (no lower division classes) Campus open	November 11, Tuesday
Last day to withdraw without approval of Student Services	
16-week term (end of twelfth week) . . . . .	November 7, Friday
First 8-week term (end of second week of course) . . . . .	September 26, Friday
Second 8-week term (end of second week of course) . . . . .	November 28, Friday
Thanksgiving, Holiday	November 27–November 30, Thursday–Sunday
Spring 2015 Registration Opens	Monday, December 1
Last day to withdraw from a course with approval of Student Services	
16-week term . . . . .	December 5, Friday
First 8-week term . . . . .	October 10, Friday
Second 8-week term . . . . .	December 5, Friday
Last day of instruction	
16-week term . . . . .	December 6, Saturday
First 8-week term . . . . .	October 12, Saturday
Second 8-week term . . . . .	December 7, Saturday
Final examination period	December 6–13, Saturday–Saturday
Last day to report removal of incomplete grade	
16-week term . . . . .	December 12, Friday
Semester ends	
16-week term . . . . .	December 13 Saturday
First 8-week term . . . . .	October 11, Saturday
Second 8-week term . . . . .	December 13, Saturday
UNM Commencement (subject to change)	December 12, Friday
University Holiday (Winter Break, campus closed)	December 23, 2014–January 2, 2015, Tuesday–Friday

# Spring 2015

Registration for Spring 2015 opens	December 1, 2014, Monday
Enrollment Cancellation Due to Lack of Financial Commitment	January 2, 2015, Friday
Instruction begins	January 12, Monday
Martin Luther King Jr. Holiday	January 19, Monday
Registration ends - last day to add courses or change sections	
16-week term . . . . .	January 23, Friday
First 8-week term . . . . .	January 16, Friday
Second 8-week term . . . . .	March 20, Friday
Last day to drop a course with 100% Refund	
16-week term (end of third week) . . . . .	January 30, Friday
First 8-week term (end of second week of course) . . . . .	January 23, Friday
Second 8-week term (end of second week of course) . . . . .	March 27, Friday
Mid-semester (eighth week)	March 7, Saturday
Last day to change grading options	
16-week term (end of fourth week) . . . . .	February 6, Friday
First 8-week term (end of second week of course) . . . . .	January 23, Friday
Second 8-week term (end of second week of course) . . . . .	March 27, Friday
Spring Recess (Campus Open)	March 8–14, 2015
Last day to withdraw without approval of Student Services	
16-week term (end of twelfth week) . . . . .	April 10, Friday
First 8-week term (end of second week of course) . . . . .	January 23, Friday
Second 8-week term (end of second week of course) . . . . .	March 27, Friday
Registration for Summer and Fall 2015 opens	April 20, Monday
Last day to withdraw from a course with approval of Student Services	
16-week term . . . . .	May 1, Friday
First 8-week term . . . . .	March 6, Friday
Second 8-week term . . . . .	May 1, Friday
Last day of instruction	
16-week term . . . . .	May 2, Saturday
First 8-week term . . . . .	March 7, Saturday
Second 8-week term . . . . .	May 2, Saturday
Final examination period (Saturday–Saturday)	May 2–9, 2015
Last day to report removal of incomplete grade	
16-week term . . . . .	May 8, Friday
Semester ends	
16-week term . . . . .	May 9, Saturday
First 8-week term . . . . .	March 7, Saturday
Second 8-week term . . . . .	May 9, Saturday
UNM Commencement (subject to change)	May 9, Saturday
Memorial Day Holiday (campus closed)	May 25, Monday

# Summer 2015

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Instruction begins	8-week term . . . . .	June 1, Monday
	First 4-week term . . . . .	June 1, Monday
	Second 4-week term . . . . .	June 29, Monday
<hr/>		
Registration ends - last day to add courses or change sections	8-week term . . . . .	June 5, Friday
	First 4-week term . . . . .	June 2, Tuesday
	Second 4-week term . . . . .	June 30, Tuesday
<hr/>		
Last day to change grading options	8-week term . . . . .	June 12, Friday
	First 4-week term . . . . .	June 5, Friday
	Second 4-week term . . . . .	July 3, Friday
<hr/>		
Last day to drop a course without a grade	8-week term . . . . .	June 12, Friday
	First 4-week term . . . . .	June 5, Friday
	Second 4-week term . . . . .	July 3, Friday
<hr/>		
Last day to withdraw without approval of Student Services	8-week term . . . . .	July 10, Friday
	First 4-week term . . . . .	June 19, Friday
	Second 4-week term . . . . .	July 17, Friday
<hr/>		
Independence Day, holiday—Campus Closed		July 3, Friday
<hr/>		
Session ends	8-week term . . . . .	July 25, Saturday
	First 4-week term . . . . .	June 27, Saturday
	Second 4-week term . . . . .	July 25, Saturday
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Tentative start date Fall 2015		August 17, 2015

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*\*All dates for the summer term are subject to change.*



# Policies

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## Applicability

These policies apply to outreach, admission, extracurricular activities, housing, facilities, access to course offerings, counseling and testing, financial assistance and 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 coworkers 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 and/or harassment on the basis of race, color, religion, national origin, physical or mental disability, age, sex, sexual preference, ancestry, or medical condition. Equal educational opportunities include admission, recruitment, academic endeavors, extracurricular programs and activities, housing, health and insurance services and athletics. In keeping with this policy of equal educational opportunity, the University is committed to creating and maintaining an atmosphere free from all forms of harassment.

## ADA Compliance and Reasonable Accommodation

The University of New Mexico-Los Alamos is committed to the recognition and the proactive pursuit of compliance with the Americans with Disabilities Act of 1990 (ADA). The University makes reasonable accommodation for religious observances, national origin practices of a student, and the known physical or mental limitations of a qualified student, 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 with disabilities should contact Student Services for information regarding accommodations in the academic and/or employment setting. If you have a special need and require an auxiliary aide and/or service, please contact Student Services at 505-662-0332.

## Non-Discrimination

If you believe you have been discriminated against and/or harassed on the basis of your race, religion, color, national origin, physical or mental disability, age, sex, sexual preference, ancestry or medical condition, you should contact the Student Enrollment Director who serves as the Coordinator for the Americans with Disabilities Act of 1990 (prohibiting discrimination on the basis of disability) and Title IX of the Education Amendments Act of 1972 (prohibiting discrimination on the basis of sex in federally funded programs). The Director can be reached at (505) 661-4688. You can also access information on the OEO web site at <http://oeodm.od.nih.gov/>.



# General Information

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## Role and Function of UNM Branch Colleges

The University of New Mexico has established branch colleges to serve the citizens of New Mexico more fully and to provide the highest quality education throughout the state for students in different locations pursuing postsecondary education. Branch colleges respond specifically to the unique needs and multicultural backgrounds of the citizens in the respective communities they serve by offering transfer programs that prepare students for upper-division entry into colleges and universities. In addition the branches offer associate degree and certificate programs. Branch colleges use resources in the community as well as make educational resources available. Therefore, they also function as an integral part of the community.

The five-member elected UNM–Los Alamos Advisory Board serves as an advisory body to the College and to the University of New Mexico Board of Regents. It approves the annual budget and can call for elections. UNM–Los Alamos continues to benefit from a strong, supportive, and dedicated Advisory Board which is well informed, responsible, and committed to the College and its future. The branch colleges of the University of New Mexico are considered fully integrated component colleges. They are committed to serving the needs of their respective communities as comprehensive community colleges offering a variety of preparatory academic, career, and community service programs. The branch colleges pledge themselves to protect the quality and integrity of all academic curricula. UNM Albuquerque campus pledges its resources, whenever appropriate and practical, to the fulfillment of the varied missions of the branches. The Provost/Vice President for Academic Affairs at the University of New Mexico has responsibility

for the operation of the branch colleges. From a clear understanding of its role and function, UNM–Los Alamos has developed the following mission statement.

## Mission, Vision, Values, and Strategic Goals

### Mission

The mission of the University of New Mexico-Los Alamos is:

*Preparation for Transfer...Pathways for Careers...Passion for Lifelong Learning!*

UNM–LA is an innovative, rigorous, and affordable comprehensive branch community college that provides foundations for transfer, leading-edge career programs, and lifelong learning opportunities. We strive to prepare students who are capable, competent, and successful through high-quality instruction and personalized attention.

### Vision

UNM–LA is recognized as a premier education provider for Los Alamos and the region by offering unique forward-looking learning opportunities, spanning the sciences and the arts, and building on unique local and regional assets.

We aspire to a future in which we are known the following:

### Commitment to Excellence

We are respected for excellence in all academic endeavors, offering traditional and innovative programs.

### **Success through Collaboration**

We are seen as a committed partner supporting education and regional development.

### **Engagement with Community**

We build on the history, geography, and cultures of our region for an improved quality of life for all.

### **Values**

The values that guide UNM–LA are Excellence, Integrity, Diversity, Respect, Collaboration, Innovation, Creativity, Accessibility.

### **Strategic Goals**

The UNM–LA strategic plan is centered on the following six goals:

**Goal 1** – Develop and maintain strong ties with constituents and stakeholders leading to greater participation in higher education within our region and resulting in economic development.

**Goal 2** – Communicate and demonstrate how our mission, vision, and values are ensuring excellence in UNM–LA programs, services, and opportunities to underscore our position as a premier educational institution.

**Goal 3** – Staff UNM–LA sufficiently to sustain high instructional standards, enable realistic workloads in providing support services, and create an environment that encourages excellence.

**Goal 4** – Increase enrollment for the purpose of creating a vibrant campus community and sustainable programs and services.

**Goal 5** – Create and manage new revenue streams to complement state funding, stabilize support for recurring costs, and enable investments in our educational infrastructure.

**Goal 6** – Review and revise the strategic and implementation plans each quarter to ensure they serve as the framework for decision-making and continue to serve the UNM–LA community.

## **Educational Programs**

The University of New Mexico–Los Alamos offers a range of educational programs as defined in the Mission Statement and institutional goals. These programs constitute the heart of the institution. Academic transfer programs for credit provide the first two years of high quality university education. UNM–Los Alamos is authorized to offer any freshman or sophomore course that appears in the UNM Albuquerque campus catalog for which an appropriate instructor and facilities can be obtained. In addition, UNM–Los Alamos may design courses that respond to the needs of its students. Most of these courses carry full UNM residence credit as though they were taken in Albuquerque. Thus students enrolled in academic transfer courses may complete most of and, in many cases, all of the first two years of a baccalaureate degree at UNM–Los Alamos before continuing their studies at UNM or other four-year institutions.

### **Associate Degrees**

Associate of Arts and Associate of Science degrees are offered in the following fields: Computer Science, Early Childhood Multicultural Education, Emergency Medical Services, Environmental Science, Liberal Arts with a concentration in Public Safety, Pre-Business Administration, Pre-Professional Elementary Education, Pre-Engineering, Pre-Professional Health Sciences, Science, and Studio Art. These programs are considered to be transfer programs because all or most of the courses required transfer to other four-year colleges and universities.



Occupational and technical programs are offered for academic credit. Associate of Applied Science Degrees in Accounting, Applied Technology with concentrations in Electro Mechanical Technology, Manufacturing, Nanotechnology, and Solar Technology, Business with concentrations in Marketing and Management, General Studies, Fire Science with concentrations in Fire Science and Emergency Medical Services, Information Technology with Cybersecurity, and Robotics are available. The Associate Degree in General Studies provides students the opportunity to develop programs of study not available through other UNM–Los Alamos programs. The courses selected may reflect either specialized or broad patterns of educational experience.

### **Academic Certificates**

Academic Certificates are offered in Accounting, Business with Marketing and Management concentrations, Office Communications and Technology, Pre-Professional Elementary Education, Pre-Professional Health Science, Solar Technology, Southwest Studies, and Studio art.

### **Bachelor’s and Master’s Degrees**

UNM–Los Alamos also offers Bachelor’s Degrees on this campus in Business Administration, Computer Science, Communications and Journalism, Mathematics, University Studies, Chemical-Nuclear Engineering, Electrical and Computer Engineering and Mechanical Engineering. Master’s program courses are offered in Chemical and Nuclear Engineering, Computer Science, Educational Leadership, Electrical and Computer Engineering, Mechanical Engineering, and Public Administration.

### **First Year Experience Program**

The First Year Experience Program is rooted in the On Course principle that the most effective learners are empowered learners who are characterized by self-responsibility, self-motivation, self-management,

interdependence, self-awareness, life-long learning, emotional intelligence, and a strong sense of self. UNM-LA’s FYE program, in conjunction with the Academic Support Center, the UNM-LA Library, and Student Services, is dedicated to empowering learners by expanding educational opportunities for all students, including those who by traditional measures are not expected to succeed in higher education. The program offers students course placement evaluation, Introductory and University Studies courses, and a well-designed educational experience, so students have the opportunity for deep, transformational learning and success--academic, personal, and professional.

### **Introductory Studies**

Introductory Studies credit courses are offered in math, English, and reading comprehension.. The Introductory Studies courses are components of the First Year Experience program, which is designed to help students strengthen their areas of academic competencies, as well as ensure successful transition into college.

### **Accelerate Technical Training Program**

Accelerate offers academic and career coaching that quickly prepares people of all ages and backgrounds for enhanced employment opportunities, supports nontraditional students and transitional workers who want to retrain for current workforce needs, provides a step towards obtaining jobs and pursuing technology-related careers and establishes a flexible foundation as industries innovate in the future.

Throughout the academic year, Accelerate students work with a Career Technical Advisor to help them stay on track with coursework, find solutions to everyday challenges, balance jobs, family and school, and identify career internships. This increased individual attention strengthens student confidence and helps students complete their studies to enter the workforce prepared to excel and achieve success in their career paths.

For more information contact 663-3402 or <http://losalamos.unm.edu/students/accelerate/>.

## Adult Basic Education

Adult Basic Education and English as a Second Language courses are also offered for students who are not adequately prepared for college-level work.

## The Academic Support Center

The Academic Support Center (ASC) offers a range of services to supplement UNM-LA's academic programs. ASC organizes and hosts homework/study groups, review sessions, and workshops, while offering additional course resources and various types of extra help and tutoring (drop-in, by appointment, and online). Services cover a wide range of academic subjects and special arrangements may be made for those subjects not currently covered. ASC is located next to the Student Center, on the top floor of Building 2. For more information, tutor schedules, and access to online tutoring, visit the ASC homepage at [asc.unm.edu](http://asc.unm.edu).

## Employability Certificates

UNM-LA offers three Employability Certificates that provide students the option to gain expertise in a focused, marketable skill set. These skill sets represent areas of employment where the Federal Department of Labor and New Mexico State Labor statistics project growing needs over the coming years.

## Operating Agreement and Funding

UNM-Los Alamos was established under the provisions of the Branch College Act, New Mexico Statutes of 1978, implemented in an operating agreement between the Los Alamos School Board and the Regents of the University of New Mexico. The UNM-Los Alamos Advisory Board serves as the Advisory Board to the UNM Board

of Regents. This Advisory Board approves an annual budget for UNM-Los Alamos and calls elections for local tax levies and capital outlay general obligation bonds for UNM-Los Alamos. The University of New Mexico retains administrative and academic oversight of UNM-Los Alamos, and the Executive Director of UNM-Los Alamos reports to the President of the University. Funding for UNM-Los Alamos comes directly from state appropriations and local tax levies, grants, and tuition and fees paid by students.

## Accreditation

As a Branch College of the University of New Mexico, UNM-Los Alamos is fully accredited by The Higher Learning Commission of the North Central Association of Colleges and Schools.

## Student Outcomes Assessment

Student Outcomes Assessment is an essential measure of the institution's effectiveness in achieving its goals as outlined in the UNM-Los Alamos Mission Statement. It is an ongoing process intended to measure student academic achievement and adjust and adopt courses and programs as needed. Faculty have the primary ownership and responsibility for the development, implementation, and monitoring as part of the College Assessment Review Committee (CARC). Specific competencies at the course/program level and the assessment tools to measure identified competencies are continuously being developed and continuously being implemented. See the current report at <http://losalamos.unm.edu/instruction/assessment/>

## History of UNM-Los Alamos

The University of New Mexico began its presence in Los Alamos in 1956 with the establishment of the UNM

Los Alamos Center for Graduate Studies. The Graduate Center has been in continuous operation since that time. It has a distinguished history of offering graduate degrees in scientific, engineering, management, and health-related fields. The first significant UNM undergraduate offering in Los Alamos began with the establishment of the University of New Mexico Residence Center in Los Alamos in the fall of 1970. In 1973, the University of New Mexico Northern New Mexico Branch College came into existence, with Los Alamos as one of its campuses. In 1977, as a result of Legislative action, the UNM Northern Branch College was absorbed into Northern New Mexico Community College (NNMCC).

In 1980, after a local referendum and Board of Educational Finance and legislative approval, the Los Alamos Branch Community College Campus of the University of New Mexico was founded. It began operations on July 1, 1980, in the Little Valley School on Orange Street. The new Director assumed his duties at that time, and several key NNMCC employees were transferred to the UNM–Los Alamos Branch College, which subsequently assumed the informal title of UNM–Los Alamos.

In October 1980, the campus moved from the Little Valley School to its present site. In January 1981, the staff of UNM–Los Alamos assumed, under a contractual arrangement, the daily operations of the UNM–Los Alamos Center for Graduate Studies from the Training Office of the Los Alamos National Laboratory. The Director of the Graduate Center moved his office to UNM–Los Alamos. During 1982-1983, the facilities were remodeled and expanded and the new UNM–Los Alamos campus was dedicated by then Governor of New Mexico, Toney Anaya, on January 6, 1984. The campus facilities were further expanded in 1987 to include a fifth classroom building.

During 1988-89, an institutional self-study was conducted and an accreditation visit took place in May 1989 as part of the University of New Mexico decennial accreditation review. In 1988, the Los Alamos School Board approved

additional space in the Mesa Complex for use by UNM–Los Alamos. In 1996, an extension housing the Learning Center, the Tutorial Center, and the Adult Basic Education Program was added to the administration building. Additional classroom, laboratory and office space was obtained in 1997 by negotiation with the Los Alamos Public Schools. In 2000 the expanded and renovated Student Center building was opened. It includes a Student Center with a food service area, classrooms, media room and lecture hall. In addition the Student Services support areas including admissions and registration, advisement, and financial aid are located in the lower level of this building. Additionally, a Facilities Services building which houses a Woodworking shop and Solar Technology classroom has been added along with a remodel of existing space to create a new Lecture hall and new computer labs.

## Location

Los Alamos, home of the University of New Mexico–Los Alamos campus, is a community of approximately 18,000. The town is located on the pinion, juniper, and ponderosa-covered red mesas of the Pajarito Plateau at an elevation of 7,300 feet. The Jemez Mountains provide a backdrop for the community that looks east across the Rio Grande Valley to the majestic Sangre de Cristo Mountains.

The setting is ideal for the outdoor enthusiast. There are nearby locations for downhill and cross-country skiing and ice skating in the winter. Summer activities include hiking, picnicking, horseback riding, backpacking, and camping, together with fishing and river rafting. Three renowned races are held in Los Alamos each year: the High Altitude Mini-Marathon, the Tour de Los Alamos Bicycle Race, and the Triathlon. In April 1988, the Larry R. Walkup Aquatic Center opened its doors to the citizens of Los Alamos and surrounding area. This facility is open to the public and houses an Olympic-sized swimming pool. There are year-round musical and theatrical events in Los

Alamos and numerous other cultural attractions to choose from in Santa Fe, 30 miles away, and in Albuquerque, a 90-mile drive from Los Alamos.

There are also year-round events at the nearby pueblos of San Ildefonso, Santa Clara, Oh Kay Owingeh, Pojoaque, Tesuque, Nambe and Jemez. Located within 15 miles of Los Alamos is the world-famous Bandelier National Monument. The park, home of Native American cliff dwellings as well as many other ancient treasures, is open year round. Students at UNM–Los Alamos are fortunate to be able to draw on the rich tri-cultural heritage of the area and to explore all the area has to offer in terms of history, geology, and archaeology. In addition, UNM–Los Alamos students can take advantage of the outstanding collections of Mesa Public Library and the J. Robert Oppenheimer Study Center at Los Alamos National Laboratory, within two miles of the UNM–Los Alamos campus.

## Faculty

The faculty of UNM–Los Alamos is predominately part-time. Many of the faculty enjoy international reputations in their fields, and all are extremely well qualified. Most UNM–Los Alamos faculty are subject to UNM approval through the various departments at the UNM–Albuquerque campus. About one-third of the UNM–Los Alamos faculty consists of a core of continuing faculty. Core Faculty members, in addition to teaching, hold regular office hours, provide academic advisement, and participate in a variety of committee work and special projects. Invited Faculty are encouraged, but not required, to participate in advisement, hold office hours, and attend various faculty development workshops throughout the academic year. Department Chairs for General Studies, Fine Arts, Communications, Math, Science and Engineering, Applied Science, Computer Science, Information Technology, and Business are responsible for the coordination of faculty and instructional issues within each curriculum area. Two Associate Deans of

Instruction advises the administration on curriculum and academic personnel matters and, with the Dean of Instruction, monitor the quality of teaching through classroom visits. Other means of class evaluation may include a mid-semester evaluation survey, a classroom assessment technique of the teacher's choosing, and a UNM computerized student evaluation survey at the end of the semester.

## Facilities

The UNM–Los Alamos campus consists of 78,667 square feet of leased and owned buildings. The campus includes eight buildings that house classrooms, administrative offices, student services, a library, facilities services, laboratories, lecture halls, and community meeting and student activity space. The facilities at UNM–Los Alamos encompass computer, general science and electronics laboratories, a photography darkroom and art studios, together with general classrooms, solar technology area and a machine shop/welding area.

## Bookstore

UNM-Los Alamos has partnered with MBS Direct, an online textbook vendor to supply all required books for our programs. It is the student's responsibility to order their own textbooks. The online vendor will make textbooks available for purchase six (6) weeks prior to the start of classes.

Students may access MBS by clicking on the "Click here to order your Textbooks" icon on the UNM-LA web page. Required and optional books for Lower Division, Upper Division and Community Education classes are listed. Students may purchase their textbooks using a credit card or can charge them to their UNM-LA student account by visiting the cashier and obtaining a book voucher.

## Library

The mission of the UNM–Los Alamos Library is to provide for the information needs of its students, faculty and staff, and to contribute to the information resource base of the communities that it serves, through its resources (both traditional and electronic), services, staff, equipment and facility. The library, located in the Learning Center (Building 7), is a technologically advanced facility with wireless capability and 10 hardwired public computing stations providing access to the Microsoft Office Suite, the Internet, LIBROS (the online catalog), a variety of academic databases and other online reference sources and online collections of other libraries. In addition, the library has a variety of laptops and iPads that patrons may checkout to use in the Library. The Library houses a growing collection of books, periodicals, pamphlets, maps, instructional videos and sound recordings. The library provides a pleasant, inviting setting for study,

research and the exchange of ideas. The main floor of the library offers a variety of comfortable study spaces appropriately dispersed throughout the facility, including carrels, study tables, three group study rooms equipped with white boards, computing stations and a periodical browsing area. An eating area, furnished with comfortable bistro chairs and tables allows patrons to enjoy a meal or a snack while they read and study. A loft, upstairs from the main floor of the library, is a pleasant, airy space, which houses a distinctive Southwest Collection and provides a quiet area for study and instruction. The library team is friendly, knowledgeable and very dedicated to helping library patrons with their information needs.

Changing art and book exhibits in the library contribute to an aesthetically pleasing environment for all library visitors. For more information, link to the library web site at <http://losalamos.unm.edu/library/index.html>.





# Admissions

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## General

The University of New Mexico-Los Alamos admits all eligible applicants from New Mexico, other states and foreign countries. Because of the great diversity of the University's students, special application and admission procedures have been created to meet the needs of the different populations. UNM-Los Alamos serves high school students, recent high school graduates, transfer students, non-degree students, returning and nontraditional students. Admission procedures and requirements vary in each of the categories listed below.

1. Beginning Freshmen (no previous college work)
2. Dual Credit (high school)
3. Concurrent Enrollment
4. Transfer Students (last attended another institution)
5. Readmit students (students who stopped attending for three or more sessions).
6. Non-Degree Students (presently not seeking a degree)
7. International Students

For all categories, the University requires full academic disclosure on the application forms. Any student found guilty of non-disclosure or misrepresentation on an application is subject to disciplinary action, including possible dismissal from the University. Transcripts and test scores submitted to UNM-Los Alamos for admission become the property of the University and will not be sent elsewhere or returned to the student.

## Use of Social Security Numbers

Your social security number will not be the primary University identification number. It will not appear on your student identification card. UNM is required to collect your SSN in order to provide full access to services

such as financial aid, to ensure an accurate academic record, and for record-keeping purposes. The University will protect the confidentiality of your SSN as required by law.

## Beginning Freshmen

### Associate Degree Admissions

A student may enroll in one of several associate degree programs offered by UNM-Los Alamos. The admission requirement for admission into an Associate Degree is a high school diploma or equivalent. A passing score on the General Education Development (GED) is accepted in lieu of a high school diploma. Special application and admissions procedures are in place to meet the varying needs of individuals seeking to enroll in educational programs at the institution. The UNM-Los Alamos campus has an open admission policy. Admission is available to all students.

## How to Apply

1. Applications may be submitted online or printed in hard copy at <http://losalamos.unm.edu>. A \$10.00 non-refundable application fee is also required at the time that you submit your application and may be paid online or in person with the cashier.
2. Request that your high school or GED offices send an official transcript directly to the Student Services Office.
3. Request that each college you have attended send an official transcript directly to the Student Services Office.

## When to Apply

We strongly encourage students to apply as early as possible. 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 is required.

## Dual Credit Enrollment Option

The Dual Credit Program allows qualified public, charter and tribal school students to enroll in college-level courses offered by a public postsecondary educational institution that may be academic or career technical but not remedial or developmental, and simultaneously earn credit toward high school graduation and a postsecondary degree or certificate. The program is designed to increase education opportunities, provide a college-level experience and encourage more high school students to pursue higher education.

Meeting the criteria listed below does not mean that the student will be automatically admitted to the Dual Credit Program. In all cases, the final admission determination will be made by the UNM–LA Registrar’s Office.

1. The student must have the certification and unconditional recommendation of the high school as well as proof of parental consent prior to participation on the Dual Credit/Concurrent Enrollment Application Form.
2. The high school must furnish the Student Services Office with a current, official, high school transcript.
3. Cumulative grade point average of 2.50 for academic course enrollment or 2.0 for technical/vocational course enrollment.
4. A student planning to enroll in English or Math must meet the minimum placement scores determined by UNM–Los Alamos in either the ACT, SAT or Compass tests.
5. A student planning to enroll in any course that has a prerequisite requirement must meet the

minimum prerequisite or test score. Students who have attended a non-accredited/non approved high school or home school may apply for Concurrent Enrollment.

## Concurrent Enrollment Option

UNM–Los Alamos offers a Concurrent Enrollment Program for high school students who only want college credit. Eligible students must have a minimum GPA of 2.5 for academic course enrollment or a 2.0 GPA for vocation/technical enrollment. The student must have proof of parental consent prior to participation on the Dual Credit/Concurrent Enrollment Application Form. The high school must furnish the Office of Admissions with a current official high school transcript.

## Introductory Studies Courses

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

## Transferring Students

### How to Apply

1. Complete and return an application for admission and a \$10.00 nonrefundable application fee to the Student Services Office. You may also apply online at <http://losalamos.unm.edu>.



2. Request that each college you have attended send an official transcript directly to the Student Services Office. A summary on one transcript of work at several colleges is not sufficient. If you are applying for the next academic session at UNM–Los Alamos 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–Los Alamos with fewer than 26 semester hours of accepted college work, you are considered a freshmen transfer and must submit 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 Student Services Office.**

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 Student Services Office within three weeks after the beginning of classes.

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

### **Previous Suspension**

A student under academic suspension from another college or university may not enter UNM–Los Alamos during the

term of suspension. In cases of unspecified suspension periods, the University’s suspension term will apply. Upon termination of the suspension, the student is eligible to request special consideration for admission to UNM–Los Alamos. In general, students under disciplinary suspension are not admitted to UNM–Los Alamos. 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–Los Alamos reviews such cases individually and, when justified, makes exceptions and allows the student to be considered for admission.

### **Transfer of Credits**

UNM–Los Alamos evaluates without prejudice courses from postsecondary institutions that are regionally accredited or are candidates for regional accreditation. Transfer students will receive full credit for course work completed with a minimum grade of “C,” provided the classes are similar or equivalent to courses offered at the University. Transferable courses with grades of “D” from New Mexico state institutions are accepted.

UNM–Los Alamos operates on a semester credit calendar. Therefore, classes from quarter system institutions will be recalculated to semester hours (one quarter hour equals .66 semester hours.)

UNM–Los Alamos does not accept 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.” Grades earned in courses taken at other institutions are not included in calculation of the UNM grade point average. This grade point average will reflect only classes taken at UNM.

## Transfer among New Mexico Higher Education Institutions

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

In addition, as a branch of UNM, UNM-LA offerings of 100- and 200-level courses from the UNM catalog are automatically transferable to UNM-Albuquerque, if you score a C or better. You will need to see an advisor to see which credits transfer to a program of a particular college. Planning ahead means that you choose the correct option for the college (such as Engineering) you intend to transfer to later.

### Student Responsibility

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

## Transferable Lower-Division General Education—Common Core

For students enrolled at any public institution in New Mexico, the following courses are guaranteed to transfer to any other New Mexico public college or university and apply toward associate and baccalaureate degree program requirements. Students should consult advisors at their current institution regarding which specific courses fit these categories. Students preparing for careers in engineering, health sciences or other profession-related fields are advised that some of this course work may not transfer toward general education requirements but in most cases will apply toward elective requirements.

### Area I: Communications 9 semester hours

1. College-Level English Composition 3-4 hrs.
2. College-Level Writing 3 hrs.
3. Public Speaking 3 hrs.

### Area II: Mathematics and Statistics 3 semester hours

1. College Algebra (or higher) 3 hrs.
2. Liberal Arts Mathematics 3 hrs.
3. Statistics 3 hrs.

### Area III: Laboratory Science 8 semester hours

1. Astronomy 4-8 hrs.
2. Biology 4-8 hrs.
3. Chemistry 4-8 hrs.
4. Geology 4-8 hrs.
5. Physics 4-8 hrs.

### Area IV: Social/Behavioral Sciences 6-9 semester hours

1. Economics (Macro or Microeconomics) 3 hrs.
2. Introductory Political Science 3 hrs.
3. Introductory Psychology 3 hrs.
4. Introductory Sociology 3 hrs.
5. Introductory Anthropology 3 hrs.

## Area V: Humanities and Fine Arts 6-9 semester hours

1. Introductory History Survey 3 hrs.
2. Introductory Philosophy 3 hrs.
3. Introductory Course in History, Theory or Aesthetics of the Arts or Literature 3 hrs.

Totals to be selected 35 semester hours

## Transferring Courses to Fulfill the New Mexico General Education Common Core

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

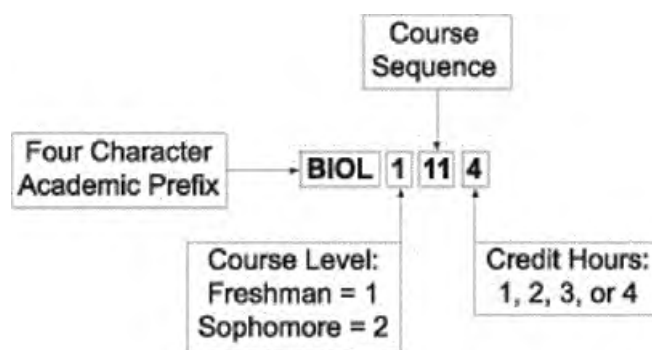
The core matrix of approved courses guaranteed to transfer and meet general education requirements at any New Mexico college or university can be found on the New Mexico Higher Education Department website at <http://www.hed.state.nm.us>. Follow the "Institutions" link to the drop down menu and select "General Ed Course Transfer Curriculum", then select the area in which you have interest to link to the transfer matrix. Courses are listed by institution, whether university

or community college, under each of the five general education areas. Students may also be able to access this list by going directly to <http://www.hed.state.nm.us/Transfer.aspx>

The course prefix and number that appear in parenthesis next to many of the institutions' internal course prefixes and numbers is the New Mexico Common Course Number. This is a four-alpha/four-numeric set of uniform course designations that serve as a single reference point for courses taught throughout the state that share substantially equivalent content. Courses bearing this designation are part of a statewide equivalency table that cross-references the institutional course and number with the universal "common course number" creating an easy one-to-one match.

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

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



## Inter-Institutional Transfer Guides and Catalogs

Students who have selected a field of study and/or the institution where they wish to graduate are advised to consult the transfer guide or catalog for that institution for more current and detailed advice to guide their course selection. An online tool to determine institutional transfer equivalencies, along with a number of published transfer guides are available on the University of New Mexico Admissions Office web site at <http://admissions.unm.edu/transfer/index.html>.

## Complaint Procedure for Transfer Students

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

## Evaluation of Credit

The evaluation of credit is ordinarily part of the admissions application procedure for students entering an associate program. 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 student must contact an academic advisor in order to determine how the transferred courses will be applied to a degree.

## Readmitted Students

A UNM–Los Alamos degree-seeking student who stops attending for three or more sessions, including a summer, must file an application for readmission. You may also apply over the Web at <http://losalamos.unm.edu>.

Complete and return an application for readmission and a \$10.00 non-refundable application fee to the student services office.

If you attended another institution while away from UNM–Los Alamos or have taken college-level correspondence or extension courses, send an official transcript from each college you have attended directly to the Student Services Office. A summary on one transcript of work at several colleges is not sufficient. If you are applying for the next academic semester at UNM–Los Alamos 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 Student Services Office.

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 Student Enrollment Director. The University reserves the right to refuse any student readmission on the basis of his or her student history, either academic or disciplinary.

## Alternative Credit Programs

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

## Technical Credit

Under special circumstances, students may receive credit for technical courses that are not normally transferable to UNM–Los Alamos. 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 non-collegiate training programs is granted based on recommendations of the American Council of Education’s “National Guide to Educational Credit for Training Programs” and institutional policies. Official records must be supplied to The University of New Mexico–Los Alamos Office of Student Services 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).

## Non-degree Credit Programs

The Non-Degree credit program allows students to earn academic credit without being admitted into a degree-granting unit. This program accommodates non-traditional students who wish to begin taking academic courses to prepare for graduate studies, career changes or for professional and/or personal development. Non-Degree status is recommended for visiting students from other institutions.

## How to Apply

Apply online by clicking <http://losalamos.unm.edu/admissions/apply-now.html> or complete and return a non-degree admission application and a \$10.00 non-refundable application fee to:

Registrar  
UNM-Los Alamos Student Services Office  
4000 University Drive  
Los Alamos, NM 87544

## Non-Degree Admission Requirements

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

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

### NOTES:

Students in non-degree status are not eligible to receive financial aid. Contact the Financial Aid Office at (505) 662-0341 for details.

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

1. A student who is under disciplinary or academic suspension from UNM–Los Alamos or any other collegiate institution.
2. A student who has exhausted his or her eligibility in University College and is not academically eligible to enter a degree-granting college at the University of New Mexico.
3. A student planning to receive student financial aid.

Applicants for Non-Degree status are required to certify that they are not under suspension from any college or university. Students found guilty of nondisclosure or misrepresentation in filling out the admission application form or who after admission or enrollment at UNM–Los Alamos 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 Student Services Office, will be subject to disciplinary action, including possible dismissal from the University.

### Facts about Non-Degree Status

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

### Academic Standards

Students in Non-Degree are subject to all University regulations governing registration, attendance, academic standing and satisfactory completion of prerequisite courses. The Albuquerque campus Non-Degree Student

Services Office governs academic standing and maintains college records for all Non-Degree students, including those at branch campuses and Extended University sites.

### International Students

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

### International Non-Degree Admission

1. International students wishing to enroll at UNM–Los Alamos in Non-Degree Status must submit an admission application which includes Visa Type and Country of Citizenship information.
2. Students taking non-academic courses may not be required to provide copies of documentation or proof of English Proficiency with the admission application.
3. Students interested in taking an academic course will be required to obtain instructor approval or provide proof of English proficiency.
4. Please contact the UNM-Los Alamos Registrar at (505) 661-4688 for guidance and more information.

### International Undergraduate Admission Requirements

**Secondary Education:** Completion of the equivalent of an American upper secondary school education (approximately 12 years of formal education beginning at age six) as well as the appropriate diplomas and/or satisfactory results on leveling examinations.

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

**English Proficiency:** If English is not the first language of the student or not the official language of the country, the student must submit results of either the International English Language Testing System (IELTS) - minimum score 6.5; the Test of English as a Foreign Language (TOEFL) - minimum score 520 paper-based or 190 computer based; the University of Cambridge Examinations Certificate of Proficiency in English (CPE) or Certificate of Advanced English (CAE) - minimum score C. Students who are academically admissible but whose scores are less than the required minimum may enroll in the intensive English program offered through UNM's Center for English Language and Culture (CELAC). Contact the Office of International Programs and Studies ([oips@unm.edu](mailto:oips@unm.edu)) for additional information. Transfer students who have satisfactorily completed the equivalent of The University of New Mexico's two freshman English composition courses (ENGL 110 and 102) at accredited U.S. institutions are not required to submit English proficiency results scores.

**Financial Resources:** All international applicants are required to submit documentation verifying adequate funding to meet study and living expenses while in the United States. A minimum amount of approximately \$31,072 U.S. dollars is required (based on 2010–2011 rates). Proof of support includes a Certification of Financial Responsibility Form completed for all years of study and proof of funds available for the first year of study.

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

## Required Documents

- 1. Completed application form.**

Students must submit an application for International Undergraduate Admission to the Office of International Admissions. Students may also apply online at [www.unm.edu](http://www.unm.edu).
- 2. \$50.00 non-refundable application fee.**

(Must be in U.S. currency and paid by International Postal Money Order or certified check drawn on a U.S. bank.)
- 3. Evidence of English language proficiency.**

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

In order to facilitate the admission decision, The University of New Mexico strongly recommends that students initially submit academic records to any member of the National Credential Evaluation Services, <http://www.naces.org>. Students must still submit official transcripts to the University, but the English translations will not be required. Students who do not utilize a credential evaluation service must have official grade reports (transcripts) and diplomas or certificates from each institution attended sent to The University of New Mexico. Students must submit original or officially certified copies. Notarized, faxed copies or photocopies of these documents are not acceptable. All documents must be submitted in the original language and be accompanied by an official certified English translation. Certified copies must contain the original signature(s), stamp(s) or seal(s) of the issuing institution's designated official. Students who have no prior college or university credit must submit evidence of graduation from an acceptable secondary school and must be eligible for admission to university in their home countries.

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

Submit all documents to:  
International Admissions  
Office of International Programs and Studies  
MSC 06 3850  
1 University of New Mexico  
Albuquerque, NM 87131-0001  
USA

## International Undergraduate Readmitted Students

### PLEASE NOTE: I-20 Statement

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

A University of New Mexico degree-seeking student who stops attending for three consecutive semesters must file an application for readmission. You may also apply on the web at <http://www.unm.edu>. If you have attended another institution since your last attendance at the University, you must also submit new, official transcripts. In addition, you must update your financial documentation.

## Core Curriculum

The University adopted a revised Core Curriculum as of Fall 2003 which all undergraduate students must complete as part of their baccalaureate program. The Core consists of several groups of courses designed to enhance each student's academic capabilities. Its goal is to give all students at the University a grounding in the broad

knowledge and intellectual values obtained in a liberal arts education and to assure that graduates have a shared academic experience. The required courses encourage intellectual development in seven areas of study: writing and communication, social and behavioral sciences, mathematical reasoning, scientific methods in the physical and natural sciences, the humanities, the fine arts, and languages. The Core consists of lower-division courses which develop these skills and abilities, and students are strongly encouraged to complete the Core early in their college careers. Individual student substitutions should be minimal and are discouraged. Except where noted (see "Alternative Credit Options" in the Undergraduate Admissions section of the Catalog), students may apply AP or CLEP credit to the Core requirements.

Departments and colleges may restrict student choices within the Core to meet departmental and college degree requirements. A grade of C (not C-) is required in all courses used to fulfill the requirements of the Core Curriculum. Courses taken CR/NC can be applied to the core, subject to general University and individual college and department regulations on the number of credits that can be taken CR/NC and the applicability of courses taken CR/NC to the individual degree.

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



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

- 1. Writing and Speaking (9 credit hours):** English 110 or 112 or 113 and 120 plus an additional course chosen from English 219, 220; Communication and Journalism 130; Philosophy 156; University Honors 201. Students with ACT English scores of 29 and higher or SAT Critical Reading scores of 650 or higher have satisfied the University Writing Requirement and should enroll for courses of their choice in the Writing and Speaking Core. Students with ACT English scores of 26, 27, 28 or SAT Critical Reading scores of 610 or higher may enroll directly in English 120 and, upon passing, meet the University Writing Requirement. Students with ACT English scores of 25 or lower or SAT Critical Reading scores below 610 should enroll in English 110. Students who have taken an Advanced Placement examination in English Language or Literature should refer to “Advanced Placement” for placement and credit information.
- 2. Mathematics:** One course chosen from Mathematics 121, 129, 150, 162, 163, 180, 181, 215; Statistics 145; University Honors 202.
- 3. Physical and Natural Sciences:** Two courses, one of which must include a laboratory, chosen from Anthropology 150 and 151L, 120 (lab required), 160 and 161L; Astronomy 101 and 101L; Biology 110 and 112L, 123 and 124L; Chemistry 101, 111 (lab required), 121 and 123L or 131L (lab required), 122L and 124L or 132L (lab required); Earth and Planetary Sciences 101 and 105L, 201L (lab required); Environmental Science 101 and 102L; Geography 101 and 105L; Natural Sciences 261L (lab required), 262L (lab required), 263L (lab required); Physics 102 and 102L, 105, 151 and 151L, 152 and 152L, 160 and 160L, 161 and 161L; University Honors 203.
- 4. Social and Behavioral Sciences (minimum 6 credit hours):** Two courses chosen from American Studies 182, 185; Anthropology 101, 130; Community and Regional Planning 181; Economics 105, 106; Engineering-F 200; Geography 102; Linguistics 101 (AOA Anthropology 110); Political Science 110, 200, 220, 240; Psychology 105; Sociology 101; University Honors 204.
- 5. Humanities (6 credit hours):** Two courses chosen from American Studies 186; Chicana and Chicano Studies 201; Classics 107, 204, 205; Comparative Literature and Cultural Studies 222, 224; English 150, 292, 293; Foreign Languages (MLNG) 101; Geography 140; History 101, 102, 161, 162, 181, 182; Honors Legacy Seminars at the 100- and 200-level; Philosophy 101, 201, 202; Religious Studies 107, 263, 264; University Honors 205.
- 6. Foreign Language (non-English language; minimum 3 credit hours):** One course chosen from any of the lower-division non-English language offerings of the Departments of Linguistics (including Sign Language), Spanish and Portuguese, Foreign Languages and Literatures, and foreign languages in other departments and programs (except Latin 105.)
- 7. Fine Arts (minimum of 3 credit hours):** One course chosen from Architecture 121; Art History 101, 201, 202; Dance 105; Fine Arts 284; Media Arts 210; Music 139, 142; Theatre 105; University Honors 207. Students may elect to take one 3 credit hour studio course offered by the Departments of Art and Art History, Music, Theatre and Dance, and Media Arts to fulfill this requirement.

## U.S. and Global Diversity and Inclusion Requirement

The University of New Mexico values learning outcomes related to diversity and inclusion. The stated aim of the U.S. and Global Diversity and Inclusion undergraduate degree requirement is to promote a broad-scale understanding of the culture, history or current circumstance of diverse categories of people who have experienced historic and/or contemporary inequitable treatment in the U.S. or in a global context. To satisfy the requirement students complete a three credit hour

course from an approved list of courses that have their primary emphasis (at least 50% content) on one or more of the following areas: gender, race, class, ethnicity, sexual orientation, disability, religion, language, culture and/or other marginalized category of people. These courses include primary learning outcomes pertaining to the experiences of diverse categories of people and potential solutions to the challenges facing diverse communities.

Courses may double count with any other requirements including Core courses (e.g., Area 6: Foreign Language) or other substantive courses in the Core.

For a list of approved courses fulfilling this requirement, please visit <https://app.box.com/s/03np02nbisx1x08wbotn>.



# Graduation Requirements

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## Associate Degrees

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

1. A minimum of 60 acceptable semester hours must be earned. Technical work (up to the limit specified below) may be included in these 60 hours, upon approval of the appropriate degree-granting college.
2. A minimum of 15 semester hours must be earned in residence at The University of New Mexico, exclusive of extension and correspondence credits. The remainder may be acceptable transfer credits earned at fully accredited institutions of higher learning and/or at regionally accredited technical-vocational institutions (see also Transferring Students for transfer credit regulations).
3. Of the 60 hour 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

Undergraduate certificates offered by any of the University of New Mexico's colleges or branches must meet the following minimum requirements:

1. A minimum of 30 acceptable credit hours must be earned. Technical-vocational work (up to the limit specified below) may be included in these 30 credit hours upon approval of the certificate-granting

program. Of the 30 credit hours, a minimum of 15 credit hours must be earned in residence at the University of New Mexico.

2. Branch campuses may offer technical-vocational certificates of less than 30 credit hours, provided:
  - The proposed curriculum fulfills a recognized professional certification: e.g., Certified Nursing Assistant (NLN) Fire Science Officer (IAFC), etc.; or
  - The proposed curriculum fulfills a specified local workforce need.

Certificates consisting of academic (transferable) coursework require approval of the Office of the Provost and the Faculty Senate. Technical-vocational certificates require approval of the Office of the Provost.

## Second Certificate/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 in residence above the requirements for the first certificate or degree and fulfilled all requirements for the second certificate or degree including residence requirements.

## Extension and Independent Study

The University of New Mexico allows credit for independent study, correspondence and extension courses at the University of New Mexico or through other fully accredited colleges and universities toward degree requirements. Credit for extension and independent study courses completed at institutions not accredited by regional accrediting associations is not accepted for

transfer, although a student who has completed such correspondence or extension work in a course comparable to one at the University of New Mexico may establish credit here by special examination (see Examinations).

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

## Cooperative Education and Internships

Cooperative Education Credit provides UNM-Los Alamos students in the final semester of their degree program to work in a field related to their major. The work should be a capstone experience that allows students to apply the theories learned in the classroom to real world experiences and earn course credit. Students should contact the Department Chair of their degree program via the Office of Instruction located in Building 6, 662-4693, for more information.

## Catalog Requirements

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

Los Alamos reserves the right to make changes in the curricula and degree requirements as deemed necessary, with the changes being applicable to currently enrolled students.

## Readmission

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

## Responsibility for Requirements

Students are responsible for knowing the rules and regulations concerning graduation requirements and for registering in the courses necessary to meet them. Advisement at the specific department/program level is strongly recommended to assure timely graduation. Students who take more than 10 years to graduate from the date of their original admission, must conform to the catalog in effect in the semester in which they intend to graduate.

## Commencement

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

## Dean's List

UNM–Los Alamos students who demonstrate academic excellence are honored by inclusion in the Dean's List. Students are selected based on the following criteria:

1. Part-time students (6-11 hours) must complete a minimum of 6 undergraduate credit hours at UNM–LA with a regular grading option in a given semester;
2. Full-time students must complete a minimum of 12 undergraduate credit hours at UNM–LA with a regular grading option in a given semester;
3. A semester Grade Point Average (GPA) of 3.5 is required.
4. No grade lower than a "C" (not "C-") is acceptable;
5. Students in Non-Degree or Graduate status are ineligible for consideration.

## 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.





# Student Services Information

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## Records

The Student Services Office is responsible for the maintenance of the educational records at UNM–Los Alamos. This includes, but is not limited to, student transcripts, academic folders, and faculty grade reports. The following information refers to some of the policies and procedures for educational records. Please note: proper photo identification (driver's license, Lobo Card, passport or other state issue identification) is required for all in person transactions.

## Use of Social Security Numbers

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

## Access to and Confidentiality of Student Records

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

## Student Record Policy

### 1. Introduction

Under the Family Educational Rights and Privacy Act of 1974 (FERPA), students have the right to inspect and review most education records maintained about them by the University of New Mexico and, in many cases, decide if a third person can obtain information from them. Nine categories of information, however, are public (or directory)

information unless a student asks that some or all of that information be withheld. It is the policy of the University to comply fully and fairly with the provisions of the Act, Federal Regulations and this policy.

### 2. Limitations on Access to Student Records

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

### 3. Students' Right of Access to Review Their Records

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

#### 4. Informing Students of Their Rights

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

#### 5. Location of Student Records

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

- Student Services Office
- Cashiers and Student Accounting, Bursar, Building 1
- Housing Services, Business Services Director, Building 1

#### 6. Records Excluded from the Definition “Education” or “Student” Records

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

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

#### 7. Review Policies and Procedures

Requests to inspect and review records must be made, in writing, to the office that keeps the records. Although it is the University’s policy that requests to inspect records be honored as promptly as possible, the offices have up to 45 days to honor such requests. It is the policy of the University to provide the student upon request with photocopies of her or his records where that will help the student in inspection and review of the records unless: (1) the record to be copied is an examination, in which case permission of the faculty member is necessary, or (2) where a student’s record is being withheld because of an outstanding financial obligation to the University. Fees for photocopies of materials in the records are the same as University offices charge for photocopies of other materials. At its option, an office may furnish copies at no charge, or take the materials to a copy/duplicating center on campus.

#### 8. Release Policies and Procedures, University Employees and Agents

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

- 8.1 Any University employee who needs the information to fulfill job responsibilities.
- 8.2 University collection agents only for the purposes of collecting debts owed to the University.
- 8.3 Legal counsel advising or representing the University.
- 8.4 National Collegiate Athletic Association and the Mountain West Athletic Conference only for the purposes of conforming to eligibility rules for athletic competition.



- 8.5 Contractors, such as data processing, only for the purposes of performing work under contract for the University.
- 8.6 Honorary societies, and other chartered student organizations, only for determining membership eligibility/requirements, when the societies and/or organizations do not unlawfully discriminate on the basis of race, color, religion, national origin, physical or mental disability, age, sex, sexual preference, ancestry, or medical condition.
- 8.7 University researchers, including students doing research under supervision of a faculty member, if there are safeguards to protect the security of personally identifiable data and if it will not be possible to ascertain the identity of any student in any dissemination of the data or research results.
- 8.8 Officials of cooperating universities in which the student is enrolled.

**9. Release to Alleged Victims of Crimes of Violence**

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

**10. Directory or Public Information Categories**

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

- Name
- Address (school and permanent)
- Telephone listing
- Electronic Mail Address
- Date of birth
- Major field of study (including current classification, year, credit load and number of academic credits earned toward degree)
- Dates of attendance (matriculation and withdrawal dates)
- Degrees and awards received (type of degree and date granted)

- Most recent previous educational agency or institution attended.
- Participation in officially recognized activities and sports, and weight and height of members of athletic teams.
- A student wishing to keep confidential the “directory information” listed above must file a written request with the Office of the Registrar. This request may be submitted in person, by mail, or by fax. Once a confidential privacy flag has been placed on a student’s record the directory/public information will not be released to individuals, companies or third party entities outside the University of New Mexico. The confidential privacy flag will not automatically be removed upon graduation from The University of New Mexico. If you have requested a confidential privacy flag, your name will not appear in the University of New Mexico Commencement Program. The removal of the confidential privacy flag may be requested in person or online at registrar.unm.edu.

**11. Requests for Disclosure**

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

**12. Right to Challenge Information in Student Records**

It is the policy of the University that a student may challenge any information in his or her education records which he or she believes to be inaccurate, misleading or in violation of privacy. This right does not extend to reviewing grades unless the grade assigned by a professor was inaccurately

recorded in the records. A student may also insert a statement in the records explaining any such material from his or her point of view. If a student wishes to challenge information in the file, he or she must make a written request for a hearing to the dean, director, or chairperson of the office which maintains the record. In most cases, the decision of the dean, director or chairperson will be final. However, a student may appeal in writing to the Associate Provost or the Vice President for Health Sciences or their designee, as the case may be, who will review the decision only if a significant question of policy or compliance with the law appears to be raised by the case.

### **13. Waiver of Rights Not Required**

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

### **14. Assistance with Problems or Questions about Compliance**

- a. If a student has questions about the provisions of the Act, he or she may contact the Office of the Registrar
- b. If a student believes that the University has not complied with the Act, he or she should direct comments concerning this to the Office of the Registrar
- c. If a student believes that the University has not complied with the Act, written complaints may be filed with the Family Educational Rights and Privacy Act Office (FERPA), U.S. Department of Education, 400 Maryland Avenue, SW., Washington, D.C. 20202-4605, telephone (202) 732-1807.
- d. The Registrar shall either resolve the issue, or shall refer it to the appropriate University body for resolution.
- e. Copies of and information about the Rights and Privacy Act are available in the Records and Registration Office, Student Support and Services Center.

## **Change of Name**

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

## **Change of Address/Phone**

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

## **Transcripts**

The Records and Registration Office of UNM-LA issues unofficial and advisement copies of The University of New Mexico student records. Students may request a transcript of their academic record in the lower level of Building 2, by mail, or by Fax. The address is Registrar, UNM-Los Alamos Student Services, 4000 University Drive, Los Alamos, NM 87544. The Fax number is (505) 661-4698. The following information is needed in order to process a request by mail or FAX: student name (all names used while at the University of New Mexico), social security number or UNM ID number, date of birth and dates of attendance. The student's signature is required to authorize the release of any transcript. Proper photo identification (driver's license, Lobo Card, passport or other state issue identification) is required to obtain a transcript in person.

Transcript information and request forms are available online at <http://registrar.unm.edu>. Transcripts from other institutions that are sent to the University of New Mexico for purposes of admission are not copied or returned to the student.

## **Transcript Holds**

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

## **Grade Notification**

Semester grades are available on LoboWeb. If a hard copy is required, it can be obtained from Student Services, Building 2.

## **Residency**

### **Summary of Regulations for New Mexico Residency for Tuition Purposes**

A student who enters and remains in this state principally to obtain an education is presumed to continue to reside outside this state and such presumption continues in effect until rebutted by clear and convincing evidence of bona fide residence. A student determined to be financially dependent on an out-of-state parent or guardian also assumes the residency of that parent or guardian. The "burden of proof" is on the student. The student must secure and file the petition with the appropriate documents of evidence in the manner described herein. All documents submitted for this purpose will be kept confidential. Residency petitions will be accepted until the second Friday of each Fall and Spring semester in the Office of the Registrar in the Student Services office located in the lower level of Building 2.

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

## **The 12-Month Consecutive Presence Requirement**

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

## **The Financial Independence Requirement**

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

## **The Written Declaration of Intent Requirement**

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

## **The Overt Acts Requirement**

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

1. If the applicant is financially dependent, a copy of the parents' or guardians' previous year income tax form showing the applicant as a dependent and the parents' address as New Mexico;
2. A New Mexico high school transcript issued in the past year confirming attendance at a New Mexico public or private high school within the past 12 months;

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

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

#### NOTES:

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

also eligible for waivers of non-resident tuition. A form must be submitted to Student Services by the second Friday of the term to obtain these waivers.

A brochure explaining all requirements for establishing New Mexico residency and residency petitions are available from the Office of the Registrar, Student Services Office, lower level of Building 2. For more information, please call (505) 662-0332.

## Mandatory Academic Advisement

Each semester all degree seeking students, including new freshmen and transfer students must meet with an academic advisor to discuss their degree plans and progress. Advisement holds are placed on the accounts of all students in degree programs. During the semester advisement meetings, advisors lift the holds and students are then able to register for classes. Contact Student Services in the lower level of Building 2, 662-0332 to schedule advisement appointments.

## Schedule of Classes

The Schedule of Classes is an official publication of the University, distributed each semester without charge. The publication includes course offerings, dates, times, places and procedures for registration and other important information. The schedule can also be accessed at <http://losalamos.unm.edu>

## Registration Procedures

Details are outlined in the Schedule of Classes.

### UNM LOBO Card

Each UNM–Los Alamos student will be issued an official UNM LOBO Card. The card will contain a non-transferable photograph, the student’s name, and the student’s UNM ID number. At the time of request for a LOBO Card, the student must present proof of identification to include at least one other identification card with picture. Students will be required to present the LOBO Card to Student Services when requesting transcripts or any other services containing personal information, conducting any financial transactions with the Cashier/Bursar, and checking out materials from the UNM–Los Alamos Library. The ID card initially issued to the student will be at no cost to the student. A first replacement will cost the student \$15.00, a second replacement will cost the student \$25.00, a third or subsequent replacement will cost the student \$25.00. Please ask in the Library to obtain a LOBO Card.

### Payment of Tuition and Fees

Payment of tuition and fees is required to complete registration. For specific information regarding tuition, fees, payment and payment deadline dates, refer to the Financial Information section of the current Schedule of Classes or under the student tab at <http://losalamos.unm.edu>.

### Enrollment Limit

Students may not take more than 18 hours during a semester and 9 hours during the summer session, except with approval from an academic advisor. Students in non-degree status who have not earned at least a baccalaureate-level degree must obtain permission from their academic advisor.

## Enrollment Certification

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

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

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

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

The certification document can be mailed on request or may be picked up with proper photo identification (driver’s license, LoboCard, passport or other state issue identification). The Enrollment Certificate will replace the institutionally specific forms. The Course Load Guidelines above are used to determine enrollment status for financial aid eligibility and loan deferments. Graduate students with an assistantship must submit a copy of their contract with their verification request.

Current students may also request an enrollment certificate directly through LoboWeb.

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. Courses taken in Audit, Extension or Correspondence status are not included in total course load, for purposes of enrollment verification.

## Course Load Guidelines

### Undergraduates/Non-Degree

#### Fall/Spring Semesters

**Full-time:** 12 or more credit hours.

**Half-time:** 6–11 credit hours.

**Less than half-time:** 5 or fewer credit hours.

#### Summer Session

**Full-time:** 6 or more credit hours.

**Half-time:** 3–5 credit hours.

**Less than half-time:** 1 or 2 credit hours.

## Changes in Enrollment

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

### Summer Session and Short Courses

Deadlines for processing drops, adds, withdrawals, and grade options for summer and short courses vary according to the length of the course. Consult the Schedule of Classes for specific dates.

### For 16-week courses, the following applies

1. **Add.** Students may add courses or change sections through the second week of the semester.
2. **Drop.** A student may drop a course or courses without a grade during the first three weeks of the semester.

### Withdrawal from a Course

After the third week a student may withdraw from a course until the end of the 12th week of the semester and is subject to a grade of W. After the 12th week, course withdrawals are only accepted with approval from the dean or director of the student's college. No withdrawals are accepted after the last day of instruction of the semester, prior to final exam week.

NOTE: Faculty are not responsible for dropping students who do not attend. It is the student's responsibility to check the accuracy of their course schedule. As a consequence, you may earn a failing in a grade in a class you stop attending but did not officially drop.

1. **Change in Grading Option.** Changes in grading option (including audit, pass-fail option, letter grade or graduate credit option) in any course may be made through the fourth week of the semester. It is the student's responsibility to make certain that they are registered in any course for the proper grading option.
2. **Completion of Courses.** Students are responsible for completion of all courses in which they are enrolled at the University. Changes in enrollment, drops or withdrawals must be officially processed. A student not following proper course or University withdrawal procedures may be given a failing grade and will be responsible for tuition changes associated with the course.

## Withdrawal from the University

- Students can withdraw from all courses through the end of the 12th week if no holds exist on their account by using LoboWeb. At the beginning of the thirteenth week, a student who is withdrawing from all courses must have approval from Student Services. Students may contact the Student Services Office, (505) 662-0332, for advisement on withdrawal from all courses.
- Students who withdraw during the first three weeks (regular full semester) of classes do not receive a grade notation on their academic records. The notation on a student's record is "Withdrew" followed by the date.
- University withdrawals initiated after the third-week (regular full semester) of classes are subject to a grade of W. All withdrawal grades are assigned by the instructor during the regular grading period. The notation on a student's record is "Withdrew" followed by the date, along with the course name and grade assigned.
- Summer Session and Short Courses. Deadlines for processing withdrawals for summer and short courses vary according to the length of the course. Consult the Schedule Web site for specific dates.
- Students leaving the University during a semester without withdrawing according to this regulation are subject to faculty assigned grades.
- Students are responsible for all outstanding financial obligations when withdrawing. See the "Tuition Refund Deadlines" section for more information.

## Policy on Military Withdrawals

Under faculty regulations, students who formally withdraw from the University before the end of the 12th week of the semester due to military obligations are entitled to a grade of W in each course in which they are enrolled. Military orders or evidence of enlistment must be made available to the Dean of Students Office. A student who withdraws due to military obligations after completing 12 weeks of instruction receives full

credit for each enrolled course provided the instructor certifies a grade of C or better for the course at the date of formal withdrawal. If the instructor certifies a grade of less than C, the student receives a grade of W. The student must opt for either a tuition refund or for a grade assignment after the 12th week. A final semester senior who has satisfactorily completed at least half of the work for enrolled courses, provided these would complete degree requirements, may be certified for graduation by the faculty of their college. Visit <http://dos.unm.edu> for a "Request For Military Withdrawal" Form in order to initiate the Military Withdrawal process.

## Finding Out About UNM-LA

The Student Services Office located in the lower level of Building 2, (505) 662-0332, provides general undergraduate information about the University to prospective students. This information includes degree and course offerings, admission requirements and procedures, expenses, financial aid, scholarships, registration, housing, and special services and programs.

With sufficient notice, the Student Services Office can arrange for appointments with faculty, academic advisors, admissions officers, University representatives, and a tour of the campus.

## Emergency Message Service

The Emergency Message Service is provided to reach students on campus. When an emergency arises, call (505) 662-0332. The staff will then access the student's schedule from the database file and determine if it is possible to reach the student in class. A staff member then takes a message directly to the student's classroom.

## New Student Orientation

New Student Orientation is an exciting event that facilitates students' successful transition to the UNM-Los Alamos campus. The mandatory orientation includes a campus tour, introductions to faculty, staff, and other new students, information about academic advisement, registration, policies and procedures, and strategies for college success. Student Services, located in the lower level of Building 2, 505-662-0332, holds New Student Orientation prior to each Fall Semester.

## Student Attendance/Class Absences

Students must attend all class meetings for the courses in which they are enrolled. If a student is ill, or scheduled to miss class due to an authorized University activity such as a field trip, athletic trip etc., the student must contact his/her instructor(s) prior to class. If a student is unable to contact his/her instructor(s), the student should leave a message with the Office of Instruction. Even though a student has reported the absence he/she is still responsible for all missed work. The student must take the initiative to arrange with the instructor(s) to make up all missed work, and it is expected the faculty member(s) will make reasonable arrangements with the student. Verification (such as doctor's note, hospital billing, military orders, death notices, etc.) of a student's absence should be provided as requested. The Office of Instruction is located in Building 6, 505-661-4693.

## The UNM–Albuquerque Directory

A directory listing departments, faculty and staff members, as well as each student's local and home

address, telephone number, academic classification and University of New Mexico e-mail address, is published by Computer and Information Resources and Technology (CIRT). Students can request that their listing be deleted from the directory by completing a form at the Student Services Office in the lower level of Building 2.

## UNM–Albuquerque Pathfinder

The UNM Pathfinder is the most comprehensive handbook of student services at the University of New Mexico. It is published annually by the Student Activities Center. The UNM Pathfinder gives general information, including office locations and telephone numbers, about academic support and cultural programs, athletics and recreation, student organizations, entertainment, financial services, food, health and medical assistance, housing, the University of New Mexico policies affecting students, commuting and parking and other services and programs. The Pathfinder is available online at <http://pathfinder.unm.edu/>

## Other Publications

Other publications include the UNM–LA Schedule of classes, published two times per year, which contains class schedules and up-to-date information on a variety of topics.

UNM–LA Website at <http://losalamos.unm.edu>

The campus website contains the most current information about UNM–LA, including updated class schedules, the UNM–Los Alamos Catalog and information about campus events and other news.





# General Academic Regulations

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

## Change of College

Undergraduate students who desire to gain admission to a degree-granting unit or to change their enrollment from one degree program to another within the University must meet with an advisor. A change in degree program after the third week of the semester will not be effective until the following semester.

## Class Hours and Credit Hours

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

## Course Numbering System

Courses offered at the University of New Mexico are numbered from 001 through 799:

1. 001 to 100 courses may or may not carry credit, but they are not applicable toward a baccalaureate degree.
2. 101 to 199 courses, lower division, normally are open to freshmen.
3. 200 to 299 courses, lower division, normally are open to sophomores.
4. 300 to 499 courses, upper division, normally are open to juniors, seniors and graduates

5. 500 to 999, 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 programs (courses numbered 591, 592 and 593) for undergraduate credit. 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 Bachelor and Graduate Program staff. When appropriate, students may be disenrolled from courses numbered 200 and above. See the individual program sections of this catalog and the UNM catalog for specific regulations.

## Grades

UNM–Los Alamos utilizes a fractionated grading system. Following are the allowable grades and associated grade points:

<b>A+</b>	<b>4.33</b>
<b>A</b>	<b>4.00</b>
<b>A–</b>	<b>3.67</b>
<b>B+</b>	<b>3.33</b>
<b>B</b>	<b>3.00</b>
<b>B–</b>	<b>2.67</b>
<b>C+</b>	<b>2.33</b>
<b>C</b>	<b>2.00</b>
<b>C–</b>	<b>1.67</b>
<b>D+</b>	<b>1.33</b>
<b>D</b>	<b>1.00</b>
<b>D–</b>	<b>0.67</b>
<b>F</b>	<b>0.00</b>

**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.

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

**AUDIT.** Audit is recorded for completion of enrollment in an audited course. No credit is earned for an audit grade option.

**W Withdrawal.** A W is used for withdrawals after the grade required deadline beginning in Fall 2012, and for approved administrative withdrawals at the end of a semester. Examples of administrative withdrawals include: determination by the instructor that the student never attended the class, processing errors, catastrophic illness of the student or other reasons beyond the student's control.

## Grade Point Average

An undergraduate student's grade point average is calculated by dividing the total number of grade points earned at The University of New Mexico by the

total number of hours attempted. These hours must be attempted in courses with letter grades and the courses must be numbered 100 or above. Courses for undergraduate students given a grade of CR, NC, PR or I are excluded in the grade point average calculation. For graduate students, the Office of Graduate Studies, internally for their record keeping processes, calculates a grade of "I" as a 2.0 until replaced by another letter grade.

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

The academic standing of all students is reviewed at the end of each semester and summer session. 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 University of New Mexico grade point calculation. Schools and colleges within the University may compute the grade point average differently. Grades earned in courses taken at other institutions are not included in calculation of the University of New Mexico- Los Alamos grade point average. The grade point average will reflect only courses taken at the University of New Mexico-Los Alamos.

## Grade Options

### Pass/Fail (CR/NC) Option

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

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

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

### Audit

A student may register in a course for audit, provided written permission of the instructor is obtained. (See current Schedule of Classes for deadlines.) A student who fails to attend class may be dropped at the instructor's request. The fee for audited courses is the same as for credit courses.

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

### Repetition of a Course

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

### Grade Replacement Policy

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

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

1. The Grade Replacement policy is effective as of Spring semester 1991 and affects only the University of New Mexico course work from Spring 1991 forward. This means that the first attempt in a course cannot have been prior to Spring semester 1991. The policy is not retroactive to any semester prior to Spring 1991.
2. \*A student who fails a course at the University of New Mexico and repeats the same course with a grade of C or better at another college or university may have the credit accepted for transfer, but the grade received at the University of New Mexico will continue to be computed in the grade point average.
3. Students in undergraduate status are eligible to use this policy, and only course work that applies to an undergraduate degree is considered for a grade replacement.
4. A repeated course must result in an improved grade in order to replace the other grade (e.g., a D cannot replace a D). The higher grade removes the lower grade from the grade point average and earned credit hours. Grades of CR, NC, PR, WP and W are not replaceable grades since they do not affect the grade point average.
5. The process is not automatic. Students must initiate the process by completing a form in the Records and Registration Office, indicating which course is to be replaced. The course numbers and titles must be identical, except where equivalencies or a change has been noted in the University of New Mexico Catalog. Substitute courses are not acceptable. Forms are accepted after the second attempt in the course has been completed.
6. A grade replacement may be applied only to 12 hours of repeated course work. Only one grade replacement is allowed for each course, regardless of the number of times the course has been repeated.

7. Once a grade replacement has been approved, the process cannot be reversed or changed.
8. No grade may be replaced after a degree has been awarded.
9. All grades remain on the record. An “E” appears on the transcript next to the course that has been replaced.
10. Students registering for a late starting Fall course cannot use the Grade Replacement Policy to replace a grade within that same Fall Semester.

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

### **Incomplete (I) Grade**

According to academic policy, incomplete grades must be completed before a student is eligible to graduate from the University of New Mexico–Los Alamos. The grade of “I” is given only when circumstances beyond the student’s control have prevented completion of the coursework within the official dates of a semester/session. Students should not re-enroll or re-register (for credit) in a course in which an incomplete has been received in order to resolve the “I” (incomplete) grade. If an instructor requires the student to repeat the class in order to resolve the Incomplete, the student must register for the course on an audit basis.

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

Students resolving Incompletes in their semester of graduation must have the process completed (including the reporting of the grade to the Student Services, Building 2 by the deadline. Students are responsible for informing instructors that they are graduating and the grade(s)

must be reported by the appropriate deadline. Failure to complete the process as described could result in the postponement of graduation until the following semester.

The instructor of record will report the final grade for the course in which the Incomplete was assigned to Student Services.

### **Extension of Incomplete**

A student may apply for an extension of the time allowed to complete the required course work removing the “I” grade. The request for extension may be obtained in the Office of Records and Registration. For the student who re-enrolls in residence, a one-semester extension may be granted. If an extension is granted, it is the student’s responsibility to remove the “I” grade by the date indicated.

### **Change of Grade**

The instructor of a course has the responsibility for any grade reported. Once a grade has been reported to the Student Services Office, it may be changed by submitting a grade change form to the Student Services Office. Only the instructor who issued the original grade (instructor of record) may submit any change. The change of grade must also be approved by the college dean or departmental chairperson if submitted 30 days after end of semester. Any change in grade must be reported within 12 months after the original grade was issued and prior to graduation. Grade changes may be referred to the Student Services Office for approval.

## **Grade Petition Procedure**

1. A student seeking retroactive withdrawal, enrollment or disenrollment; extension of time for removal of an incomplete grade or a grade option change; or further academic record changes involving exceptions to the rules governing registration and academic records, may submit petitions to the Student Services Office. This petition process does not cover disputes involving academic judgment (Refer to the UNM Pathfinder, “Student Grievance Procedure,” Article 2, Academic Disputes).
2. The petition must state the nature of the request, specify the semester involved, the course and section number, the student’s name, identification number, mailing address and telephone number. The petition must also state the reason for granting the request and include documentation of extenuating circumstances, such as medical, family or employment needs. The petition must be typed and signed.
3. Students may only petition grades up to one year after an instructor and dean grade change form can be utilized to change a grade. (Effective as of April 2005 as approved by Faculty Senate Operations Committee.) This means no grade change can be petitioned after two years in which the course(s) was/were taken.
4. Upon receipt of student’s petition, the instructor(s) involved will be contacted for a statement concerning the request.
5. The petition (along with instructor comments) will be forwarded to the Grade Petition Committee for review and a decision. If the petition is approved, appropriate student is responsible for tuition incurred.
6. Students will be notified in writing of the outcome of the petition. The decision of the subcommittee is final.
7. The student is responsible for tuition and fees incurred.

## Academic Renewal Policy

Academic Renewal applies to students seeking undergraduate degrees who have been readmitted to UNM–Los Alamos after an absence of five years or more. The procedure allows a currently enrolled student to request his/her academic record be reviewed for the purpose of evaluating previously earned UNM–Los Alamos credits and recalculating the student's grade point average from the point of readmission. The student may obtain a petition from the Student Services Office, lower level of Building 2. If all criteria are satisfied, the petition will be approved and the academic record appropriately noted.

### Academic Renewal Guidelines

**NOTE:** Non-degree, second undergraduate degree or graduate students are not eligible for Academic Renewal.

1. Academic Renewal may be applied only once and is not reversible.
2. An absence of five or more years must have elapsed between readmission and the last enrollment at UNM–Los Alamos.
3. The student must be currently enrolled in an undergraduate degree program. Additionally, college entrance requirements such as minimum hours and grade point average must still be met after Academic Renewal has been applied.
4. After readmission to UNM–Los Alamos, at least 12 credit hours, but no more than 36 credit hours, must be completed in good standing (2.00 GPA or better) before Academic Renewal can be applied.
5. **NOTE:** If the degree-granting unit has placed the student on probationary status, it is not automatically changed by Academic Renewal.
6. All graduation requirements must be satisfied after Academic Renewal, i.e., minimum earned credit, residence credit requirement, cumulative grade point average, etc.)

7. **NOTE:** Credit earned prior to Academic Renewal will not count toward satisfying the residence credit requirements.
8. 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.
9. 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.
10. Academic Renewal, when applied, will be effective as of the date of the readmission following the five-year absence.
11. The cumulative grade point average after academic renewal will be calculated on the basis of courses taken since the readmission following the five-year absence.

## Classroom Conduct

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

Use of classrooms or other facilities during scheduled activities is limited to enrolled students and University personnel. Use of these facilities during nonscheduled periods should be arranged with the appropriate department or other division of the University. Smoking, eating and drinking are prohibited in all classrooms and teaching laboratories, including seminars.

## Dishonesty in Academic Matters

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Any student who has been judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course. Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests or assignments; claiming

credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University.

## Misrepresentation

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







# Scholastic Regulations

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## Attendance

Policies regarding student attendance at class meetings are set by each instructor. Students should not assume that nonattendance will lead to being dropped from class. It is the student's responsibility to initiate drops or complete withdrawals utilizing LoboWeb.

A student with excessive absences may be dropped from a course, upon recommendation of the instructor. Instructor-initiated drops will be submitted online by the instructor.

## Dismissal

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

## Probation

**Probationary status serves as a warning to students that they are no longer in good academic standing and that they may be suspended.** Undergraduate students who have 30 or fewer attempted hours must have a cumulative grade point average of at least 1.70 to be in good standing. Thereafter, the cumulative grade point average to remain in good standing is at least a 2.00. Undergraduate students are placed on probation at the end of any semester (or Summer session) for which their cumulative grade point

average falls below these minimum requirements. Special requirements may be placed on students who are on probation.

## Degree-Granting Programs and Non-Degree Status

Students in degree-granting programs or in non-degree status may be placed on academic probation at the end of any semester if they fail to meet the minimum cumulative grade point average required to remain in good standing in their program. The minimum grade point average is at least a 2.00 but is higher in some programs. Students must familiarize themselves with the academic regulations of their program.

## Suspension

**Students on suspension may not enroll for classes at UNM–Los Alamos until their suspension period has been completed.**

## Degree-Granting Programs and Non-Degree Status

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

## Suspension Period

Students suspended for the first time may not enroll for classes at the University of New Mexico–Los Alamos 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 that seem beyond their abilities.
5. Attendance at another institution during suspension must be indicated on the student's application for readmission and an official transcript must be sent to the Student Services Office as part of the reapplication.



# Student Financial Aid

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

If you feel you may need financial help to pay for college expenses, you should apply for financial aid to determine your eligibility. The following information will explain the application process and answer questions about costs to attend and financial aid at UNM–Los Alamos. To maximize your opportunity for funding, your application must be received by March 1. You must also respond to any request for additional information in a timely fashion. Pell Grants and Direct Student Loans remain available to eligible students who submit applications after the March 1 priority date.

The Free Application for Federal Student Aid (FAFSA) is used to apply for all types of federal and state need-based aid. Students apply for financial aid on the web at <http://www.fafsa.ed.gov>. UNM–Los Alamos' Federal School Code is 002663. All prospective students must be admitted to UNM–Los Alamos to receive an offer of financial aid.

The costs of attending UNM–Los Alamos include: 1) tuition and fees; 2) room and board; 3) books and supplies; 4) transportation; 5) personal expenses; and 6) child care costs, if applicable.

To be considered for financial aid, students must apply every year. The deadline for priority grants is March 1.

For additional information regarding costs and financial aid at The University of New Mexico–Los Alamos, please access our web page at <http://losalamos.unm.edu>.

## Satisfactory Academic Progress

To retain eligibility for financial aid, students must reestablish their need for funds by submitting the FAFSA application each year, and they must meet a minimum standard of academic performance in their course work and progression toward a degree. All students will have their academic progress monitored each semester to determine continued eligibility for assistance. There are three major components to UNM–Los Alamos' Satisfactory Academic Progress Policy:

**Grade Point Average:** Students are required to maintain a grade point average consistent with graduation requirements for their major as follows:

- While completing the first 30 credit hours as an undergraduate, a student must attain a minimum 1.7 GPA.
- Students with more than 30 credit hours must sustain a minimum 2.0 GPA.
- Graduate students must sustain a minimum 3.0 GPA.

**Completion rate.** Students must successfully complete at least 67% of the total credit hours they attempt. Classes in which grades of A, B, C, D or CR are earned will be considered completed. Repeated courses were already counted as completed, and will not be counted twice. All attempted credit hours from any college (including non-degree hours) are counted whether or not financial aid was received. This calculation includes all hours in which a student is registered at the time of withdrawal. Remedial classes and English as a Second Language (ESL) classes

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

**Maximum time frame.** Undergraduate students must complete their program of study within 150% of the published length of the program, measured in credit hours attempted. Example: if the published length of the academic program is 66 credits, the maximum time frame for completion is 99 attempted credits. All attempted credit hours from any college, including non-degree hours, and hours attempted in completing a prior certificate or degree will count toward the maximum allowable credits regardless of whether financial aid was received. Courses with assigned grades of F, WF, W, WP, I, NC and "repeated" courses all count as attempted credit hours. In addition, remedial classes and ESL classes are counted in this calculation, even though these classes do not count toward the student's graduation requirements. To receive financial aid, graduate students must complete their degree within the maximum time frame allowed by their graduate program.

## Enrollment Requirements for Financial Aid

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

The student is responsible for meeting minimum enrollment requirements. Students knowingly receiving

aid to which they are not entitled may be in violation of University policy and state or federal laws. If you have any questions please contact the Financial Aid Office.

## Enrollment Requirements

### Undergraduate Students

Full-time 12 hours

Half-time 6 hours

### Non-resident Students

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

## Federal Student Loans

The main loan program offered at UNM is the William D. Ford Direct Loan program. Students wishing to receive loans must have a current FAFSA, a complete financial aid file, and submit a loan request form to the UNM-LA Financial Aid Office. Please see the Financial Aid officer for more information.

## Typical Sources of Financial Aid

Program	Per Academic Year	Award Amount
Federal Pell Grant*	Maximum	\$5,730
Federal Supplemental Ed. Opportunity Grant	Maximum	\$1,500
State Student Incentive Grant	(Based on 2014-2015)	\$1,500
UNM–LA Bridge to Success Scholarship	Fall Only, Tuition Amount**	Tuition Amount** No Fees
UNM Lottery Scholarship	\$643/semester	Up to 3 consecutive Semesters**
Federal /State College Work-study	Undergraduate	\$6,000 maximum
Federal Perkins Loan	Maximum	\$2,000
Federal Stafford Loan:		
(Subsidized)	Freshman	\$3,500
	Sophomore	\$4,500
	Junior/Senior	\$5,500
Federal Stafford Loan:		
(Unsubsidized)	Freshman	\$2,000-\$6,000*
	Sophomore	\$\$2,000-\$6,000*
	Junior/Senior	\$7,000*

\*Conditions Apply

\*\*Subject to Change

PLUS Loans (Parent Loan for Undergraduate Students): Cost of Education minus financial aid awarded

## Student Employment

Students seeking part-time employment while attending UNM–Los Alamos may apply for a work-study position. Students must first complete a FAFSA online and indicate their interest in work-study. Then visit <http://www.unm.edu/jobs/> to see what positions are available. Students must submit all applications online.

## Payment by Financial Aid

Financial Aid disbursement is done during the first week of class, unless otherwise specified in the financial aid section of the UNM–LA website. Registered students should use LoboWeb to obtain information as to required payment and anticipated financial aid.

- Student charges for any services, sales or fines will be collected from the first available source of financial aid (grants, scholarships or loans) even if due date is later than aid release date.
- Students must be registered full time prior to receiving aid or have Financial Aid adjust required number of hours to be eligible for aid. It is your responsibility to visit the Financial Aid Office to be certain your aid will be available, and you will not be disenrolled.

If a delay in receipt of your financial aid occurs, you may wish to pay the first installment and any processing fees at the Cashier's Office to avoid disenrollment. Work-Study awards will not be considered in arranging for payment. Disenrollment is usually 10 days prior to the first day of class.

If your tuition has been deferred based on financial aid, and you decide not to attend the University of New Mexico-Los Alamos, you must officially withdraw through <http://unm.edu/~unmreg/> prior to the 100% refund deadlines online in the Schedule of Classes at <http://losalamos.unm.edu>. If you drop or disenroll after this date, you may owe aid back to UNM.

### **Crediting Financial Assistance to a Student's Account**

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

#### **These programs include**

1. PELL Grant
2. Supplemental Educational Opportunity Grant (SEOG)

3. State Student Incentive Grant (SSIG)
4. Federal Perkins Loan
5. Other Grants and Scholarships
6. FFELP Loans/LINK Loans
7. Federal Direct Loans

Financial assistance awards will not be credited to a student's account until the 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 through Direct Deposit by visiting <http://my.unm.edu>. If not signed up for Direct Deposit students will receive funds in a refund check sent to his or her mailing address of record. 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 Financial Aid Office to have scholarships applied to their account and/or receive any surplus funding.



# Student Organizations

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## Student Government

The purpose of the Student Government is to represent the interests and concerns of the student body of the University of New Mexico-Los Alamos, to seek student input on issues. Additionally the Student will assume the responsibilities of participatory governance on behalf of students in mutual relationship with the faculty, staff, Administration, and the Advisory Board of the University of New Mexico-Los Alamos. By completing these tasks, the Student Government will be fulfilling its mission to represent the concerns and serve the needs of the student body of the University of New Mexico-Los Alamos. To speak with the Student Government advisor, please contact Student Services.

## Phi Theta Kappa

Membership in Phi Theta Kappa International Honor Society will open new doors for your academic journey. To be eligible for membership:

1. You must be enrolled in a regionally accredited institution offering an associate degree program

2. You must have completed at least 12 hours of coursework leading to an associate degree program (part-time students may be eligible)
3. You must generally have a grade point average of 3.5
4. You must enjoy full rights of citizen ship in your country

Check out the Phi Theta Kappa website for more information at: [www.ptk.org/members/benefits.htm](http://www.ptk.org/members/benefits.htm). Advisor contact information is available online and through Student Services.

## New Clubs/Chartered Student Organizations

Any student or group wishing to start a recognized Chartered Student Organization may do so. Chartered Student Organizations (CSOs) are formed to further the common interest of the members of the group and the University community. Chartering a student organization leads to official recognition of the student organization by The University of New Mexico-Los Alamos. Contact Student Government via Student Services in the lower level of Building 2, 662-0332, for more information.







# Adult and Community Education

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## Adult Learning Center

The Adult Learning Center at UNM–Los Alamos provides adult basic education (ABE) services to adults over the age of 18 who wish to obtain their GED, brush up on their basic literacy skills, improve their workplace skills, or learn English as a second language (ESL). Classes are offered in the areas of reading, writing, math improvement, and ESL. Preparatory instruction for the GED exam is offered in English and in Spanish. Those between the ages of 16 and 18 may enroll with parental permission and proof of high school withdrawal. Preparatory instruction for the TOEFL (Test of English as a Foreign Language) exam is also offered to ESL students who wish to enroll in a US college or university. Books, materials and individualized tutoring services are free, and there is no charge or fee for ABE classes. Contact 662-0338.

## Community Education

UNM–Los Alamos offers non-credit courses in a broad range of areas, including professional development, personal enrichment, and workforce training. Our offerings emphasize short term classes aligned with community needs and interests. Community education classes do not require enrollment in the University and are open to anyone wishing to attend.

### Personal Enrichment

These classes are designed for those wanting to learn a new skill, pursue an interest, or develop their passion. From simmer sauces to science fiction, Pilates to Plato, our courses are designed to engage, stimulate, and cultivate the mind, body, and spirit. Most offerings are short term and classes are delivered in a variety of formats, including

seminars, lectures, cultural field trips, hands-on, art-based workshops, and outdoor activities. Classes vary from semester to semester; please check our schedule and website for current offerings, or contact the Community Education office at 505-662-0346.

### Enrichment Classes for Younger Students

Community Education offers classes for younger students as part of our summer program for youth. Students in the 1st -12th grades take classes in subjects ranging from poetry to robotics, taught by professional educators, college faculty, and community experts. After-school enrichment classes for younger students are also given during the school year. For more information about our programs for younger students, contact the Community Education office at 505-662-0346.

## Workforce Training and Professional Development

Whether you are new to the job market, re-careering, or simply want to add to your repertoire of skills, our workforce training and professional development courses can help you develop the skills you need. We offer high quality classes and certificate programs, as well as specialized courses for professional development and workforce training, including computer training and paralegal training. In addition, through the Small Business Development Center, we offer training and counseling for new or developing businesses.

### Custom Training

The Custom Training program at UNM–Los Alamos works with area businesses to design low-cost, specialized training that meets employers' needs and fits work

schedules. Utilizing local, state and national resources, UNM–Los Alamos can design, develop, and deliver classes and certificate programs for the unique training needs of businesses, nonprofits, or government agencies, onsite or on campus. Custom training is a cost-effective way to target and increase organizational effectiveness, and to enhance job skills and performance. The Custom Training program also offers training through the New Mexico State Work Force Training Initiative. For information please contact 662-0346. CEU's are available for many courses.

## Small Business Development Center

The UNM–Los Alamos Small Business Development Center (SBDC) is part of a national and statewide network that provides training and counseling services for small and start-up businesses. The UNM–Los Alamos SBDC offers no-charge business assistance to any existing or aspiring small business in the community, including not-for-profits. Business counseling and most of the training classes occur off campus at the Los Alamos Small Business Center. Counseling sessions are also held in the Jemez Springs area. The SBDC currently serves about 180-200 counseling clients each year. Typical areas of assistance include business start-up and registration, planning and business planning development, customer service, marketing, business financing, incorporation, proposal preparation, employee issues, business computing, record keeping, regulatory issues, quality management, productivity issues and trade name searches. A student can register online at <http://www.nmsbdc.org>. To schedule a confidential appointment with a SBDC Business Counselor, call 505-662-0337 or 505-663-3409.



# Bachelor and Graduate Program

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## Introduction

UNM has offered graduate-level courses in Los Alamos since 1947, and the Graduate and Upper Division Programs Office has been in operation since 1956. In 1999 UNM Extended University assumed coordination of the University's distance education component, which includes the Center in Los Alamos. Its main function is to provide educational opportunities to residents of Los Alamos and surrounding communities. The most popular programs in recent years have been Computer Science, Mechanical, Chemical and Nuclear, and Electrical Engineering.

Bachelor degree programs are offered in Business Administration, Computer Science, Communication and Journalism, Liberal Arts, Integrative Studies, and more. Master's degree courses are offered in Chemical and Nuclear Engineering, Computer Science, Educational Leadership, Public Administration, Computer Science, and other Engineering degrees (see complete listing at <http://statewide.unm.edu/nm/los-alamos/index.html>.) Upper division, undergraduate courses are also available in areas that support the master's and bachelor's programs (see complete listing at <http://statewide.unm.edu/nm/los-alamos/schedules/index.html>.)

The mission of UNM-LA Bachelor and Graduate Programs through Extended University is to create enriching educational experiences for northern New Mexico students. This mission is accomplished through the delivery of instruction primarily online, but also via Instructional Television (ITV), correspondence and traditional face-to-face teaching. Courses offered through the center broaden the choices for students beyond the limitations of a physical location. Students enrolled in 200-level courses at UNM-Los Alamos are encouraged to

consider the 300 and 400-level courses offered by UNM-LA Bachelor and Graduate Programs through Extended University.

## Course Cancellations

Budgetary limitations, enrollment figures, or availability of instructors may require courses to be cancelled. Decisions regarding the cancellation of instructional television courses are usually made at the close of the regular registration period. Because the major determining factor for cancellations is enrollment, it is most important that students register early during the scheduled registration period.

## Procedures for Changes in Student Programs

Program changes, such as drops, adds, section changes, and withdrawals, must be initiated by the student through LoboWeb. Please note that no adds, drops, section changes, or withdrawals may be made after the particular designated dates, which are as follows:

### Last day for adds

For the Fall and Spring semesters this will be the end of second week of classes. For the summer session this will be the end of the first week of classes.

### Last day for changes in section

For the Fall and Spring semesters this will be the end of second week of classes. For the summer session this will be the end of the first week of classes.

### **Last day for drops without a grade**

For the Fall and Spring semesters this will be the end of the third week of classes. For the summer session this will be the end of the second week of classes.

### **Last day for withdrawal from a course without approval (W assigned)**

For the Fall and Spring semesters this will be the end of twelfth week of classes. For the summer session this will be the end of the sixth week of classes.

### **Last day for withdrawal from a course with Dean's or Program Manager's approval (W assigned)**

This will be the last day of instruction prior to final examination week.

## **Withdrawal Policy**

Students who wish to withdraw must complete the appropriate procedures through LoboWeb or in person at UNM-LA. Students leaving the university during a semester/session without withdrawing according to UNM regulations will receive a grade of "F" for each course, even if they were passing their courses up to this point. Withdrawals initiated after the third week will result in grades of withdrawal(W.) All withdrawal grades will be assigned by the instructor upon completion of the withdrawal process.

## **Tuition and Fees**

View current tuition rates at

<http://www.unm.edu/~bursar/tuitionrates.html>

## **Tuition Refunds**

Withdrawal during first three weeks:

(First week of Summer Session) . . . . .100%

Partial or complete withdrawal after the third week:

(First week of Summer Session) . . . . .0%

## **Academic Information**

Students are strongly urged to apply for admission to graduate or undergraduate student status by applying to specific departments or programs. Students are responsible for complying with all rules and regulations as specified in the University of New Mexico Catalog. The UNM catalog may be accessed at <http://registrar.unm.edu/catalog.htm>.

## **Non-Degree Status**

For students in non-degree status taking graduate level work, please note the following information:

1. A limited number of graduate credit hours earned in non-degree status may be used toward a graduate degree if the student is later admitted to graduate school, and has received a grade of "B" or better. Contact specific departments for rules and limitations.
2. To obtain graduate credit for 400 level courses that carry graduate credit, students must meet certain requirements. See the UNM-LA Bachelor & Graduate Program Center for details.

For course descriptions, see the most recent UNM Catalog at <http://catalog.unm.edu/catalogs/2013-2014/>. Special topics courses have unique course descriptions.

## Advisement

General advisement is available at UNM-LA Bachelor and Graduate Programs through Extended University Office. Call 505-662-0335 for an appointment. Students pursuing degrees from UNM should also contact the appropriate departmental advisor at main campus. Current contact information for UNM–Albuquerque advisors can be obtained through the UNM–Los Alamos Bachelor and Graduate Programs office in Building 1.

Visit the UNM-LA Bachelor and Graduate Programs through Extended University website at <http://statewide.unm.edu> or UNM-LA Bachelor and Graduate Programs through Extended University Office for more information and course schedules.



# Associate Degrees and Certificates

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## Program Requirements

1. Before a degree and/or certificate program is granted by UNM–Los Alamos students must complete the following requirements:
2. Complete the number of credit hours and specific course requirements as outlined for the degree or certificate.
3. Earn a minimum of 15 credit hours for the degree and/or 9 credit hours for the certificate in residence at UNM–Los Alamos.
4. Complete all required coursework for the degree or certificate with a minimum of 2.0 cumulative grade point average (GPA) except as noted for specific programs.
5. No basic skills courses (e.g., ENGL 099, ENGL 100, etc.) are accepted toward the number of credit hours required for graduation.
6. Individual departments may require a higher grade on specific courses.
7. All students planning to apply their courses to a second degree are expected to earn a “C” or higher in all courses.
8. If a student is interested in transferring Core Curriculum courses to another institution or another degree, a “C” or better in each course is required.

## Associate Degrees

The Associate of Arts and Associate of Science degrees are designed for students who intend to transfer to a four-year college or university, with the transfer of credits subject to the receiving institution’s policies. Generally, institutions within the state have articulated courses and programs to effect an easy transition.

The Associate of Applied Science degree is designed to provide employment skills for the student. While not usually intended for transfer, specific courses within the degree may transfer depending on the receiving institution. Students planning to transfer to a four-year institution should confer with an academic advisor regarding transferability. The University of New Mexico has adopted a Core Curriculum, which all students must complete as part of a UNM baccalaureate program. The Core consists of approximately thirty-seven hours of courses in seven areas of study, with some noted exceptions. Students may apply AP or CLEP credit to the Core requirements. Departments and colleges may restrict student choices within the Core to meet departmental and college degree requirements. A grade of C (not C-) in each course is required to fulfill the requirements of the Core Curriculum.

## General Education Requirements

Associate degree curricula require a variety of courses to broaden students’ understanding of the world as well as prepare students for employment or advanced study in their fields. Curricula therefore stress the student’s major subject, but also include General Education courses under seven general headings:

1. Writing and Speaking: Communication and Journalism, English, Linguistics
2. Humanities: American Studies, History, Foreign Language, Literature, Philosophy
3. Social and Behavioral Sciences: Psychology, Economics, Geography, Political Science, Sociology, Anthropology
4. Physical & Natural Sciences: Astronomy, Chemistry, Earth and Planetary Science (geology), Environmental Science, Physics, Biology, Natural Sciences, Anthropology
5. Mathematics: Mathematics and Statistics

6. Foreign Language: Spanish and Portuguese, Russian, French, German, Japanese, Sign Language
7. Fine Arts: Art History, Art Studio, Film, Music, Theater, Studio Courses

General education requirements vary for different majors (from college to college). Please follow the appropriate recommendations for degree programs. Advisors can assist students with their selections.

All degrees offered by UNM–Los Alamos are listed below. This list may not be complete because this catalog and program development is ongoing. Students should check with an academic advisor, Department Chair, or Associate Dean for program changes.

## Associate of Arts

- Early Childhood Multicultural Education
- Liberal Arts
  - Public Safety Professionals Concentration  
(Program under review)
- Pre-Business Administration
- Pre-Professional Elementary Education
- Studio Art

## Associate of Science

- Computer Science
- Emergency Medical Services
- Environmental Science
- Pre-Professional Health Sciences — *includes courses needed in preparation for various pre-professional medical sciences degrees. See page 75 for details.*
- Pre-Engineering
- Science

## Associate of Applied Science

- Accounting
- Applied Technologies
  - Electro-Mechanical Concentration
  - Manufacturing Concentration
  - Nanotechnology Concentration
  - Solar Technology Concentration
- Business
  - Marketing Concentration
  - Management Concentration
- Environmental Technology
- Fire Science
  - Emergency Medical Services Concentration
  - Fire Science Concentration
- General Studies
- Information Technology with Cybersecurity
- Office Communications and Technology  
(Program under review)
- Robotics

## Academic Certificates

Certificates in many programs are designed primarily for students not currently pursuing an associate degree. Courses taken as part of a certificate program are accepted toward an associate degree in that field, as long as the grade earned is a C or better.

All certificates offered by UNM–Los Alamos are listed below. This list may not be complete because this catalog and program development is ongoing. Students should check with an academic advisor, Department Chair, or Associate Dean for program changes.

- Accounting
- Business
  - Marketing Concentration
  - Management Concentration
- Early Childhood Multicultural Education
- Electro Mechanical Technology
- Office Communications and Technology (Program under review)



Pre-Professional Elementary Education  
Pre-Professional Health Sciences  
Solar Technology  
Southwest Studies  
Studio Art

## Health Sciences Preparation

UNM–Los Alamos offers an Associate of Science in Health Science for students planning to obtain a Baccalaureate degree in a Health Science related field (see page 115 for details). Below you will find a list of courses you will need for various health science careers in order to transfer to other institutions for pre-professional medical sciences including: Nursing, Physician’s Assistant, Dental Hygiene, Pharmacy, Medical Laboratory Sciences, Nuclear Medicine Imaging, Occupational Therapy, Physical Therapy or Radiography. All of these courses may be found within the AS in Health Science. We recommend that you consult with an advisor to determine your best degree plan.

Students interested in pursuing a career in the medical sciences such as Nursing, Physician’s Assistant, Dental Hygiene, Pharmacy, Medical Laboratory Sciences,

Nuclear Medicine Imaging, Occupational Therapy, Physical Therapy or Radiography can take required coursework at UNM-Los Alamos. The following course sequences list courses offered at UNM-LA. These courses articulate with the medical professional programs in the area and fulfill most of the pre-admission requirements of those programs. Sequences fulfilling the first two years of a BS program may also be used to fulfill many of the requirements for the Associate of Science in Science degree at UNM-Los Alamos. Students are encouraged to meet with an advisor at UNM-LA to ensure that the courses taken apply toward a particular health program. Advisors can help you articulate to nursing programs at Northern New Mexico College and Santa Fe Community College.

Pre-professional medical sciences course requirements are available in the following areas:

- Nursing
- Dental Hygiene
- Physician’s Assistant
- Pharmacy
- Physical Therapy
- Medical Laboratory Sciences
- Medical Nuclear Medicine Imaging
- Occupational Therapy
- Radiography





# Nursing

Recommended sequence in preparation of entering UNM's Bachelor of Science in Nursing program:

## SEMESTER 1

ENGL 110 (3) (or ENGL 112 or ENGL 113)	Accelerated Composition (or Composition II or Enhanced Composition)
BIOL 123 (3)	Biology for Health Sciences
BIOL 124L (1)	Biology for Health Sciences Lab
Social/Behavioral Sci (3)	Select course from UNM Core Curriculum Area 4
Humanities (3)	Select course from UNM Core Curriculum Area 5
Fine Arts (3)	Select course from UNM Core Curriculum Area 7

## SEMESTER 2

ENGL 120 (3)	Composition III
CHEM 111L (4)	Elements of General Chemistry w/Lab
STAT 145 (3)	Intro. to Statistics
Social/Behavioral Sci. (3)	Select one course from UNM Core Curriculum 4
Humanities (3)	Select one course from UNM Core Curriculum 5

## SEMESTER 3

BIOL 239L (4)	Microbiology with Lab
BIOL 237 (3)	Human Anatomy and Physiology I
BIOL 247L (1)	A & P Lab recommended, not required
NUTR 244 (3)	Human Nutrition
Writing/Speaking (3)	Select one course from UNM Core Curriculum 1
Foreign Language (3)	Select one course from UNM Core Curriculum 6

## SEMESTER 4

BIOL 238 (3)	Human Anatomy and Physiology II
BIOL 248L (1)	A & P Lab recommended, not required
Begin Nursing Courses	

\*\*Note: If you are planning to enter a nursing program other than UNM's BSN program, see advisor for more specific coursework. Some area nursing programs require specific core curriculum courses which will also be available.

# Dental Hygiene

Recommended sequence in preparation of entering UNM's Bachelor of Science in Dental Hygiene program:

## SEMESTER 1

ENGL 110 (3) (or ENGL 112 or ENGL 113)	Accelerated Composition (or Composition II or Enhanced Composition)
BIOL 123 (3)	Biology for Health Sciences
BIOL 124L (1)	Biology for Health Sciences Lab
CHEM 111 (4)	Elements of General Chemistry w/Lab
PSY 105 (3)	General Psychology
Elective (3)	Select one from UNM Fine Arts Core Curriculum

## SEMESTER 2

ENGL 120 (3)	Composition III
BIOL237 (3)	Human Anatomy and Physiology I
BIOL 247L (1)	Human Anatomy and Physiology I Lab
CHEM 212L (4)	Introduction to Organic and Biochemistry with Lab
CJ 221 (3)	Interpersonal Communication

## SEMESTER 3

SOC 101 (3)	Introduction to Sociology
BIOL 238 (3)	Human Anatomy and Physiology II
BIOL 248L (1)	Human Anatomy and Physiology II Lab
BIOL 239L (3)	Microbiology with Lab
NUTR 244 (3)	Human Nutrition
STAT 145 (3)	Introduction to Statistics

# Physician's Assistant

Recommended sequence in preparation of entering UNM's Bachelor of Science with Physician's Assistant Certificate.

UNM Core Curriculum requirements (others may be included):

ENGL 110 (or ENGL 112 or ENGL 113) and ENGL 120 (6 credits)

Two Humanities courses (6)

Two Social Science courses (6)

Fine Arts (3)

PSY 105 (3) General Psychology

Foreign Language (3)

Communication requirements:

English: Writing or Literature (6 additional credit hours)

Science and Mathematics requirements:

MATH 121 (3)	College Algebra
OR MATH 162 (3)	Calculus I
OR STAT 145 (3)	Introduction to Statistics
BIOL 123 (3)	Biology for Health Sciences
BIOL 124L (1)	Biology for Health Sciences Lab
CHEM 121 and 123L (4)	General Chemistry with Lab
CHEM 122 and 124L (4)	General Chemistry with Lab
BIOL 237 (3)	Human Anatomy and Physiology I
BIOL 227L (1)	Human Anatomy and Physiology I Lab
BIOL 238 (3)	Human Anatomy and Physiology II
BIOL 228L (1)	Human Anatomy and Physiology II Lab

Highly Recommended:

BIOL 239L (4)	Microbiology with Lab
NUTR 244 (3)	Human Nutrition
CHEM 212L (4)	Introduction to Organic and Biochemistry w/Lab
CS 150L (3)	Computing for Business Students

Spanish or other regional language

# Pharmacy

Recommended sequence in preparation of entering UNM's Bachelor of Science in Pharmacy.

## SEMESTER 1

ENGL 110 (3) (or ENGL 112 or ENGL 113)	Accelerated Composition (or Composition II or Enhanced Composition)
MATH 123 (3)	Trigonometry
ECON 106 (3)	Introduction to Microeconomics
CHEM 121 and 123L (4)	General Chemistry I

## SEMESTER 2

ENGL 120 (3)	Composition III
MATH 150 (3)	Precalculus
STAT 145 (3)	Introduction to Statistics
BIOL 123 (3)	Biology for Health Sciences
CHEM 122 and 124L (4)	General Chemistry II

## SEMESTER 3

PHYC 151* (3)	General Physics
*PHYC 151L is not required but is highly recommended	
MATH 180 (3)	Elements of Calculus I
BIOL 237 (3)	Human Anatomy and Physiology
CJ 130 or 221 (3)	Public Speaking or Interpersonal Communication

## SEMESTER 4

BIOL 238 (3)	Human Anatomy and Physiology
BIOL 239L (4)	Microbiology with Lab
Electives (9)	Must include one: ENGL 220, Math 129 or 151, Phil 101, 102 or 156, Phys 152

# Physical Therapy

Recommended sequence in preparation of entering UNM's Master of Science in Physical Therapy:

## SEMESTER 1

ENGL 110 (3) (or ENGL 112 or ENGL 113)	Accelerated Composition (or Composition II or Enhanced Composition)
BIOL 123 (3)	Biology for Health Sciences
BIOL 124L (1)	Biology for Health Sciences Lab
PSY 105 (3)	General Psych
MATH 121 (3)	College Algebra

## SEMESTER 2

ENGL 120 (3)	Composition III
CHEM 111L (4)	Elements of General Chemistry with Lab
PSY 220 (3)	Developmental Psychology
MATH 123 (3)	Trigonometry

## SEMESTER 3

STAT 145 (3)	Introduction to Statistics
BIOL 237 (3)	Human Anatomy and Physiology I
BIOL 247L (3)	Human Anatomy and Physiology I Lab
PHYC 151/151L (4)	General Physics with lab
MATH 150 (3)	Pre-Calculus

## SEMESTER 4

BIOL 238 (3)	Human Anatomy and Physiology II
BIOL 248L (1)	Human Anatomy and Phys. II Lab
PHYC 152/152L (4)	General Physics
NUTR 244 (3)	Human Nutrition

# Medical Laboratory Sciences

## SEMESTER 1

ENGL 110 (3) (or ENGL 112 or ENGL 113)	Accelerated Composition (or Composition II or Enhanced Composition)
CJ 221 or CJ 225 (3)	Interpersonal Communications or Small Group Communication
STAT 145 (3)	Introduction to Statistics
MGT 113 (3)	Management and Introduction
Social & Behavioral Sciences (3)	Select one course from UNM Core Curriculum

## SEMESTER 2

MATH 121/107 (4)	College Algebra/ Problems in College Algebra
ENGL 120 (3)	Composition III
CHEM 121/123L (4)	General Chemistry I
BIOL 201 (4)	Molecular and Cell Biology
Social & Behavioral Sciences (3)	Select one course from UNM Core Curriculum

## SEMESTER 3

CHEM 122/124L (4)	General Chemistry II
BIOL 237 (3)	Human Anatomy and Physiology I for the Health Sciences
BIOL 247L (1)	Human Anatomy and Phys. Lab I
BIOL 202 (4)	Genetics
Humanities Elective (3)	Select one course from UNM Core Curriculum
Foreign Language (3)	Select one course from UNM Core Curriculum

## SEMESTER 4

BIOL 238 (3)	Human Anatomy and Physiology II for the Health Sciences
BIOL 248L (1)	Human Anatomy and Phys. Lab II
BIOL 239L (4)	Microbiology for Health Sciences
Humanities Elective (3)	Select one course from UNM Core Curriculum
Fine Arts Elective (3)	Select one course from UNM Core Curriculum
CS 150L (3)	Computing for Business Students



# Medical Nuclear Medicine Imaging

## SEMESTER 1

ENGL 110 (3) (or ENGL 112 or ENGL 113)	Accelerated Composition (or Composition II or Enhanced Composition)
CS 150L (3)	Computing for Business Students
MATH 121/107 (4)	College Algebra and Problems in College Algebra
CHEM 121/123L (4)	General Chemistry I and lab
BIOL 123 & 124L (4)	Biology for Health Related Sciences and Lab

## SEMESTER 2

ENGL 120 (3)	Composition III
CHEM 122/124L(4)	General Chemistry II and lab
PSY 105 (3)	Introduction to Psychology
Humanities, Fine Arts, or Foreign Language Elective (3)	Select one course from UNM Core Curriculum
STAT 145 (3)	Introduction to Statistics

## SEMESTER 3

BIOL 237 & 247L (4)	Human Anatomy and Physiology I and lab
PSY 240 (3)	Brain and Behavior
Humanities, Fine Arts, or Foreign Language Elective (3)	Select one course from UNM Core Curriculum
MATH 123 (3)	Trigonometry
PHYC 151 (3)	General Physics

## SEMESTER 4

BIOL 238 & 248L (4)	Human Anatomy and Physiology II and Lab
PHIL 102 or 245 (3)	Current Moral Problems or Professional Ethics
BIOL 239L (4)	Microbiology for Health Sciences
NUTR 244 (3)	Human Nutrition
SOC 101 (3)	Introduction to Sociology

# Radiography

ENGL 110 (3) (or ENGL 112 or ENGL 113)

CS 150L (3)

MATH 121/107 (4)

CJ 221 (3)

ENGL 120 (3)

BIOL 123 & 124 L (4)

Humanities, Fine Arts or Foreign Language Elective (3)

PHIL 245 (3)

BIOL 237 and 247L (4)

ECON 105 (3)

Humanities, Fine Arts or Foreign Language Elective (3)

BIOL 238 & 248L (4)

PSY 105 (3) or SOC 101 (3)

ECON 106(3)

Accelerated Composition

(or Composition II or Enhanced Composition)

Computing for Business Students

College Algebra and Problems in College Algebra

Interpersonal Communication

Composition III

Biology for Health Related Sciences and Lab

Select one course from UNM Core Curriculum

Professional Ethics

Human Anatomy and Physiology I and Lab

Introductory Macroeconomics

Select one course from UNM Core Curriculum

Human Anatomy and Physiology II and Lab

Introduction or Psychology or Introduction to Sociology

Introductory Microeconomics

# Associate of Arts Degrees

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ASSOCIATE OF ARTS

# Early Childhood Multicultural Education

## About the Program

The Early Childhood Multicultural Education program is designed for individuals who wish to work in the field and/or continue their studies towards a baccalaureate degree. The baccalaureate program at the University of New Mexico in ECME leads to licensure for teachers working with children from birth to age eight. This associate of arts degree, plus experience, meets the requirements for qualifying as a center director as specified in the New Mexico Child Care Facilities Licensing Regulations. The program addresses the seven general early child education competency areas. Students seeking to transfer are encouraged to consult with an academic advisor.

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A student must have a minimum of 67 credit hours with a minimum grade point average of 2.0. At least 15 of 67 credit hours must be UNM–LA Catalog credit courses taken in residence. It is strongly recommended that the student check the specific requirements for the B.S. at the particular institution to which they plan to transfer in order to make the best choices among the optional courses below. \*Note: Students planning to transfer to a four year institution should check grade point requirements at that institution.

## General Education Requirements

### WRITING AND SPEAKING (9 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)

*or*

- ENGL 112: Composition II (3)

*or*

- ENGL 113: Enhanced Composition (3)

*and*

- ENGL 120: Composition III (3)

*And Select one course from:*

- CJ 130: Public Speaking (3)
- CJ 220: Communication for Teachers (3)
- ENGL 290: Introduction to Professional Writing (3)

## **MATHEMATICS (AT LEAST 3 CREDIT HOURS)**

*Select from the following:*

- MATH 111: Mathematics for Elementary and Middle School Teachers I  
*or*
- MATH 112: Mathematics for Elementary and Middle School Teachers II
- MATH 121: College Algebra (3)
- MATH 129: A survey of Mathematics (3)
- STAT 145: Introduction to Statistics (3)
- MATH 162: Calculus I (4)

## **LABORATORY SCIENCES (8 CREDIT HOURS)**

*Select from the following:*

- BIOL 110/112L: Biology/Biology Laboratory (Non-Majors) (3/1)
- BIOL 201: Molecular and Cell Biology (4)
- BIOL 202: Genetics (4)
- CHEM 111: Elements of General Chemistry (4)
- CHEM 121/123L: General Chemistry I(3)/General Chemistry I Lab (1)
- CHEM 122/124L: General Chemistry II(3)/General Chemistry II Lab (1)
- ASTR 101/111L: Introduction to Astronomy/Astronomy Laboratory (3/1)
- PHYC 102/112L: Introduction to Physics/Physics Laboratory (3/1)
- EPS 101/105L: Physical Geology/Physical Geology Laboratory (3/1)
- ENVS 101/102L: The Blue Planet/Blue Planet Lab (3/1)
- NTSC 261L: Physical Science (4)
- NTSC 262L: Life Science (4)
- NTSC 263L: Environmental Science (4)

## **SOCIAL/BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

*Select 2 courses from the following:*

- ANTH 130: Cultures of the World (3)
- ECON 105: Introductory Macroeconomics (3)
- ECON 106: Introductory Microeconomics (3)
- POLS 200: American Politics (3)
- PSY 105: General Psychology (3)
- SOC 101: Introduction to Sociology (3)
- AMST 182: Introduction to American Studies (3)
- AMST 185: Introduction to Race, Class & Ethnicity (3)
- ANTH 101: Introduction to Anthropology (3)
- GEOG 102: Human Geography (3)
- LING 101: Introduction to the Study of Language (3)
- POLS 110: The Political World (3)

## **HUMANITIES (6 CREDIT HOURS)**

*Select from the following:*

- HIST 101: Western Civilization (3)
- or*
- HIST 102: Western Civilization (3)
- HIST 161: History of the United States (3)
- or*
- HIST 162: History of the United States (3)
- HIST 260: History of New Mexico (3)
- ENGL 150: The Study of Literature (3)
- ENGL 211: Topics in Literature (3)

## **FINE ARTS (3 CREDIT HOURS) (6 CREDIT HOURS)**

*Select from the following:*

- ARTH 101: Introduction to Art (3)
- ARTH 201: History of Art I (3)
- ARTH 202: History of Art II (3)
- DANC 105: Dance Appreciation (3)
- MUS 139: Music Appreciation (3)
- MUS 298: Music for Elementary Teachers (3)
- PHIL 156: Reasoning and Critical Thinking (3)
- THEA 122: Introduction to Theatre (3)

## **FOREIGN LANGUAGE (3 CREDIT HOURS)**

*Select one UNM Core Curriculum Course.*

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**TOTAL GENERAL EDUCATION REQUIREMENTS**

**38-39 CREDIT HOURS**

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## Technical Core Requirements

### EDUCATION CORE COURSES (29 CREDIT HOURS)

- ECME 101: Child Growth, Development and Learning (3)
- ECME 103: Health, Safety and Nutrition (2)
- ECME 111: Family and Community Collaboration I (3)
- ECME 115: Guiding Young Children (3)
- ECME 117: Curriculum Development and Implementation I (3)
- ECME 117L: Curriculum Development and Implementation Practicum I (2)
- ECME 202: Introduction to Reading and Literacy Development (3)
- ECME 217: Curriculum Development and Implementation II (3)
- ECME 217L: Curriculum Development and Implementation Practicum II (2)
- ECME 220: Assessment of Children and Evaluation of Programs I (3)
- ECME 230: Professionalism (2)

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**TOTAL EDUCATION CORE COURSES**

**29 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**67-68 CREDIT HOURS**

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ASSOCIATE OF ARTS

# Liberal Arts

## About the Program

The Associate of Arts in Liberal Arts is a degree program for students who desire a broad background and comprehensive grounding in the Arts and Humanities. As a terminal degree, it will provide students with a basic educational framework of value in a variety of fields including the arts, education, research, and business. As a transfer degree, its earned credits are the equivalent of the first two years of course work in the College of Arts and Sciences, preparing students to choose a major field. Students have the option to select no concentration, or to select a concentration in either Public Safety or Southwest Studies.

## Public Safety Professionals Concentration

This program is designed for students entering a Public Safety Professional field. This degree will transfer into a baccalaureate program such as Criminal Justice or Public Policy. As a terminal degree, it brings a strong foundation to the areas such as police work, fire safety work, security and emergency management, and should serve as professional development, supporting career advancement or promotion.

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**A minimum of 66 credit hours with a minimum grade point average of 2.0.** At least 15 of these 66 hours must be UNM-LA catalog credit courses taken in residence.

**At least 20 of these 66 hours must be at the 200-level.**

*Note: Not all courses transfer. Students transferring to another school should check with their advisor (at UNM-LA or at their transfer school) for transferability of any course.*

*Note: No math class lower than Math 121 (except its problem section Math 107) may count towards the degree.*

## General Education Requirements

### WRITING AND SPEAKING (9 CREDIT HOURS)

For all students the following are required (6 credit hours):

- ENGL 110: Accelerated Composition (3)

*or*

- ENGL 112: Composition II (3)

*or*

- ENGL 113: Enhanced Composition (3)

- ENGL 120: Composition III (3)

For students with no concentration:

*Select one of the following:*

- ENGL 219: Technical Writing (3)
- ENGL 220: Expository Writing (3)
- CJ 130: Public Speaking (3)
- PHIL 156: Reasoning and Critical Thinking (3)

For students with the Public Safety concentration:

*Select one of the following:*

- ENGL 219: Technical Writing (3)
- CJ 130: Public Speaking (3)

### MATHEMATICS (3 CREDIT HOURS)

For all students, select from the following:

- MATH 107: Problems in College Algebra (1) and MATH 121: College Algebra (3)

*or*

- STAT 145: Introduction to Statistics (3)

*or higher*

*\*Note: No math class lower than Math 121 (except its corresponding problem section Math 107) may count towards this degree.*

### PHYSICAL AND NATURAL SCIENCES (7 CREDIT HOURS)

For students with no concentration:

*Select 7 hours from the following:*

*Select courses, one of which must include a lab, from the UNM Core Curriculum in physical and natural sciences.*

For students with the Public Safety Concentration:

*Required:*

- CS 150L: Computing for Business Students (3)

Select additional 4 credit hours from the following (must take a lab):

- CHEM 111L: Elements of General Chemistry (4)

- BIOL 110: Biology for Non Majors (3)

*and*

- BIOL 112L: Biology Laboratory for Non Majors (1)

- BIOL 123: Biology for Health Related Sciences and Non-majors (3)  
*and*
- BIOL 124L: Biology Lab for Health Related Sciences and Non-Majors (1)

### **SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

**For students with no concentration:**

*Select 6 hours from the following:*

*Select courses from UNM Core Curriculum in Social and Behavioral Sciences.*

**For students with Public Safety concentration:**

- SOC 101: Introduction to Sociology (3)
- PSY 105: Introduction to Psychology (3)

### **HUMANITIES (6 CREDIT HOURS)**

**For students with no concentration:**

*Select 6 hours from the following:*

- AMST 186: Introduction to Southwest Studies (3)
- CLST 107: Greek Mythology (3)
- CLST 204: Greek Civilization (3)
- CLST 205: Roman Civilization (3)
- COMP 224 Literary Questions (3)
- ENGL 150: The Study of Literature (3)
- ENGL 292 World Literatures: Ancient World through the 16th Century (3)
- ENGL 293: World Literatures: 17th Century through the Present (3)
- Foreign Languages (M Lang) 101 or higher (3)
- HIST 101: Western Civilization to 1648 (3)
- HIST 102: Western Civilization Post 1648 (3)
- HIST 161: History of the United States to 1877 (3)
- HIST 162: History of the United States Since 1877 (3)
- PHIL 101: Introduction to Philosophy (3)
- PHIL 201: Greek Thought (3)
- PHIL 202: From Descartes to Kant (3)
- PHIL 211: Greek Philosophy (3)
- RELG 107: Living World Religions (3)
- RELG 263: Eastern Religions (3)
- RELG 264: Western Religions (3)
- UHON: University Honors at the 100- and 200-level (3)

**For students with Public Safety concentration:**

*Select 6 hours from the following:*

- CLST 107: Greek Mythology (3)
- AMST 186: Introduction to Southwest Studies (3)
- HIST 101: Western Civilization to 1648 (3)
- HIST 102: Western Civilization from 1648 (3)

- HIST 161: History of the United States to 1877 (3)
- HIST 162: History of the United States from 1877 (3)
- HIST 260: History of New Mexico (3)
- RELG 107: Living World Religions (3)

### **FOREIGN LANGUAGE (3 CREDIT HOURS)**

**For students with no concentration:**

*Select one course from any of the 100- or 200-level non-English language offerings as specified in the UNM Core Curriculum Foreign Language.*

**For students with the Public Safety concentration:**

*Select one course from any of the 100- or 200-level non-English language offerings as specified in the UNM Core Curriculum Foreign Language.*

*Students are strongly encouraged to take 3 credits of Spanish.*

### **FINE ARTS (6 CREDIT HOURS)**

**For all students:**

*Select 6 hours from the following:*

- ARTH 101: Introduction to Art (3)
- ARTH 201: History of Art I (3)
- ARTH 202: History of Art II (3)
- MA 210: Introduction to Film (3)
- MUS 139: Music Appreciation (3)
- THEA 105: Theatre Appreciation (3)

*One 3-credit hour studio course offered by the Department of Art Studio and Art History, Music, Theatre and Dance, or Media Arts may be taken to partially fulfill this requirement.*

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## **TOTAL GENERAL EDUCATION REQUIREMENTS**

**40 CREDIT HOURS**

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## **Technical Core Requirements**

### **LIBERAL ARTS ELECTIVES (3 CREDIT HOURS)**

**For all students:**

*Select one course from the UNM Core Curriculum in Social and Behavioral Sciences or Humanities using the following criteria:*

*Students with Public Safety concentration are strongly encouraged to select from:*

- POLS 110: The Political World (3)
- POLS 200: American Politics (3)

## GENERAL ELECTIVES (23 CREDIT HOURS)

### For students with no concentration:

Must complete 23 credit hours of academic electives number 101 or higher. A maximum of 4 credit hours of PENP are allowed. Students are encouraged to consult with an academic advisor regarding selections.

Note: Electives should be chosen in consultation with a UNM-LA academic advisor to develop a program for transferring to upper division programs. Not all courses transfer. Students transferring to another school should check with their advisor (at UNM-LA or their transfer school) for transferability of any course.

### For students with Public Safety concentration:

Must complete 23 credit hours of academic electives number 101 or higher. A maximum of 4 credit hours of PENP are allowed. Students are encouraged to consult with an academic advisor regarding selections.

At least 12 of 23 hours must be selected from the following:

- ANTH 101: Introduction to Anthropology (3)
- ANTH 130: Cultures of the World (3)
- ANTH 251: Forensic Anthropology (3)
- CJ 101L: Introduction to Communication (3)
- CJ 225: Small Group Communication (3)
- CJ 268: Media Theory and Influence (3)
- ECON 105: Introductory Macroeconomics (3)
- ECON 106: Introductory Microeconomics (3)
- EMS – any course
- PHIL 156: Reasoning and Critical Thinking (3)
- PHIL 245: Professional Ethics
- POLS 110: The Political World (3)
- POLS 200: American Politics (3)
- PSY 200: Statistical Principles (3)
- PSY 220: Developmental Psychology (3)
- PSY 250: Topics: Stress and Stress management (1-3cr)
- PSY 271: Social Psychology (3)
- SOC 205: Crime, Public Policy and the Criminal Justice System (3)
- SOC 211: Social Problems (3)
- SOC 213: Deviance (3)
- SOC 280: Introduction to Research Methods (3)

Note: 200-level courses are not offered every semester. Communicate your course needs to your advisor as you approach the end of your degree program.

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**26 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**66 CREDIT HOURS**

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## ASSOCIATE OF ARTS

# Pre-Business Administration

## About the Program

This degree program is designed to introduce students to the field of Business Administration/Management and to provide the first two years of the Bachelor of Business Administration program offered by the Robert O. Anderson Schools of Management at UNM Albuquerque Campus. All of the required courses for this associate degree program transfer to that BBA program, and students will be admitted to junior status if the following conditions are met:

- the student has a 2.0 cumulative GPA overall (see below)
- the student has a minimum grade of C (not C-) in each course listed under the Specific Requirements shown in pre-admission course work
- there are no waivers or substitutions in the printed curriculum of the Associate of Arts in Pre-Business Administration
- the student is eligible to enroll at UNM Albuquerque

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A minimum of 65 credit hours with a minimum grade point average of 2.4 in the UNM/ASM Core Curriculum areas. At least 15 of these 65 hours must be UNM-LA catalog credit courses taken in residence.

## General Education Requirements

### WRITING AND SPEAKING (9 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 120: Composition III (3)
- ENGL 219: Technical and Professional Writing (3)  
*or*
- ENGL 220: Expository Writing (3)

## **MATHEMATICS (6-7 CREDIT HOURS)**

*General Math:*

- MATH 107: Problems in College Algebra (1)  
*and*
- MATH 121: College Algebra (3)  
*or*
- MATH 150: Pre-Calculus Mathematics (3)

*Calculus Requirement:*

- MATH 162: Calculus (4)  
*or*
- MATH 180: Elements of Calculus (3)

*NOTE: No mathematics classes that are lower level than these courses may be counted toward the degree.*

## **PHYSICAL AND NATURAL SCIENCES (7 CREDIT HOURS)**

*Select 7 credit hours from UNM Core Curriculum, including one course with corresponding laboratory (designated L).*

## **SOCIAL AND BEHAVIORAL SCIENCES (15 CREDIT HOURS)**

*Must include:*

- ECON 105: Introductory Macroeconomics (3)
- ECON 106: Introductory Microeconomics (3)
- PSY 105: General Psychology (3)  
*or*
- SOC 101: Introduction to Sociology (3)

*Choose two additional courses from: American Studies, Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology. (PSY 105 or SOC 101 may be used to satisfy three credit hours of this requirement.)*

## **HUMANITIES (6 CREDIT HOURS)**

*Select 6 credit hours from the UNM Core Curriculum.*

## **FOREIGN LANGUAGE (3 CREDIT HOURS)**

*Select 6 credit hours from the UNM Core Curriculum.*

## **FINE ARTS (3 CREDIT HOURS)**

*Select 3 credit hours from the UNM Core Curriculum.*

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## **TOTAL GENERAL EDUCATION REQUIREMENTS**

**49-50 CREDIT HOURS**

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## Technical Core Requirements

### COMPUTER SCIENCE (3 CREDIT HOURS)

- CS 150L: Computing for Business Students (3)

### MANAGEMENT (6 CREDIT HOURS)

- MGMT 202: Principles of Financial Accounting (3)
- STAT 145: Introduction to Statistics (3)
- or*
- MGMT 290: Introduction to Business Statistics (3)

### ELECTIVES (6-7 CREDIT HOURS)

*Suggestions:*

- MGMT 113: Management: An Introduction (3)
- MGMT 158: Ethics in Organizations (3)
- MGMT 190: Special Topics in Management (3-6)
- MGMT 222: Introduction to Marketing (3)
- MGMT 290: Introduction to Business Statistics (3)
- ECON 212: Personal Investing (3)

*Note: Courses counted in this degree program may not include:*

*Introductory Studies courses*

*Physical Education courses*

*Students planning to transfer to the Anderson Schools of Management on the Albuquerque campus should be familiar with and must meet the UNM/ASM Core Curriculum Requirements.*

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**15-16 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**65 CREDIT HOURS**

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ASSOCIATE OF ARTS

# Pre-Professional Elementary Education

## About the Program

This degree program is designed for the student who is planning to transfer to a baccalaureate program upon completion. It is also designed to meet Level III/Paraprofessional licensure for educational assistants. It is the student's responsibility to contact his/her education advisor at the 4 year institution of his or her choice before registering for courses in the degree program.

A minimum of 67 credit hours. At least 15 of these 67 hours must be UNM-LA catalog credit courses taken in residence. It is strongly recommended that the student check the specific requirements for the B.S. or B.A. he or she plans to pursue at the 4 year institution of their choice.

## General Education Requirements

### WRITING AND SPEAKING (12 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)

*or*

- ENGL 112: Composition II (3)

*or*

- ENGL 113: Enhanced Composition (3)

- ENGL 120: Composition III (3)

*AND choose 2 courses from:*

- LING 101: Introduction to the Study of Language (3)
- CJ 130: Public Speaking (3)
- CJ 220: Communication for Teachers (3)

*Maximum of one literature course (3) chosen from COMP 222, ENGL 107, ENGL 150, ENGL 211, ENGL 250, ENGL 264, ENGL 265, ENGL 292, ENGL 294, ENGL 295, ENGL 296, ENGL 297*

### MATHEMATICS (9 CREDIT HOURS)

Select this sequence of three courses for K-8 teachers:

- MATH 111: Mathematics for Elementary/Middle School Teachers I (3)
- MATH 112: Mathematics for Elementary/Middle School Teachers II (3)

- MATH 215: Mathematics for Elementary/Middle School Teachers III (3)

*Or select three from the list below:*

- MATH 121: College Algebra (3)
- MATH 123: Trigonometry (3)
- MATH 150: Precalculus (3)
- MATH 162: Calculus I (4) \*
- STAT 145: Introduction to Statistics (3)
- \*Note: Math 162 has a prerequisite of Math 150 and Math 123.

### **PHYSICAL AND NATURAL SCIENCE (12 CREDIT HOURS)**

- Select this sequence of three NTSC courses for pre-service K-8 teachers only :

- NTSC 261L: Physical Science (4)
- NTSC 262L: Life Science (4)
- NTSC 263L: Environmental Science (4)

*Or, select three from this list below. Note: students may not earn credit for both BIOL 110/112L and BIOL 123/124L:*

- BIOL 110: Biology for Non-Majors (3)  
*and*
- BIOL 112L: Biology Lab for Non-Majors (1)  
*or*
- BIOL 123: Biology for Health Related Sciences and Non-Majors (3)  
*and*
- BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)
- ASTR 101: Introduction To Astronomy (3)  
*and*
- ASTR 101L: Astronomy Laboratory (1)
- ENVS 101: The Blue Planet (3)  
*and*
- ENVS 102L: Blue Planet Lab (1)
- CHEM 111L: Elements of General Chemistry including Lab (4)
- EPS 101: How the Earth Works-An Introduction to Geology (3)  
*and*
- EPS 105L: Physical Geology Lab (1)
- PHYC 102: Introduction to Physics (3)  
*and*
- PHYC 102L: Physics Laboratory (1)
- GEOG 101: Physical Geography (3)  
*and*
- GEOG 105L: Physical Geography Laboratory (1)

### **SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

*Select from:*

- ANTH 101, ANTH 130, ECON 105, ECON 106, GEOG 102, POLS 110, POLS 200, PSY 105, SOC 101.

### **HUMANITIES (12 CREDIT HOURS)**

- HIST 101: Western Civilization to 1648 (3)  
*or*
- HIST 102: Western Civilization Post 1648 (3)
- HIST 161: History of the United States to 1877 (3)
- HIST 162: History of the United States Post 1877 (3)
- HIST 260: History of New Mexico (3)

### **FOREIGN LANGUAGE (3 CREDIT HOURS)**

- SPAN 101: Elementary Spanish I (3) (highly recommended.)

### **FINE ARTS (6 CREDIT HOURS)**

*Choose 2 courses from:*

- ARTE 214: Art in Elementary and Special Classrooms I (3)
- MUSE 298: Music for the Elementary Teacher (3)
- ARTH 101: Introduction to Art (3)
- ARTH 201: History of Art I (3)
- ARTH 202: History of Art II (3)
- ARTH 251: Artistic Traditions of the Southwest (3)
- MUS 139: Music Appreciation (3)
- MUS 172: Jazz History (3)
- THEA 105: Theatre Appreciation (3)
- DANC 105: Dance Appreciation (3)

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**TOTAL GENERAL EDUCATION REQUIREMENTS**

**60 CREDIT HOURS**

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## Technical Core Requirements

### COMPUTER TECHNOLOGY (4 CREDIT HOURS)

- ❑ CT 102: Introduction to Microcomputers on the PC (4)

### EDUCATION REQUIREMENTS (3 CREDITS)\*

- ❑ LLSS 183: Introduction to Education in New Mexico (3)

*Note: Students planning to transfer to some New Mexico institutions will be required to take Field Experience (1) and Integrating Technology in the K-8 Classroom (2) with that institution either before or after transfer.*

*Note: For students transferring to UNM–Albuquerque, Physical Education courses will not count as transfer credit.*

*Some New Mexico institutions require a 1 credit hour physical education course that can be transferred. Please consult with the institution of your choice on its requirements for a Bachelor Degree*

*Introductory Studies courses do not count toward fulfilling the requirements of this degree.*

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**7 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**67 CREDIT HOURS**

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## ASSOCIATE OF ARTS

**Studio Art****About the Program**

This program provides students with the first two years of study toward a Bachelor's Degree in Fine Arts (BFA) at UNM Albuquerque Campus. Courses and course sequences are designed to encourage the student's power of observation and aesthetic awareness. Simultaneously the student is taught technique and craft with which to use these powers creatively. There are a variety of career opportunities in the Arts. Each artist's career path is unique, which is part of the freedom that comes with being an artist. Most visual artists work individually in the studio. Other career options such as teaching, museum work and free-lance design are generally achieved with a higher degree.

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A minimum of 66 credit hours with a minimum grade point average of 2.5. At least 15 of these 66 hours must be UNM-LA catalog credit courses taken in residence with a minimum grade point average of 3.0 in Art Studio/Art History courses.

**General Education Requirements****WRITING AND SPEAKING (9 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 120: Composition III (3)
- ENGL 220: Expository Writing (3)

**MATHEMATICS AND STATISTICS (6 CREDIT HOURS)**

*Select courses from the following:*

- MATH 107: Problems in College Algebra (1)  
*and*
- MATH 121: College Algebra (3)
- MATH 150: Precalculus Mathematics (3)
- MATH 162: Calculus I (4)
- MATH 163: Calculus II (4)
- MATH 180: Elements of Calculus I (3)

- STAT 145: Introduction to Statistics (3)

### **SOCIAL AND BEHAVIORAL SCIENCES (3 CREDIT HOURS)**

*Select one course as specified from the UNM core curriculum.*

### **HUMANITIES (6 CREDIT HOURS)**

- HIST 101: Western Civilization (3)
- HIST 102: Western Civilization (3)

### **ELECTIVES (3 CREDIT HOURS)**

*Select from one of the following groups:*

*Communication and Journalism*

*Foreign Language*

*American Studies*

*Philosophy*

**TOTAL GENERAL EDUCATION REQUIREMENTS      27 CREDIT HOURS**

## **Technical Core Requirements**

### **ART HISTORY (9 CREDIT HOURS)**

- ARTH 201: History of Art I (3)
- ARTH 202: History of Art II (3)
- ARTH 250: Modern Art (3)

### **ART STUDIO CORE COURSES (10 CREDIT HOURS)**

- ARTS 106: Drawing I (3)
- ARTS 125: Art Practices I (3)
- ARTS 126: Art Practices II (3)
- ARTS 298: Topics: Portfolio Preparation and Presentation



## ART STUDIO ELECTIVE COURSES (12 CREDIT HOURS)

### Group A: Select two

- ARTS 130: Introduction to Electronic Art (3)
- ARTS 187: Photography I (3)\*
- ARTS 205: Drawing II (3)\*
- ARTS 207: Painting I (3)
- ARTS 287: Black and White Photography (3)
- ARTS 288: Introduction to Color Photography (3)
- ARTS 298T: Topics (1-30)

### Group B: Select two

- ARTS 123: Shop Foundations (2)
- ARTS 157: Small Scale Metal Construction I (3)\*
- ARTS 168: Introduction to Ceramics (3)
- ARTS 213: Sculpture I (3)\*
- ARTS 216: Raku - A Ceramic Low-Firing Reduction Process
- ARTS 257: Small Scale Metal Construction II (3)
- ARTS 268: Ceramics: Materials and Aesthetics

*\*Required courses for a BFA*

## COMPUTER SCIENCE, COMPUTER TECHNOLOGY OR INFORMATION TECHNOLOGY (3 CREDIT HOURS)

*Select one course.*

## GENERAL ELECTIVES (5 CREDIT HOURS)

*Courses in Music or Film are recommended to fulfill the Fine Arts elective requirements for a BFA. A maximum of 2 hours of Physical Education may count toward the degree.*

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**39 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**66 CREDIT HOURS**

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# Associate of Science Degrees

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## ASSOCIATE OF SCIENCE

**Computer Science****About the Program**

This is a transfer degree program designed for students interested in pursuing a baccalaureate degree in computer science. Program content is based upon the computer science baccalaureate degree offered at UNM Albuquerque campus in the School of Engineering.

A minimum of 67 credit hours with a minimum cumulative grade point average of 2.0. At least 15 of these 67 hours must be credit courses taken at a UNM campus. CS 151 or CS 152 must be completed with a B- or better. All other computer science component courses must be completed with a minimum grade of C or better. Math 162 must be completed with a grade of B- or better. All other courses used for this degree must be completed with a minimum grade of C or better. It is strongly recommended that the student check the specific requirements for the B.S. or B.A. of interest if planning to transfer in order to make the best choices among the optional courses below.

**General Education Requirements****WRITING AND SPEAKING (9 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3) or ENGL 112: Composition II (3) or
- ENGL 113: Enhanced Composition (3)
- ENGL 120: Composition III (3)
- ENGL 219: Technical and Professional Writing (3)

**MATHEMATICS AND STATISTICS (8 CREDIT HOURS)**

- MATH 162: Calculus I (4) (with a grade of B- or better)
- MATH 163: Calculus II (4)

**PHYSICAL AND NATURAL SCIENCE (14 CREDIT HOURS)**

*Four science courses (of 3 or more credit hours) taken by science and engineering majors, two of which must come from one of the following sequences, including the laboratories. The remaining hours can be more advanced courses in the discipline chose for the sequence or they can be additional introductory laboratory science hours.*

*Physics is strongly recommended.*

*Note: Students may not take both the sequence EPS 101, EPS 105L, EPS 201L AND the sequence ENVS 101, ENVS 102L, EPS 201L.*

- ASTR 270 and 270L: General Astronomy and General Astronomy Laboratory I (4)

- ❑ ASTR 271 and 271L: General Astronomy and General Astronomy Laboratory I (4)
- ❑ BIOL 201: Molecular and Cell Biology (4)
- ❑ BIOL 202: Genetics (4)
- ❑ CHEM 121 and CHEM 123L: General Chemistry I and General Chemistry Laboratory 1 (4)
- ❑ CHEM 122 and CHEM 124L: General Chemistry II and General Chemistry Laboratory II (4)
- ❑ EPS 101 and EPS 105L: How the Earth Works – An Introduction to Geology and Physical Geology Laboratory (4)
- ❑ EPS 201L: Earth History (4)
- ❑ ENVS 101 and ENVS 102L: The Blue Planet and The Blue Planet Laboratory (4)
- ❑ EPS 201L: Earth History (4)
- ❑ PHYC 160 and 160L: General Physics and General Physics Laboratory (4)
- ❑ PHYC 161 and 161L: General Physics and General Physics Laboratory (4)
- ❑ UNM CORE CURRICULUM DIVIDED AS FOLLOWS:

### **FINE ARTS (3 CREDIT HOURS)**

*Select any UNM Core curriculum course in this area*

### **FOREIGN LANGUAGE (3 CREDIT HOURS)**

*Select any UNM Core curriculum course in this area*

### **HUMANITIES AND SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

*Select any UNM Core curriculum courses in these areas*

## **TOTAL GENERAL EDUCATION REQUIREMENTS      43 CREDIT HOURS**

### **Technical Core Requirements**

#### **COMPUTER SCIENCE (24 CREDIT HOURS)**

- ❑ CS 101: Introduction to Computing Science (4)
- ❑ CS 151L: Computer Programming Fundamentals for Non-Majors (3) (with a grade of B- or better)
- or*
- ❑ CS 152L: Computer Programming Fundamentals (3) (recommended) (with a grade of B- or better)
- ❑ CS 220: Systems Analysis and Design (3)
- ❑ CS 241L: Data Organization (3)
- ❑ CS 251L: Intermediate Programming (3)
- ❑ CS 261: Mathematical Foundations of Computer Science (3)
- ❑ CS 293: Social and Ethical Computing (1)
- ❑ ECE 238L: Computer Logic Design (4)

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<b>TOTAL TECHNICAL CORE REQUIREMENTS</b>	<b>24 CREDIT HOURS</b>
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<b>TOTAL CREDIT HOURS</b>	<b>67 CREDIT HOURS</b>
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ASSOCIATE OF SCIENCE

# Emergency Medical Services

## About the Program

The Associate of Science in Emergency Medical Service is a specialized degree program designed to build a workforce that is customized to the expected needs of towns, cities and counties in Northern New Mexico and beyond. Students in the program will receive basic academic and specialized hands on training needed to meet the professional educational needs of pre-hospital care providers. The program is designed to meet the 1998 EMT National Standard Curriculum requirements and incorporates New Mexico requirements and EMT scope of practice. Upon successful completion of degree requirements with a minimum GPA of 2.33, graduates will be qualified for New Mexico and National Registry testing and will be eligible for admission to the UNM Bachelor of Science in Emergency Medical Services program.

A minimum of 73 credit hours with a minimum grade of 2.33 are required. At least 15 of these 73 credit hours must be UNM catalog credit courses taken in residence. A grade of C or better is required in all courses used to fulfill the requirements of the core curriculum. A minimum of C is also required in each Technical Core course.

## General Education Requirements

### WRITING AND SPEAKING (12 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 120: Composition III (3)
- ENGL 220: Expository Writing (3)  
*or*
- ENGL 290 Introduction to Professional Writing (3)
- CJ 133: Public Speaking (3)

### MATHEMATICS AND STATISTICS (6 CREDIT HOURS)

- MATH 121: College Algebra (3)
- STAT 145: Introduction To Statistics (3)

### **PHYSICAL AND NATURAL SCIENCES (16 CREDIT HOURS)**

- BIOL 123: Biology for Health Related Sciences and Non Majors (3)  
*and*
- BIOL 124L Biology for Health Related Sciences and Non Majors Lab (1)
- BIOL Human Anatomy and Physiology I for the Health Sciences (3)  
*and*
- BIOL 247L: Human Anatomy and Physiology I for the Health Sciences Lab (1)
- BIOL 238: Human Anatomy and Physiology II for the Health Sciences (3)  
*and*
- BIOL 248L: Human Anatomy and Physiology II for the Health Sciences Lab (1)
- CHEM 121: General Chemistry (3)  
*and*
- CHEM 123L: General Chemistry Lab (1)

### **SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

*Select two courses from the UNM Core Curriculum in Social and Behavioral Sciences*

### **HUMANITIES (6 CREDIT HOURS)**

*Select two courses from the UNM Core Curriculum in Humanities*

### **FINE ARTS (3 CREDIT HOURS)**

*Select one course from the UNM Core Curriculum in Fine Arts*

### **FOREIGN LANGUAGE (3 CREDIT HOURS)**

*Select one course from the UNM Core Curriculum in Foreign Language*

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### **TOTAL GENERAL EDUCATION REQUIREMENTS**

**49 CREDIT HOURS**

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### **TECHNICAL CORE REQUIREMENTS**

**(21 CREDIT HOURS)**

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- EMS 113: EMT-Basic (8)
- EMS 142: EMT-Basic Lab (2)
- EMS 120: Introduction to EMS System (3)
- EMS 143: EMT-Intermediate Lab (1)
- EMS 151: EMT-Intermediate Clinical and Field Experience (2)
- EMS 180: EMT-Intermediate (5)

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### **TOTAL TECHNICAL CORE REQUIREMENTS**

**21 CREDIT HOURS**

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### **TOTAL CREDIT HOURS**

**73 CREDIT HOURS**

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ASSOCIATE OF SCIENCE

# Environmental Science

## About the Program

This program provides students with the first two years of study toward a Bachelor's degree in Environmental Science or Earth and Planetary Science at UNM Albuquerque Campus or other four-year institutions. It can also be applied toward a B.S. in Biology with a Concentration in Conservation Science. As a terminal degree, it is sufficient preparation for certain technician jobs in areas such as environmental testing and remediation.

A minimum of 66 credit hours with a minimum grade point average of 2.0. At least 15 of these 66 hours must be UNM-LA catalog credit courses taken in residence. It is strongly recommended that the student check the specific requirements for the B.S. or B.A. of interest if planning to transfer in order to make the best choices among the optional courses below.

## General Education Requirements

### WRITING AND SPEAKING (6 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)

*or*

- ENGL 112: Composition II (3)

*or*

- ENGL 113: Enhanced Composition (3)

- ENGL 120: Composition III (3)

### MATHEMATICS AND STATISTICS (3 CREDIT HOURS)

- MATH 162: Calculus I (4)

*Note: Math 180 may be substituted for Math 162, but will only be accepted for some bachelor's degrees (e.g. biology.)*

### SOCIAL AND BEHAVIORAL SCIENCES (3 CREDIT HOURS)

*Select any UNM Core Curriculum course in this area.*

### HUMANITIES (3 CREDIT HOURS)

*Select any UNM Core Curriculum course in this area.*

### FOREIGN LANGUAGE (3 CREDIT HOURS)

*Select any UNM Core Curriculum course in this area.*

## FINE ARTS (3 CREDIT HOURS)

Select any UNM Core Curriculum course in this area.

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## TOTAL GENERAL EDUCATION REQUIREMENTS (NOT INCLUDING SCIENCE)

21 CREDIT HOURS

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## Technical Core Requirements

### PHYSICAL AND NATURAL SCIENCES (21 CREDIT HOURS)

Must include:

- BIOL 123: Biology for Health Related Sciences and Non-Majors (3)
- BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)
- CHEM 121/123L: General Chemistry I(3)/General Chemistry I Lab (1)
- ENVS 101: The Blue Planet (3)

and

- ENVS 102L: The Blue Planet Laboratory (1)

or

- EPS 101: How the Earth Works—An Introduction to Geology (3)

and

- EPS 105L: Physical Geology Laboratory (1)
- PHYC 160: General Physics (3)

And an additional 6 credit hours selected from:

- BIOL 202: Genetics (4)
- BIOL 203L: Ecology and Evolution (4)
- BIOL 204L: Plant and Animal Form and Function (4)
- CHEM 122/124L: General Chemistry II(3)/General Chemistry II Lab (1)
- CHEM 212: Integrated Organic Chemistry and Biochemistry (4)
- EPS 201L: Earth History (4)
- PHYC 161: General Physics (3)

Note: BIOL 201 may be substituted for BIOL 123/124L. BIOL 201 is generally a prerequisite for BIOL 202, 203L, or 204L, but an environmental science major has permission from UNM-Albuquerque to go directly from BIOL 123/124L to BIOL 203L. A biology major must eventually complete BIOL 201, 202, 203L, and 204L. CHEM 131L and 132L could be substituted for CHEM 121/123L and 122/124L although it is not usually offered at UNM-Los Alamos. PHYC 151 could be substituted for PHYC 160, but it will only be acceptable for some of the baccalaureate degrees (e.g. biology B.A. or B.S., earth and planetary science B.A.).

## OTHER (24 CREDIT HOURS)

To complete the required number of hours for this degree, other courses (24 credit hours) may be chosen from the following if not already counted in your degree program:

### Writing and Speaking (Maximum of 3 credit hours)

- ENGL 219: Technical Writing (3)
- ENGL 220: Expository Writing (3)
- ENGL 290: Introduction to Professional Writing (3)
- CJ 130: Public Speaking (3)
- Mathematics and Statistics
- MATH 163: Calculus II (4)

Any math course above MATH 163.

### Physical and Natural Sciences

- ASTR 270: General Astronomy (3)
- BIOL 202: Genetics (4)
- BIOL 203L: Ecology and Evolution (4)
- BIOL 204L: Plant and Animal Form and Function (4)
- CHEM 122/124L : General Chemistry II(3)/General Chemistry II Lab (1)
- CHEM 212: Integrated Organic Chemistry and Biochemistry (4)
- EPS 201L: Earth History (4)
- EPS 203: Energy and the Environment (3)
- EPS 251: Meteorology (3)
- PHYC 160L: General Physics Laboratory (1)
- PHYC 161: General Physics (3)
- PHYC 161L: General Physics Laboratory (1)
- PHYC 167: Problems in General Physics (1)
- PHYC 168: Problems in General Physics (1)

### Humanities (Maximum 3 credit hours)

Select any UNM core course in this area.

Note: For UNM students working toward a B.S. in ENVS or a B.S. or B.A. in EPS, selected courses in engineering, computer science, anthropology, or geography may also be used, but only with permission from the main campus departments of ENVS or EPS.

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**45 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**66 CREDIT HOURS**

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## ASSOCIATE OF SCIENCE

# Pre-Professional Health Sciences

## About the Program

This is a transfer degree program designed for students pursuing a career in the health sciences, such as nursing, physician's assistant, dental hygiene, and pharmacy. Completion of this degree will fulfill the pre-admission requirements for most medical professional programs and enable students to transfer to a baccalaureate degree in BS in nursing, BS in dental hygiene, BS – Physician assistant studies program, to Masters in Physical Therapy.

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A minimum of 63 credit hours with minimum C (not C-) grade or better in all courses and overall grade 2.5 or higher. At least 15 of these 63 hours must be UNM-LA catalog credit courses taken in residence. It is strongly recommended that the students check the specific requirements for the health sciences degree program of interest at the 4 year institution of their choice before registering for courses in the degree program.

## General Education Requirements

### WRITING AND SPEAKING (6 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 120: Composition III (3)

### MATHEMATICS AND STATISTICS (6 CREDIT HOURS)

- MATH 120: Intermediate Algebra (3) *or* (Math 101, 102, and 103: Intermediate Algebra I, II, III)  
*And, select 1 course from:*
- MATH 121: College Algebra (3) and MATH 107: Problem for MATH 121 (1)
- MATH 123: Trigonometry (3)
- MATH 150: Precalculus (3)
- MATH 180: Elements of Calculus I (3) and MATH 110: Problems for MATH 180 (1)
- MATH 162: Calculus I (4)\*
- STAT 145: Introduction to Statistics (3)

\*Note: Math 180 has a prerequisite of Math 121 or Math 150, Math 162 has a prerequisite of Math 150 and Math 123

*Students should contact 4 year institution of their choice to check the specific mathematics requirements for the degree program of interest.*

### **SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

*Select 2 courses from:*

- PSY 105: General Psychology (3)
- PSY 220: Developmental Psychology (3)
- SOC 101: Introduction to Sociology (3)
- ECON 106: Introductory Microeconomics (3)

### **HUMANITIES (6 CREDIT HOURS)**

*Select 2 UNM Core Curriculum courses in this area.*

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## **TOTAL GENERAL EDUCATION REQUIREMENTS (NOT INCLUDING SCIENCE)**

**24 CREDIT HOURS**

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## **Technical Core Requirements**

### **PHYSICAL/NATURAL SCIENCES (20 CREDIT HOURS)**

- BIOL 227L: Human Anatomy and Physiology Laboratory I (1)\*
- BIOL 228L: Human Anatomy and Physiology Laboratory II (1)\*
- BIOL 237: Human Anatomy and Physiology I for the Health Sciences (3)
- BIOL 238: Human Anatomy and Physiology II for the Health Sciences (3)

*Select 3 or 4 additional courses (12 – 14 credit hours) from:*

- BIOL 123: Biology for Health Related Sciences and Non-Majors (3)
- BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)
- BIOL 201: Molecular and Cell Biology (4)
- BIOL 202: Genetics (4)
- BIOL 239L: Microbiology for Health Sciences and Non-Majors (4)
- CHEM 111L: Elements of General Chemistry (4)
- CHEM 121: General Chemistry I (3)
- CHEM 123L: General Chemistry I Laboratory (1)
- CHEM 122: General Chemistry II (3)
- CHEM 124L: General Chemistry II (1)
- CHEM 212: Integrated Organic Chemistry and Biochemistry (4)
- PHYC 151: General Physics (3)
- PHYC 151L: General Physics Laboratory (1)\*
- PHYC 152: General Physics (3)
- PHYC 152L: General Physics Laboratory (1)\*

*\*Note: Lab may be omitted for some of medical programs, check with the advisor.*

## **OTHER (19 CREDIT HOURS)**

*Courses selected from:*

### **Physical/Natural Sciences**

- BIOL 227L: Human Anatomy and Physiology Laboratory I (1)
- BIOL 228L: Human Anatomy and Physiology Laboratory II (1)
- BIOL 123: Biology for Health Related Sciences and Non-Majors (3)
- BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)
- BIOL 201: Molecular and Cell Biology (4)
- BIOL 202: Genetics (4)
- BIOL 239L: Microbiology for Health Sciences and Non-Majors (4)
- CHEM 111: Elements of General Chemistry (4)
- CHEM 121: General Chemistry I (3)
- CHEM 123L: General Chemistry I Laboratory (1)
- CHEM 122: General Chemistry II (3)
- CHEM 124L: General Chemistry II (1)
- CHEM 212: Integrated Organic Chemistry and Biochemistry (4)
- PHYC 151: General Physics (3)
- PHYC 151L: General Physics Laboratory (1)\*
- PHYC 152: General Physics (3)
- PHYC 152L: General Physics Laboratory (1)\*

### **Mathematics and Statistics**

- MATH 121: College Algebra (3) and MATH 107: Problems for MATH 121 (1)
- MATH 123: Trigonometry (3)
- MATH 150: Precalculus (3)
- MATH 180: Elements of Calculus I (3) and MATH 110: Problems for MATH 180 (1)
- MATH 162: Calculus I (4)\*
- STAT 145: Introduction to Statistics (3)
- MATH 129: A Survey of Mathematics (3)\*
- MATH 181: Elements of Calculus II (3)\*

*\*Note: These courses emphasize critical thinking and problem-solving*

### **Computer Science**

- CS 150L: Computing for Business Students (3)

### **Communication**

- CJ 130: Public Speaking (3)
- CJ 221: Interpersonal Communication (3)

## Nutrition

- NUTR 244: Human Nutrition (3)
- NUTR 120: Nutrition for Health (3)

## Foreign Language (maximum 3 credit hours)

*Select 1 UNM Core Curriculum course in this area*

## Fine arts (maximum 3 credit hours)

*Select 1 UNM Core Curriculum course in this area*

## Humanities (maximum 3 credit hours)

*Select any one from the following if not already counted in your degree*

- PHIL 101: Introduction to Philosophy [Introduction to Philosophical Problems] (3)\*
- PHIL 102: Current Moral Problems (3)\*
- PHIL 156: Reasoning and Critical Thinking (3)\*

*\*Note: These emphasize courses critical thinking and problem-solving*

## Writing and Speaking (maximum 3 credit hours)

*Select any UNM Core Curriculum course in this area not already counted in your degree*

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**39 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**63 CREDIT HOURS**

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## ASSOCIATE OF SCIENCE

# Pre-Engineering

## About the Program

This program represents the course work for the first two years of the baccalaureate degree at UNM Albuquerque Campus and is in compliance with the New Mexico Pre-Engineering Transfer Module.. The courses are pertinent to all fields of engineering: mechanical, chemical, nuclear, civil, construction and computer. Students with this degree are qualified to enter the work force as technicians in various engineering fields or to continue their studies to the baccalaureate level.

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A minimum of 66 credit hours with a minimum grade point average of 2.2 overall, with a grade of 2.5. or better in any specifically required course. At least 15 of these 66 hours must be UNM-LA catalog credit courses taken in residence. It is strongly recommended that the student check the specific requirements for the BS in the particular area of engineering of interest (chemical and nuclear, civil, electrical and computer, mechanical etc.) in order to make the best choices among the optional courses.

## General Education Requirements

### WRITING AND SPEAKING (9 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)

*or*

- ENGL 112: Composition II (3)

*or*

- ENGL 113: Enhanced Composition (3)

- ENGL 120: Composition III (3)

- ENGL 219: Technical Writing (3)

### PHYSICAL/NATURAL SCIENCES (12 CREDIT HOURS)

- CHEM 121/123L: General Chemistry I(3)/General Chemistry I Lab (1)

- PHYC 160: General Physics (3)

- PHYC 160L: General Physics Laboratory (1)

- PHYC 161: General Physics (3)

- PHYC 161L: General Physics Laboratory (1)

## **MATHEMATICS AND STATISTICS (12 CREDIT HOURS)**

- MATH 162: Calculus I (4)
- MATH 163: Calculus II (4)
- MATH 264: Calculus III (4)

## **SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

*Including:*

- ECON 105: Introductory Macroeconomics (3)
- and*

*Select one other UNM Core Curriculum course in this area.*

## **HUMANITIES (6 CREDIT HOURS)**

*Select any UNM Core Curriculum courses in this area.*

## **FINE ARTS (3 CREDIT HOURS)**

*Select any UNM Core Curriculum course in this area, or substitute one additional course from the core curriculum in either Humanities or Social & Behavioral Sciences.*

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**TOTAL GENERAL EDUCATION REQUIREMENTS**

**48 CREDIT HOURS**

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## **Technical Core Requirements**

### **ENGINEERING AND COMPUTER SCIENCE (6 CREDIT HOURS)**

- CS 151L: Computer Programming Fundamentals for Non-Majors (3)

*And 3 credit hours selected from:*

- CE 160L: Civil Engineering Design (3)
- CE 202 : Engineering Statics (3)
- ECE 203L: Circuit Analysis I (3)
- ECE 213: Circuit Analysis II (3)
- ECE 238L: Computer Logic Design (4)
- ME 160L: Mechanical Engineering Design I (3)
- ME 260L: Mechanical Engineering Design II (3)

*NOTE: Other engineering courses specified in the B.S. degree plan of interest may be substituted, if offered by UNM-LA.*

## OTHER (12 CREDIT HOURS)

To complete the required number of hours for this degree, other courses (12 credit hours) may be chosen from the following if not already counted in degree program.

### Engineering and Computer Science

- CE 160L: Civil Engineering Design (3)
- CE 202: Engineering Statics (3)
- ECE 203: Circuit Analysis I (3)
- ECE 213: Circuit Analysis II (3)
- ECE 238L: Computer Logic Design (4)
- ME 160L: Mechanical Engineering Design I (3)
- ME 260L: Mechanical Engineering Design II (3)
- ME 217: Energy, Environment & Society (3)

Note: Other engineering courses specified in the B.S. degree plan of interest may be substituted, if offered by UNM-LA.

### Physical/Natural Sciences

- CHEM 122/124L: General Chemistry II (3)/General Chemistry II Lab (1)
- EPS 101: How the Earth Works—An Introduction to Geology (3)
- PHYC 167: Problems in General Physics (1)
- PHYC 168: Problems in General Physics (1)
- PHYC 262: General Physics (3)
- PHYC 267: Problems in General Physics (1)

### Foreign Language (Maximum of 3 credit hours)

Select any UNM Core Curriculum course in this area.

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**18 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**66 CREDIT HOURS**

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## ASSOCIATE OF SCIENCE

**Science****About the Program**

This program represents the first two years of course work in general science with an emphasis in physics, chemistry, and biology. Completion of this degree will enable students to transfer to a four-year institution for additional studies leading to a bachelor's degree. It will also provide background studies for students wishing to enter the work force as technicians in science.

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A minimum of 66 credit hours with a minimum grade point average of 2.0. At least 15 of these 66 hours must be UNM-LA catalog credit courses taken in residence. It is strongly recommended that the student check the specific requirements for the B.S. or B.A. in the particular area of interest in science (biology, biochemistry, chemistry, earth and planetary science, physics, astrophysics) in order to make the best choices among the optional courses below.

**General Education Requirements****WRITING AND SPEAKING (6 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 120: Composition III (3)

**MATHEMATICS AND STATISTICS (6 CREDIT HOURS)**

*Including:*

- MATH 162: Calculus I (4)
- MATH 163: Calculus II (4)

*Note: MATH 180 & 181 may be substituted for MATH 162 and 163, but will only be accepted for some bachelor's degrees in science (e.g. Biology)*

**SOCIAL AND BEHAVIORAL SCIENCES (3 CREDIT HOURS)**

*Select any UNM Core Curriculum course in this area.*

**HUMANITIES (3 CREDIT HOURS)**

*Select any UNM Core Curriculum courses in this area.*

**FOREIGN LANGUAGE (3 CREDIT HOURS)**

*Select any UNM Core Curriculum course in this area.*

**FINE ARTS (3 CREDIT HOURS)**

*Select any UNM Core Curriculum course in this area.*

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**TOTAL GENERAL EDUCATION REQUIREMENTS (NOT INCLUDING SCIENCE)****24 CREDIT HOURS**

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**Technical Core Requirements****PHYSICAL/NATURAL SCIENCES (20 CREDIT HOURS)**

*Including:*

- CHEM 121/123L: General Chemistry I(3)/General Chemistry I Lab (1)
- CHEM 122/124L: General Chemistry II(3)/General Chemistry II Lab (1)
- PHYC 160: General Physics (3)
- PHYC 160L: General Physics Lab (1)
- PHYC 161: General Physics (3)
- PHYC 161L: General Physics Lab (1)

And additional course (4 credit hours) selected from:

- BIOL 201: Molecular and Cell Biology (4)
- BIOL 202: Genetics (4)
- BIOL 203L: Ecology and Evolution (4)
- BIOL 204L: Plant and Animal Form and Function (4)
- CHEM 212: Integrated Organic Chemistry and BioChemistry (4)
- EPS 101: How the Earth Works—An Introduction to Geology (3)
- EPS 105L: Physical Geology Laboratory (1)
- EPS 201L: Earth History (4)
- ENVS 101: The Blue Planet (3)
- ENVS 102L: The Blue Planet Laboratory (2)
- PHYC 167: Problems in General Physics (1)
- PHYC 168: Problems in General Physics (1)
- PHYC 262: General Physics (3)
- PHYC 262L: General Physics Lab (1)
- PHYC 267: Problems in General Physics (1)

NOTE: CHEM 131L and 132L could be substituted for CHEM 121/123L and 122/124L , although it is not usually offered at UNM-LA. PHYC 151, 151L, 152. 152L may be substitute or PHYC 160, 160L, 161, 161L but will not be acceptable for some baccalaureate degrees in science (biology B.A. or B.S., Chemistry B.A., earth & planetary science B.A.)

### **OTHER (22 CREDIT HOURS)**

To complete the required number of hours for this degree, other courses (22 credit hours) may be chosen from the following if not already counted in your degree program:

### **WRITING AND SPEAKING (MAXIMUM OF 3 CREDIT HOURS)**

- ENGL 219: Technical Writing (3)

### **Physical/Natural Sciences**

Select From:

- BIOL 201: Molecular and Cell Biology (4)
- BIOL 202: Genetics (4)
- BIOL 203L: Ecology and Evolution (4)
- BIOL 204L: Plant and Animal Form and Function (4)
- CHEM 212: Integrated organic Chemistry and BioChemistry (4)
- EPS 101: How the Earth Works—An Introduction to Geology (3)
- EPS 105L: Physical Geology Laboratory (1)
- EPS 201L: Earth History (4)
- ENVS 101: The Blue Planet (3)
- ENVS 102L: The Blue Planet Laboratory (2)
- PHYC 167: Problems in General Physics (1)
- PHYC 168: Problems in General Physics (1)

- ❑ PHYC 262: General Physics (3)
- ❑ PHYC 262L: General Physics Lab (1)
- ❑ PHYC 267: Problems in General Physics (1)

**Mathematics and Statistics**

- ❑ MATH 264: Calculus III (4)

**Computer Science**

- ❑ CS 151L: Computer Programming Fundamentals for Non-Majors (3)

**Humanities (Maximum of 3 credit hours)**

*Select any UNM Core Curriculum courses in this area.*

*Social and Behavioral Sciences (Maximum of 3 credit hours)*

*Select any UNM Core Curriculum course in this area.*

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<b>TOTAL TECHNICAL CORE REQUIREMENTS</b>	<b>42 CREDIT HOURS</b>
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<b>TOTAL CREDIT HOURS</b>	<b>66 CREDIT HOURS</b>
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# Associate of Applied Science Degrees

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ASSOCIATE OF APPLIED SCIENCE

# Accounting

## About the Program

This degree program is designed to help students prepare for entry into the accounting field as accounting clerks or technicians. The core courses in general education combined with computer applications provide the necessary skills for success in today's changing business world. Students will become proficient in basic accounting principles: manual and computerized journals; posting; adjustments; monthly statements; payroll; bank reconciliations; cash flow reports; invoices; and the basics of taxes. Some, but not all, of the required courses will transfer to a BBA program at UNM Albuquerque Campus. Students planning to seek a four-year degree in accounting or another business field should pursue an Associate of Arts in Pre-Business Administration.

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A minimum of 63 credits with a minimum grade point average of 2.0. At least 15 of these 63 hours must be University of New Mexico-Los Alamos catalog credit courses taken in residence.

## General Education Requirements

### WRITING AND SPEAKING (6 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3) *or* ENGL 112: Composition II (3) *or* ENGL 113: Enhanced Composition (3)
- CJ 221: Interpersonal Communications (3)

### MATHEMATICS/PHYSICAL AND NATURAL SCIENCES (7 CREDIT HOURS)

- MATH 107: Problems in College Algebra (1)
- MATH 121: College Algebra (3)

*Note: No mathematics classes that are lower level than these courses may be counted toward the degree.*  
*and*

*Select additional 3 hours from UNM Core Curriculum in these areas.*

### FINE ARTS/HUMANITIES/SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)

- ECON 106: Introductory Microeconomics (3)
- and*

*Select additional 3 hours from UNM Core Curriculum in these areas.*

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**TOTAL TECHNICAL CORE REQUIREMENTS****19 CREDIT HOURS**

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## Technical Core Requirements

### BUSINESS, MANAGEMENT, AND TECHNOLOGY (38 CREDIT HOURS)

- MGMT 101: Fundamentals of Accounting I (3)
- MGMT 101L: Fundamentals of Accounting I Lab (1)
- MGMT 102: Fundamentals of Accounting II (3)
- MGMT 102L: Fundamentals of Accounting II Lab (1)
- MGMT 113\*: Management: An Introduction (3)
- MGMT 158: Ethics in Organizations (3)
- BSTC 202\*: Microcomputer Accounting (3)
- BSTC 203: Business Communication (3)
- BSTC 204: Human Relations in Business (3)
- BSTC 218\*: Business Law (3)
- BSTC 212: Introduction to Income Tax (3)
- BSTC 220\*: Management Accounting (3)
- CS 150: Computing for Business Students (3)
- CT 202\*: Applications of Spreadsheets (3)

*\*Indicates courses with prerequisites.*

### TECHNICAL ELECTIVES OR COOPERATIVE EDUCATION WORK PHASES (6 CREDIT HOURS)

*Choose from the following courses:*

- BSTC 113: Introduction to Project Management (1)
- BSTC 114: Customer Service and Relations (1)
- BSTC 115: Time Management (1)
- BSTC 116: Stress Management for the Workplace (1)
- BSTC 117: Organization Skills for the Workplace (1)
- BSTC 118: Conflict Resolution for the Workplace (1)
- BSTC 213: Auditing (3)
- BSTC 214: Governmental/Not for Profit Accounting (3)
- BSTC 193: Topics (1-4)
- BSTC 293: Topics (1-4)
- BSTC 296: Business Cooperative Work Phase 1, 2, or 3 (1-3)
- ECON 212: Personal Investing (3)
- MGMT 105: Management Coop(3)
- MGMT 190: Special Topics (3)
- MGMT 222: Introduction to Marketing (3)

*Note that various Topics courses will be offered and students may receive credit for taking multiple Topics courses.*

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**44 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**63 CREDIT HOURS**

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ASSOCIATE OF APPLIED SCIENCE

# Applied Technologies

*The Associate of Applied Science Degree in Applied Technologies has four concentrations available: Electro-mechanical Technology, Manufacturing Technology, Nanotechnology, and Solar Technology.*

## **About the Program**

This program is designed to develop skills that will assist students in gaining employment as entry level technicians. Program content is intended to provide a balance of performance skills in electro-mechanical technology, manufacturing technology, nanotechnology, and solar technology. Students will be provided with quality training and career pathways in modern applied technologies. Students will learn to use the techniques, skills, and modern applied science tools necessary for professional practice in their chosen area of concentration.

## **About the Electro-Mechanical Concentration**

Building on the basic technical core courses, students in the Electro-mechanical Concentration will learn the basic elements of DC circuits, AC electronic components, and electronic devices. Students will also be introduced to fundamental mechanical systems (vacuum, cryogenic, and hydraulic systems) and their design, assembly, and operation. In addition to the general education core curriculum, students must complete a set of required technical core classes and 20 credit hours in this concentration.

## **About the Manufacturing Concentration**

Students in the Manufacturing Concentration will learn about the three basic engineering materials (metals, ceramics, and polymers) and their manufacturing processes. This concentration emphasizes theoretical and practical applications of measurement principles and introduces students to the fundamental behavior of materials. The early stages of mechanical design concepts are presented using CADD, prototyping, and patent search skills. In addition to the general education core curriculum, students must complete a set of required technical core classes and 16 credit hours in this concentration.

## **About the Nanotechnology Concentration**

In the Nanotechnology Concentration, students will learn about the materials, tools, and current and emerging applications of nanotechnology. Students will study the relationship between the structural characteristics and the physical and mechanical properties of metals, alloys, and nonmetallic materials. Basic concepts of micro and nano-fabrication as well as coating principles and processing techniques with regard to applications of nanostructures and nanomaterials will be emphasized. Students will investigate manufacturing measurements using mechanical, electronic, optical, microscopic, and interferometric methods. In addition to the general education core curriculum, students must complete a set of required technical core classes and 16 credit hours in this concentration.

## About the Solar Technology Concentration

In the Solar Technology Concentration, students will learn about alternative and sustainable energy sources, with a focus on technologies and methods related to solar technology. Students will study photovoltaic (PV) principles and the use of photovoltaics in stand-alone and interconnected (grid-tied) electrical systems, including detailed site analysis, system sizing, component and installation recommendations, and economic analyses. Mechanical & electrical integration of PV systems, utility interconnection, commissioning, maintenance & troubleshooting PV systems will also be integrated into the curriculum. Students will also learn about the many aspects of architectural design and construction to create environmentally sustainable, energy efficient structures. In addition to the general education core curriculum, students must complete a set of required technical core classes and 16 credit hours in this concentration.

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A minimum of 66 credit hours with a minimum grade point average of 2.0. At least 15 of these 66 hours must be UNM-LA catalog credit courses taken in residence. Minimum grade of C (not C-) in each Technical Core course.

## General Education Requirements

### WRITING AND SPEAKING (9 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 119 or 219: Technical Communications (3)
- CJ 130: Public Speaking (3)

### MATHEMATICS (7 CREDIT HOURS)

- MATH 121: College Algebra (3)
- MATH 107: Problems in College Algebra (1)
- MATH 123: Trigonometry (3)

### PHYSICAL AND NATURAL SCIENCES (8 CREDIT HOURS)

- CHEM 111: Elements of General Chemistry (4)
- PHYC 102: Introduction to Physics (3)
- PHYC 102L: Physics Laboratory (1)

### SOCIAL AND BEHAVIORAL SCIENCES (3 CREDIT HOURS)

*Select from the following:*

- ANTH 130, ECON 105, ECON 106, POLS 200, PSY 105, SOC 101

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**TOTAL GENERAL EDUCATION REQUIREMENTS**

**27 CREDIT HOURS**

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## Technical Core Requirements

### TECHNICAL COURSES (39 CREDIT HOURS TOTAL)

*Technical courses common to all concentrations:*

- DRFT 103: Introduction to Drafting (3)
- DRFT 119: Blueprint Reading (3)
- ELCT 105L: Industrial Shop Practice (3)
- MCHT 101L: Basic Welding (4)
- CT 102: Introduction to Microcomputers on the PC (4)
- BSTC 113: Introduction to Project Management (1)
- MFGT 101: Introduction to Technology (1)

To complete the technical coursework, students will select from one of the following concentrations:

#### Electro-Mechanical Technology Concentration (20 credit hours)

- ELCT 101: DC Circuit Analysis (4)
- ELCT 102: AC Circuit Analysis (4)
- ELCT 103: Mechanical Systems (3)
- ELCT 137: Digital Electronics I (Combinational Logic) (3)
- ELCT 203: Electronic Devices (4)
- ELCT 204: Electronics Lab (2)

#### Manufacturing Technology Concentration (16 credit hours)

- MFGT 105: Manufacturing Materials and Processes (3)
- MFGT 105L: Manufacturing Materials and Processes Lab (1)
- MFGT 150: Introduction to Maintenance Concepts (3)
- MFGT 210: Metrology (3)
- MFGT 215: Mechanical Behavior of Materials (3)
- MFGT 217: Mechanical Design Processes (3)

#### Nanotechnology Concentration (16 credit hours)

- NANO 101: Introduction to Nanotechnology (3)
- NANO 105: Microscopy and Microstructures (3)
- NANO 130: Introduction to Nanomaterials and Coatings (3)
- NANO 130L: Micro and Nano Fabrication Lab (1)
- NANO 210: Nanomaterials (3)
- NANO 250: Manufacturing Measurements and Process Control (3)

**Solar Technology Concentration (16 credit hours)**

- SLRT 101: Introduction to Alternative Energy Technologies (3)
- SLRT 162: Photovoltaics I: Analysis (3)
- SLRT 163: Photovoltaics II: Equipment & Installation (3)
- SLRT 210: Solar Thermal Technology (3)
- SLRT 250: Green Architectural Design (4)

**Manufacturing, Nano and Solar Technology: Students in these three concentrations must take an addition 4 credit hours.**

*Choose courses from the following electives that are not included in your concentration's technical courses:*

- ELCT 162: Robotics (3)
- ELCT 163: Advanced Robotics (3)
- RADT 101: Radiation Training (1)
- AMST 182: Introduction to Environment, Science, and Technology (3)
- BIOL 110: Biology for Non Majors (3)
- BIOL 112L: Biology Laboratory for Non Majors (1)
- BIOL 201: Molecular and Cell Biology (4)
- CHEM 212: Integrated Organic Chemistry and Biochemistry (4)
- CT 111: Introduction to Computer Aided Drafting and Design (3)
- CT 119: Intermediate Computer Aided Drafting and Design (3)
- DRFT 220: Fundamentals of Geometric Dimensioning and Tolerancing (3)
- MATH 150: Pre-calculus Mathematics (3)
- MATH 162: Calculus I (4)
- MATH 163: Calculus II (4)
- ELCT 137: Digital Electronics I (Combinational Logic) (3)
- MCHT 120: GTAW Welding (3)

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**44 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**66 CREDIT HOURS**

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## ASSOCIATE OF APPLIED SCIENCE

**Business**

*The Associate of Applied Science in Business has two concentrations, one in Management and one in Marketing.*

**About the Program**

The Associate of Applied Science in Business has two concentrations, one in Management and one in Marketing. This program is designed for students preparing for a career in business. The broad based curriculum includes the use of microcomputers and their applications and focuses on the fundamentals of business, with the opportunity to focus on either management or marketing as a concentration.

**About the Management Concentration**

Building on the common core requirements of this degree, the students in the management concentration will focus on management issues, taking courses in management, human relations, business law, and management accounting.

**About the Marketing Concentration**

Building on the common core requirements of this degree, the students in the marketing concentration will focus on marketing issues, taking courses in marketing and digital media arts.

A minimum of 66 credit hours with a minimum grade point average of 2.0. At least 15 of these 66 hours must be UNM-LA catalog credit courses taken in residence.

**General Education Requirements****WRITING AND SPEAKING (12 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 120: Composition III (3)
- CJ 221: Interpersonal Communication (3)
- CJ 130: Public Speaking (3)

**MATHEMATICS/PHYSICAL AND NATURAL SCIENCES (7 CREDIT HOURS)**

- MATH 107: Problems in College Algebra (1)
- MATH 121: College Algebra (3)

*Note: No mathematics classes that are lower level than these courses may be counted toward the degree.*

*Select additional 3 hours from UNM Core Curriculum in these areas.*

## **FINE ARTS/HUMANITIES/SOCIAL AND BEHAVIORAL SCIENCES (9 CREDIT HOURS)**

- ECON 105: Introduction to Microeconomics (3)
- ECON 106: Introductory Microeconomics (3)

*Select additional 3 hours from UNM Core Curriculum in these areas.*

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## **TOTAL GENERAL EDUCATION REQUIREMENTS**

**28 CREDIT HOURS**

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## **Technical Core Requirements**

### **TECHNICAL COURSES (33 CREDIT HOURS)**

*(Note: Courses with an \* indicate that they are prerequisites for other required courses and should be taken as soon as possible.)*

#### **Technical Courses Common to Both Concentrations (20 credit hours):**

- MGMT 101\*: Fundamentals of Accounting I (3)
- MGMT 101L\*: Fundamentals of Accounting I Lab (1)
- MGMT 102\*: Fundamentals of Accounting II (3)
- MGMT 102L\*: Fundamentals of Accounting II Lab (1)
- MGMT 158: Ethics in Organizations (3)
- BSTC 203: Business Communication (3)
- CS 150\*: Computing for Business Students (3)

*and*

*Select 3 credits from the following:*

- BSTC 114: Customer Service and Relations (1)
- BSTC 115: Time Management (1)
- BSTC 116: Stress Management for the Workplace (1)
- BSTC 117: Organization Skills for the Workplace (1)
- BSTC 118: Conflict Resolution for the Workplace (1)

#### **Management Concentration (13 credit hours)**

- MGMT 113\*: Management: An Introduction (3)
- BSTC 113: Introduction to Project Management (1)
- BSTC 204: Human Relations in Business (3)
- BSTC 218: Business Law (3)
- BSTC 220: Management Accounting (3)

### Marketing Concentration (13 credit hours)

- MGMT 222: Introduction to Marketing (3)
- DMA 101\*: Introduction to Digital Imaging and Scanning (1)
- DMA 165: Introduction to Digital Media Arts (Photoshop) (3)
- DMA 203: Introduction to Desktop Publishing (3)
- CT 165: Introduction to Web Authoring (3)

### TECHNICAL ELECTIVES (5 CREDIT HOURS)

#### Management Concentration Technical Electives

Select 5 credit hours from:

- BSTC 111, BSTC 202, BSTC 212, BSTC 193, BSTC 293, BSTC 296, CT 165, CT 202, \*DMA 101, DMA 165, DMA 203, ECON 212, MGMT 105, MGMT 190, MGMT 222

A student may also select from any of the BSTC 114, 115, 116, 117, 118 courses that were not taken for credit requirements under # 5 above.

#### Marketing Concentration Technical Electives

Select 5 credit hours from:

- BSTC 111, BSTC 113, BSTC 193, BSTC 202, BSTC 204, BSTC 212, BSTC 218, BSTC 220, BSTC 293, CJ 110, DMA 166, DMA 175, DMA 250, ECON 212, BSTC 296, CT 202, \*MGMT 113, MGMT 105, MGMT 190.

A student may also select from any of the BSTC 114, 115, 116, 117, 118 courses that were not taken for credit requirements under # 5 above.

*In order to monitor degree content and insure a consistently high quality degree, students are discouraged from transferring too many credit hours from another institution towards the Technical Courses required for this degree. Please work with your advisor and/or the published Course Rotation Sequence for this degree to help you schedule the Technical Courses here at UNM-LA.*

*As is the nature of all technical or computer-related degrees, course content is susceptible to rapid change. In order to provide a quality degree that meets UNM and industry standards, our degrees are reviewed regularly for up-to-date content. All students officially enrolled in a degree will be notified if/when the degree substantially changes. In order to best prepare students for the current job market, students lingering in an outdated degree program will be encouraged to work towards the updated degree.*

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**38 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**66 CREDIT HOURS**

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ASSOCIATE OF APPLIED SCIENCE

# Environmental Technology

## About The Program

This program provides you with the education, certification, and experience to qualify for entry level technician jobs in a variety of environmental science specialties. You can specialize in biological, geological or chemical based environmental sampling and testing in this AAS degree. Through a strong partnership with regional employers you are provided with the opportunity to learn from professionals in the field, participate in internships, and develop a network of contacts. Our small class size and personalized attention builds a strong base for you to succeed in whatever specialty you choose. You will learn the relevant biology, environmental science, physics, and chemistry through both lectures and hands-on labs. The core environmental technology classes are primarily taught in the field with professionals using industry standard equipment. Through these classes you will not only gain the skills and knowledge necessary for a job in this field, but you will also gain the certifications that often pose a barrier to employment (such as HAZWOPR).

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A minimum of 63 credit hours with a C (not C-) grade or better in all courses and overall grade 2.5 or higher must be earned to complete the Associate of Applied Science degree in Environmental Technology. At least 15 of these 63 hours must be UNM-LA catalog credit courses taken in residence. It is strongly recommended that the student check the specific requirements for the career of interest or discuss their plans with an advisor to make the best choices among the optional courses below.

## General Education Requirements

### WRITING AND SPEAKING (6 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 219: Technical and Professional Writing (3)

### MATHEMATICS AND STATISTICS (6 CREDIT HOURS)

- MATH 121: College Algebra (or higher) (3)
- STAT 145: Introduction to Statistics (3)

## **HUMANITIES/SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

- ECON 203: Society and the Environment (3 credit hours)
- PHIL 156: Reasoning and Critical Thinking (3 credit hours)

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**TOTAL GENERAL EDUCATION REQUIREMENTS (NOT INCLUDING SCIENCE)**

**18 CREDIT HOURS**

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## **Technical Core Requirements**

### **PHYSICAL AND NATURAL SCIENCES (12 CREDIT HOURS)**

- CHEM 121: General Chemistry I (3)
- CHEM 123L: General Chemistry I Laboratory (1)
- ENVS 101: The Blue Planet (3)
- ENVS 102L: The Blue Planet Laboratory (1)
- BIOL 201L: Molecular and Cell Biology (4)

### **BUSINESS, TECHNOLOGY, AND SOCIAL AND BEHAVIORAL SCIENCE (5 CREDIT HOURS)**

- CT 104: Databases (1)
- BSTC 114: Customer Service and Relations OR BSTC 118: Conflict Resolution (1)
- GEOG 281: Introduction to Maps and Geospatial Information (3)

### **ENVIRONMENTAL TECHNOLOGY (17 CREDIT HOURS)**

- ENTC 281L: Maps and Geospatial Laboratory (1)
- ENTC 150: Environmental Policy (2)
- ENTC 201L: Field Methods I (4)
- ENTC 202L: Field Methods II (4)
- ENTC 204L: HAZWOPR Training (3)
- ENTC 296: Internship (3)

### **TECHNICAL ELECTIVES (11 CREDIT HOURS)**

*Selected from:*

- ENTC 196: Topics in Environmental Technology (1-3)
- ENTC 296: Internship (3)\*
- ENTC 203L: Fermentation and Bio-Production (4)
- BIOL 202L: Genetics (4)

- BIOL 203: Ecology and Evolution (3)
- BIOL 203L: Ecology and Evolution (1)
- BIOL 204: Plant and Animal Form and Function (3)
- BIOL 204L: Plant and Animal Form and Function (1)
- BIOL 239L: Microbiology for Health Science and Non-majors (4)
- CHEM 123: General Chemistry II (3)
- CHEM 124L: General Chemistry II Laboratory (1)
- CHEM 212: Integrated Organic Chemistry and Biochemistry (4)
- CHEM 253L: Quantitative Analysis (4)
- EPS 101: How the Earth Works – An Introduction to Geology (3)
- EPS 105L: Physical Geology Laboratory (1)
- EPS 201L: Earth History (4)
- EPS 203: Energy and the Environment (3)
- PHYC 102: Introduction to Physics or PHYC 151: General Physics or PHYC 160: General Physics (3)
- PHYC 102L: Physics Laboratory or PHYC 151L: General Physics Laboratory or PHYC 161L: General Physics Laboratory (1)
- PHYC 157: Problems in General Physics or PHYC 167: Problems in General Physics (1)
- PHYC 152: General Physics or PHYC 161: General Physics (3)
- PHYC 152L: General Physics Laboratory or PHYC 161L: General Physics Laboratory (1)
- PHYC 158: Problems in General Physics or PHYC 168: Problems in General Physics (1)
- PHYC 262: General Physics (3)
- PHYC 262L: General Physics Laboratory (1)
- PHYC 267: Problems in General Physics (1)

*\*ENTC 296 may be repeated for credit as an elective*

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**45 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**63 CREDIT HOURS**

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## ASSOCIATE OF APPLIED SCIENCE

**Fire Science****About the Program**

This program is designed to develop skills that will assist a student in gaining employment in various fire science and emergency medical services career fields. Graduates may expect to find employment opportunities with public fire departments, insurance companies, industrial firms, governmental agencies, educational organizations, ambulance services and fire protection manufacturing and research groups. This degree program will help enable persons currently employed in fire service to prepare themselves for advancement in their careers or begin a pathway to becoming an EMT. It will provide the student new to fire science and emergency medical services with the general education and technical training to succeed as a Fire Science professional. Program content is based on the national Fire and Emergency Services Higher Education (FESHE) curriculum. A concentration in EMS is available for those students who might wish to continue their education into paramedicine.

**About the Fire Science Concentration**

This concentration provides the student with more in-depth education in fire service careers. Students who wish to advance into management in the fire service will find this concentration helpful.

**About the Emergency Medical Services Concentration**

This concentration is designed to develop skills that will assist a student planning to eventually enter a paramedic Bachelor's degree program. Completion of this concentration will prepare a student to sit for the New Mexico EMT-Basic and EMT-I (Intermediate) licensing tests.

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A student must earn a minimum of 67 credit hours with a minimum grade point average of 2.5. At least 15 of these 67 credit hours must be UNM catalog credit courses taken in residence. The student must have a minimum of C (not C-) in each Technical Core course.

**General Education Requirements****WRITING AND SPEAKING (9 CREDIT HOURS)**

For Both Concentrations:

- ENGL 110: Accelerated Composition (3)

*or*

- ENGL 112: Composition II (3)

*or*

- ENGL 113: Enhanced Composition (3)

**For Fire Science Concentration:**

*Choose 6 credit hours from:*

- ENGL 120: Composition III (3)
- ENGL 119: Technical Communications (3)
- or*
- ENGL 219: Technical and Professional Writing (3)
- ENGL 290: Introduction to Professional Writing (3)
- or*
- ENGL 220: Expository Writing (3)
- CJ 101: Introduction of Communication (3)
- or*
- CJ 130: Public Speaking

**For Emergency Medical Services Concentration:**

Choose 6 credit hours from:

\*ENGL 120: Composition III (3)

\*ENGL 290: Introduction to Professional Writing (3)

*or*

- ENGL 220: Expository Writing (3)
- \*CJ 130: Public Speaking

*\*Required prerequisites for admission into the UNM Paramedic Bachelor program.*

**MATHEMATICS (3 CREDIT HOURS)**

**For Fire Science Concentration:**

- MATH 120: Intermediate Algebra (3)\* *or* (Math 101, 102, and 103: Intermediate Algebra I, II, III)
- or higher*

**For Emergency Medical Services Concentration:**

Math 121: College Algebra (3)

\*If you are planning to pursue a Bachelor's degree of any type, Math 121 or higher will be required.

**PHYSICAL AND NATURAL SCIENCES (4 CREDIT HOURS)**

**For Fire Science Concentration:**

*Select from the following:*

- CHEM 111: Elements of General Chemistry (4)
- CHEM 121: General Chemistry I (3)
- and*
- CHEM 123L: General Chemistry I Lab (1)
- BIOL 123: Biology for Health Related Sciences and Non-Majors (3)
- and*
- BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)
- EPS 101: How the Earth Works—An Introduction to Geology (3)
- and*
- EPS 105L: Physical Geology Lab (1)

**For Emergency Medical Services Concentration:**

*Select from the following:*

- \*CHEM 121: General Chemistry I (3)  
*and*
- \*CHEM 123L: General Chemistry I Lab (1)
- \*BIOL 123: Biology for Health Related Sciences and Non-Majors (3)  
*and*
- \*BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)

*\*Required prerequisites for admission into the UNM Paramedic Bachelor program.*

**SOCIAL AND BEHAVIORAL SCIENCES (3 CREDIT HOURS)**

**For Both Concentrations**

*Select from the following:*

- SOC 101: Introduction to Sociology (3)
- PSY 105: General Psychology (3)

**PHYSICAL EDUCATION (2 CREDIT HOURS)**

**For Both Concentrations**

- PENP 193: Topics: Physical Fitness (2)

**COMPUTER SCIENCE (3 CREDIT HOURS)**

**For Both Concentrations**

- CS 150L: Computing for Business Students (3)  
*or*
- CT 102: Introduction to Microcomputers on the PC (4)

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**TOTAL GENERAL EDUCATION REQUIREMENTS**

**24 CREDIT HOURS**

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**TECHNICAL CORE REQUIREMENTS**

**(36-37 CREDIT HOURS)**

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**Technical Courses Common to both concentrations (18 credit hours)**

- FISC 101: Principles of Emergency Services (3)
- FISC 102: Fire Prevention (3)
- FISC 105: Principles of Fire and Emergency Services Safety & Survival (3)
- FISC 106: Fire Behavior and Combustion (3)
- FISC 201: Fire Protection Systems (3)
- FISC 212: Building Construction for Fire Prevention (3)

**Additional Technical courses for Fire Science Concentration (18 Credit Hours)**

- FISC 103: Hazardous Materials (3)
- FISC 104: Wildland Firefighting (3)

- FISC 202: Fire Administration I (3)
- FISC 210: Incident Safety Officer (3)
- FISC 220: Fire Protection Hydraulics and Water Supply (3)
- FISC 225: Strategy and Tactics (3)

**Additional Technical courses for Emergency Medical Services Concentration (19 Credit Hours)**

- EMS 113: EMT-Basic (8)
- EMS 142: EMT-Basic Lab (2)
- EMS 180: EMT-Intermediate (5)
- EMS 143: EMT-Intermediate Lab (1)
- EMS 151: EMT-I Clinical and Field Experience (2)
- EMS 200: Medical Math (1)

**ELECTIVES (6 CREDIT HOURS)**

**For Fire Science Concentration:**

*Select 6 credit hours from the following:*

**Fire Science**

*Choose any FISC course not already completed as part of the required Technical Coursework*

**Emergency Medicine**

*Choose any EMS course \*Note: Students are encouraged to take EMS 113 and EMS 140 to increase chances of employment in the fire service*

**Humanities (not more than 3 credit hours)**

*Choose any UNM Core curriculum course*

**Social and Behavioral Sciences (not more than 3 credit hours)**

*Choose any UNM Core curriculum course*

**Physical and Natural Sciences**

*Choose any UNM Core curriculum course*

**Foreign Language (not more than 3 credit hours)**

*Choose any UNM Core curriculum course*

**For Emergency Medical Services Concentration:**

*Note If you plan to pursue a Bachelor's degree in Paramedicine, please contact the institution to which you wish to transfer to determine pre-admission requirements. Courses marked with \* must be completed before a student may be admitted into UNM's Bachelor of Science in Emergency Medical Services Program*

Select from the following 6 credit hours which have not already been used in the degree program:

**Humanities (no more than 3 credit hours)**

- PHIL 101: Introduction to Philosophical Problems (3)
- PHIL 245: Professional Ethics (3)

**Mathematics and Statistics**

- STAT 145: Introduction to Statistics (3)

**Social and Behavioral Sciences (no more than 3 credit hours)**

- ANTH 101: Introductory Anthropology
- or*
- SOC 101: Introductory Sociology

**Physical and Natural Sciences**

Choose any course not already used in your degree program:

- \*CHEM 121: General Chemistry I (3)
- and*
- \*CHEM 123L: General Chemistry I Lab (1)
- \*BIOL 123: Biology for Health Related Sciences and Non-Majors (3)
- and*
- \*BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)
- \*BIOL 237: Human Anatomy & Physiology I for Health Sciences (3)
- and*
- \*BIOL 247L: Human Anatomy and Physiology Lab I (1)
- \*BIOL 238: Human Anatomy & Physiology II for Health Sciences (3)
- and*
- \*BIOL 248L: Human Anatomy and Physiology Lab II (1)

*\*Note: Required prerequisites for UNM EMS Bachelor Degree program.*

**Foreign Language (not more than 3 credit hours)**

Choose any UNM Core curriculum course

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**TOTAL TECHNICAL CORE REQUIREMENTS** **42-43 CREDIT HOURS**

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**TOTAL CREDIT HOURS** **66-67 CREDIT HOURS**

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ASSOCIATE OF APPLIED SCIENCE

# General Studies

## About the Program

The Associate of Applied Science in General Studies is designed to provide students with the opportunity to develop programs of study not available through other UNM-Los Alamos programs. A student's program may reflect either specialized or broad patterns of educational experience. Most general education courses will articulate to four-year college programs. Note: Students planning to pursue a particular baccalaureate degree should familiarize themselves with the requirements of the transfer institution and select courses accordingly.

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A minimum of 63 credit hours with a minimum grade point average of 2.0. At least 15 of these 63 hours must be UNM-LA catalog credit courses taken in residence.

## General Education Requirements

### WRITING AND SPEAKING (9 CREDIT HOURS)

*Select from the following:*

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 120: Composition III (3)
- ENGL 119: Technical Communications (3)  
*or*
- ENGL 219: Technical Writing (3)
- Communication & Journalism Elective (3)

### MATHEMATICS AND STATISTICS/NATURAL AND PHYSICAL SCIENCES (10 CREDIT HOURS)

*Students must complete three courses, one of which must include a lab. Students are encouraged to select from UNM Core Curriculum in Physical/Natural Sciences or Mathematics.*

### SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)

*Students are encouraged to select from UNM Core Curriculum in Social and Behavioral Sciences.*

**HUMANITIES (6 CREDIT HOURS)**

*Students are encouraged to select from UNM Core Curriculum in Humanities.*

**FOREIGN LANGUAGE (3 CREDIT HOURS)**

*Select any UNM Core Curriculum course.*

**FINE ARTS (3 CREDIT HOURS)**

*Select any of the core curriculum choices or a studio art course.*

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**TOTAL GENERAL EDUCATION REQUIREMENTS**

**37 CREDIT HOURS**

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**Technical Core Requirements**

**COMPUTER SCIENCE/COMPUTER TECHNOLOGY/INFORMATION TECHNOLOGY (3 CREDIT HOURS)**

*Select any course in this area.*

**GENERAL EDUCATION ELECTIVES (23 CREDIT HOURS)**

*Students must complete 23 credit hours of electives numbered 101 or higher, except MATH 118.*

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**26 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**63 CREDIT HOURS**

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ASSOCIATE OF APPLIED SCIENCE

# Information Technology with Cybersecurity

## About the Program

This program is designed to develop skills that will assist a student in gaining entry level employment in an information technology field such as computer security technician, technical support, and network administration.

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A minimum of 64 credit hours with a minimum cumulative grade point average of 2.5. At least 15 of these 64 credit hours must be credit courses taken at a UNM campus. Information technology with cybersecurity emphasis component courses must be completed with a minimum grade of C or better. All other courses below used for this degree must be completed with a grade of C- or better.

## General Education Requirements

### WRITING AND SPEAKING (9 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 119: Technical Communications (3) (ENGL 219 can substitute)
- CJ 130: Public Speaking (3)

### NATURAL AND PHYSICAL SCIENCES (4 CREDIT HOURS)

- PHYC 102 and 102L: Introduction to Physics and Physics Laboratory
- (PHYC 160 and 160L can substitute)

### MATHEMATICS (3 CREDIT HOURS)

- MATH 150: Precalculus Mathematics (3)
- (MATH 162 can substitute)

**FINE ARTS, FOREIGN LANGUAGE, HUMANITIES AND SOCIAL AND BEHAVIORAL SCIENCES (3 CREDIT HOURS)**

*Students should select any applicable course from UNM Core Curriculum not applied elsewhere for this degree.*

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**TOTAL GENERAL EDUCATION REQUIREMENTS**

**19 CREDIT HOURS**

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**TECHNICAL CORE REQUIREMENTS**

**(45 CREDIT HOURS)**

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- CS 101: Introduction to Computing Science (4)
- CS 152L: Computer Programming Fundamentals (3)
- CS 220: Systems Analysis and Design (3)
- CS 261: Mathematical Foundations of Computer Science (3)
- CS 293: Social and Ethical Computing (1)
- IT 119: Networking Core Concepts (3)
- IT 130: Microcomputer Operating systems (3)
- IT 141: Technical Support (3)
- IT 231: Systems Administration (3)
- IT 250: Web Fundamentals (3)
- IT 260: Information Assurance and Security (3)
- IT 262: Scripting for Network Defense (3)
- IT 265: Computer Forensics and Incident Response (3)
- IT 271: Databases and Information Management (4)
- IT elective (subject to departmental approval)

*Choose 1 from*

- IT 109: Information Technology Cooperative Education (3)
- IT 293: IT Special Topics (3)
- CS 241L: Data Organization (3)

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**TOTAL TECHNICAL CORE REQUIREMENTS**

**45 CREDIT HOURS**

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**TOTAL CREDIT HOURS**

**64 CREDIT HOURS**

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ASSOCIATE OF APPLIED SCIENCE

# Office Communications and Technology

## About the Program

The Associate of Applied Science Degree in Office Communications and Technology covers the skills required for effective administrative support. The program is designed for students seeking positions as administrative assistants, office assistants, and secretaries in technical/scientific government or private business office environments.

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A minimum of 64 credit hours with a minimum grade average of 2.0. At least 15 of these 64 hours must be UNM–Los Alamos catalog credit courses.

## General Education Requirements

### WRITING AND SPEAKING (12 CREDIT HOURS)

- ENGL 110: Accelerated Composition (3)

*or*

- ENGL 112: Composition II (3)

*or*

- ENGL 113: Enhanced Composition (3)

- ENGL 120: Composition III (3)

- ENGL 219: Technical and Professional Writing (3)

*or*

- ENGL 240: Traditional Grammar (3)

*Communication Skills (3 credit hours)*

- BSTC 203: Business Communications (3)

### MATHEMATICS AND STATISTICS (4 CREDIT HOURS)

- MATH 106: Problems in Intermediate Algebra (1)

*and*

- MATH 120: Intermediate Algebra (3)

## **SOCIAL/BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

*Choose 6 credit hours from the following:*

- PSY 105: General Psychology (3)
- SOC 101: Introduction to Sociology (3)
- ECON 105: Introduction to Macroeconomics (3)
- ECON 106: Introduction to Microeconomics (3)

## **FINE ARTS/HUMANITIES/LANGUAGE (4 CREDIT HOURS)**

*It is recommended to choose any course from the current UNM Fine Arts, Humanities, or Language Core Curriculum (3-4). It is strongly advised that students enroll in one of the following Spanish courses, depending on previous Spanish language experience:*

- SPAN 101: Elementary Spanish (3)  
*and*
- SPAN 103L: Elementary Spanish Conversation (1)  
*or*
- SPAN 102: Elementary Spanish (3) (2nd half)  
*and*
- SPAN 104L: Elementary Spanish Conversation II (1)

**TOTAL GENERAL EDUCATION REQUIREMENTS      26 CREDIT HOURS**

## **Technical Core Requirements**

### **BUSINESS TECHNOLOGY (16 CREDIT HOURS)**

- MGMT 101: Fundamentals of Accounting I (3)
- MGMT 101L: Fundamentals of Accounting I Lab (1)
- MGMT 113: Management: An Introduction (3)
- MGMT 158: Ethics in Organizations (3)
- BSTC 202: Microcomputer Accounting (3)
- Select 3 credit hours from the following:
- BSTC 113: Project Management (1)
- BSTC 114: Customer Service & Relations (1)
- BSTC 115: Time Management for Professionals (1)
- BSTC 116: Stress Management for the Workplace (1)
- BSTC 117: Organization Skills for the Workplace (1)
- BSTC 118: Conflict Resolution for the Workplace (1)

**COMPUTER TECHNOLOGY OR INFORMATION TECHNOLOGY (14 CREDIT HOURS)**

- CT 102: Introduction to Microcomputers on the PC (4)
- CT 106L: Microsoft WORD (3)
- CT 140: Introduction to PowerPoint (1)
- CT 202: Applications of Spreadsheets: EXCEL (3)
- CT 203: Introduction to Desktop Publishing (3)

**TECHNICAL ELECTIVES (8 CREDIT HOURS)**

*Choose 8 credit hours from the following:*

- BSTC 113, BSTC 114, BSTC 115, BSTC 116, BSTC 117, BSTC 118, BSTC 193, BSTC 204, BSTC 293, BSTC 296, MGMT 105, MGMT 190, CJ 225.

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**TOTAL TECHNICAL CORE REQUIREMENTS** **38 CREDIT HOURS**

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**TOTAL CREDIT HOURS** **64 CREDIT HOURS**

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## ASSOCIATE OF APPLIED SCIENCE

**Robotics****About the Program**

This program is designed to develop skills that will assist students in gaining employment in various robotics career fields. Graduates may expect to find employment opportunities with manufacturing and industrial firms, government agencies, medical facilities, educational organizations, emergency responding agencies, security and surveillance firms, and research & development groups. This degree program will enable students to become employable with a secure future in 21st century advanced technology jobs. This degree program will provide students with the general education and technical training to succeed as robotics professionals. Program content is based on industrial robotics certification modules through FANUC Robotics, the world's largest manufacturer of robotic equipment and software.

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A minimum of 66 credit hours with a minimum grade point average of 2.5. At least 15 of these 66 hours must be UNM catalog credit courses. A minimum grade of C (not C-) in each technical core course is required.

**General Education Requirements****WRITING AND SPEAKING (9 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- CJ 130: Public Speaking (3)
- ENGL 119: Technical Communications (3)  
*or*
- ENGL 219: Technical and Professional Writing (3)  
*or*
- ENGL 120: Composition III (3)

### **MATHEMATICS (7 CREDIT HOURS)**

- MATH 121: College Algebra (3)  
*and*
- MATH 107: Problems in College Algebra (1)
- MATH 123: Trigonometry (3)  
*OR higher*

### **PHYSICAL AND NATURAL SCIENCES (8 CREDIT HOURS)**

- CHEM 111L: Elements of General Chemistry (4)  
*OR higher*
- PHYC 102: Introduction to Physics (3)  
*and*
- PHYC 102L: Physics Laboratory (1)  
*OR higher*

### **SOCIAL AND BEHAVIORAL SCIENCES (3 CREDIT HOURS)**

*Select from UNM Core Curriculum in Social and Behavioral Sciences.*

**TOTAL GENERAL EDUCATION REQUIREMENTS      27 CREDIT HOURS**

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### **TECHNICAL CORE COURSES (39 CREDIT HOURS)**

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- ELCT 162: Robotics (3)
- ELCT 163: Advanced Robotics (3)
- ROBO 201: Industrial Robotics Operations (3)
- ROBO 202: Advanced Industrial Robotics (3)
- ROBO 204: Programmable Logic Controllers (3)
- ROBO 290: Robotics Synthesis (3)
- ELCT 105L: Industrial Shop Practice (3)
- MCHT 101L: Basic Welding (4)
- CS 151L: Computer Programming Fundamentals for Non-Majors (MATLAB) (3)
- CT 111: Introduction to Computer Aided Drafting and Design (3)



**TECHNICAL ELECTIVES (8 CREDIT HOURS)**

*Select from the following:*

- ROBO 293: Topics (1–3)
- DRFT 103: Introduction to Drafting (3)
- DRFT 119: Blueprint Reading (3)
- CT 119: Intermediate Computer Aided Drafting and Design (3)
- ELCT 101: DC Circuit Analysis (4)
- ELCT 102: AC Circuit Analysis (4)
- ELCT 103: Mechanical Systems (3)
- ELCT 205: Mechatronics (4)
- ELCT 264: Advanced Robotics II (3)
- BSTC 113: Introduction to Project Management (1)
- MFGT 101: Introduction to Technology (1)

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**TOTAL TECHNICAL CORE REQUIREMENTS****39 CREDIT HOURS**

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**TOTAL CREDIT HOURS****66 CREDIT HOURS**

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# Academic Certificates

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## CERTIFICATE

**Accounting**

This certificate represents completion of a course of studies related to the field of Accounting. It may be used as a terminal certificate with subsequent entrance into the work force, or it may form the basis for additional course work leading to an associate's degree in other fields.

A minimum cumulative grade point average of 2.0 is required in all courses.

**TECHNICAL COURSES (30 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- MATH 107: Problems in College Algebra (1)
- MATH 121: College Algebra (3)
- MGMT 101: Fundamentals of Accounting I (3)
- MGMT 101L: Fundamentals of Accounting I Lab (1)
- MGMT 102: Fundamentals of Accounting II (3)
- MGMT 102L: Fundamentals of Accounting II Lab (1)
- MGMT 113: Management: An Introduction (3)
- BSTC 202: Microcomputer Accounting (3)
- BSTC 212: Introduction to Income Tax (3)
- CS 150: Computing for Business Students (3)
- CT 202: Applications of Spreadsheets (3)

**TECHNICAL ELECTIVE (6 CREDIT HOURS)**

*Choose from the following courses:*

- BSTC 203: Business Communication (3)
- BSTC 204: Human Relations in Business (3)
- BSTC 213: Auditing (3)
- BSTC 214: Government/Not for Profit Accounting (3)
- BSTC 296: Business Cooperative Work Phase I, II, or III (3)

- ❑ BSTC 193: Topics (1-4)
- ❑ BSTC 293: Topics (1-4)
- ❑ MGMT 105: Management Coop (3)
- ❑ MGMT 158: Ethics in Organizations (3)
- ❑ MGMT 190: Special Topics in Management (3)

*(Note that various topics courses will be offered and students may receive credit for taking multiple topics courses)*

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**TOTAL CREDIT HOURS**

**36 CREDIT HOURS**

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## CERTIFICATE

**Business***Concentrations in Management or Marketing*

This certificate represents completion of a course of studies related to the field of Business, with a concentration in either Management or Marketing. It may be used as a terminal certificate with subsequent entrance into the work force, or it may form the basis for additional course work leading to an associate's degree.

*Select a Certificate with a concentration in either Management or Marketing.*

**Management Concentration**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- BSTC 203: Business Communication (3)
- BSTC 204: Human Relations in Business (3)
- ECON 106: Introduction to Microeconomics (3)
- CJ 130: Public Speaking (3)
- MGMT 101: Fundamentals of Accounting I (3)
- MGMT 101L: Fundamentals of Accounting I Lab (1)
- MGMT 102: Fundamentals of Accounting II (3)
- MGMT 102L: Fundamentals of Accounting II Lab (1)
- MGMT 113: Management: An Introduction (3)
- BSTC 220: Management Accounting (3)
- CS 150: Computing for Business Students (3)

*Select 3 credits from the following:*

- BSTC 113: Introduction to Project Management (1)
- BSTC 114: Customer Service and Relations (1)
- BSTC 115: Time Management (1)
- BSTC 116: Stress Management for the Workplace (1)
- BSTC 117: Organization Skills for the Workplace (1)
- BSTC 118: Conflict Resolution for the Workplace (1)

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**TOTAL REQUIREMENTS****35 CREDIT HOURS**

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## Marketing Concentration

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- BSTC 203: Business Communication (3)
- ECON 106: Introduction to Microeconomics (3)
- CJ 130: Public Speaking (3)
- MGMT 222: Introduction to Marketing (3)
- DMA 101: Introduction to Digital Imaging and Scanning (1)
- DMA 165: Introduction to Digital Media Arts (Photoshop) (3)
- DMA 203: Introduction to Desktop Publishing (3)
- MGMT 101: Fundamentals of Accounting I (3)
- MGMT 101L: Fundamentals of Accounting I Lab (1)
- CS 150: Computing for Business Students (3)
- CT 165: Introduction to Web Authoring (3)

*Select 3 credits from the following:*

- BSTC 113: Introduction to Project Management (1)
- BSTC 114: Customer Service and Relations (1)
- BSTC 115: Time Management (1)
- BSTC 116: Stress Management for the Workplace (1)
- BSTC 117: Organization Skills for the Workplace (1)
- BSTC 118: Conflict Resolution for the Workplace (1)

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**TOTAL REQUIREMENTS**

**35 CREDIT HOURS**

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## CERTIFICATE

# Electro Mechanical Technology

This certificate represents completion of a course of studies related to the field of Electro Mechanical Technology. It may be used as a terminal certificate with subsequent entrance into the work force, or it may form the basis for additional course work leading to an associate degree in this or another field.

**Required Courses:**

- CHEM 111L: Elements of Chemistry (4)
- CT 111: Introduction to Computer Aided Drafting and Design (3)
- DRFT 103 [101L]: Introduction to Drafting (3)
- DRFT 119: Drafting & Blueprint Reading (3)
- ELCT 101: DC Circuit Analysis (4)
- ELCT 102: AC Circuit Analysis (4)
- ELCT 105L: Electromechanical Shop Practice (3)
- ELCT 112L: RF/Power Lab (1)
- ELCT 114: Vacuum Systems (1)
- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- MATH 107: Problems in College Algebra (1)
- MATH 121: College Algebra (3)
- MATH 123: Trigonometry (3)
- PHYC 102: Introduction to Physics (3)
- PHYC 102L: Physics Laboratory (1)

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**TOTAL CREDIT HOURS****40 CREDIT HOURS**

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## CERTIFICATE

# Early Childhood Multicultural Education

The Certificate in Early Childhood Multicultural Education is designed as a basic professional preparation program for students who wish to work with children from birth through age eight in various inclusive settings such as K-3, Head Start, child care, and home care providers, teachers, assistants, and administrators. This competency based program will provide education in the theories and practices of child development and early childhood education. As part of the certificate, students will complete the academic requirements for the Child Development Associate (CDA) credential. All courses completed in this program are fully transferable into the Associate of Arts Degree program.

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A minimum cumulative grade point average of 2.0 is required in all courses.

**Required Courses:**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ECME 101: Child Growth, Development and Learning (3)
- ECME 103: Health, Safety and Nutrition (2)
- ECME 111: Family and Community Collaboration I (3)
- ECME 115: Guiding Young Children (3)
- ECME 117: Curriculum Development and Implementation I (3)
- ECME 117L: Curriculum Development and Implementation Practicum I (2)
- ECME 202: Introduction to Reading and Literacy Development (3)
- ECME 217: Curriculum Development and Implementation II (3)
- ECME 217L: Curriculum Development and Implementation Practicum II (2)
- ECME 220: Assessment of Children and Evaluation of Program (3)
- ECME 230: Professionalism (2)

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**TOTAL CREDIT HOURS****32 CREDIT HOURS**

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## CERTIFICATE

**Pre-Professional Health Sciences**

This certificate is designed as a core program for students who plan to major in a health science. It represents completion of a course of studies that form basis for additional course work leading to an associate degree in nursing (RN) or in other health sciences fields.

**35 total credit hours with minimum C (not C-) grade or better in all courses and overall grade 2.5 or higher.**

**WRITING AND SPEAKING (3 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)

**PHYSICAL/NATURAL SCIENCES (20 CREDIT HOURS)**

- BIOL 123: Biology for Health Related Sciences and Non-Majors (3)
- BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)
- CHEM 111L: Elements of General Chemistry (4)
- BIOL 227L: Human Anatomy and Physiology Laboratory I (1)
- BIOL 228L: Human Anatomy and Physiology Laboratory II (1)
- BIOL 237: Human Anatomy and Physiology I for the Health Sciences (3)
- BIOL 238: Human Anatomy and Physiology II for the Health Sciences (3)
- BIOL 239L: Microbiology for Health Sciences and Non-Majors (4)

**MATHEMATICS (3 CREDIT HOURS)**

- MATH 120: Intermediate Algebra (3) *or* (MATH 101, 102, and 103: Intermediate Algebra I, II, III)

**SOCIAL AND BEHAVIORAL SCIENCES (6 CREDIT HOURS)**

- PSY 105: General Psychology (3)
- PSY 220: Developmental Psychology (3)

**NUTRITION (3 CREDIT HOURS)**

- NUTR 244: Human Nutrition (3)

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**TOTAL CREDIT HOURS**

**35 CREDIT HOURS**

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## CERTIFICATE

# Office Communications and Technology

The Certificate in Office Communications and Technology covers the skills required for effective administrative support. The program is designed for students seeking positions as administrative assistants, office assistants, and secretaries in technical/scientific government or private business office environments.

A minimum cumulative grade point average of 2.0 is required in all courses.

**REQUIRED COURSES (33 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- ENGL 219: Technical and Professional Writing (3)
- BSTC 202: Microcomputer Accounting (3)
- BSTC 203: Business Communications (3)
- MGMT 101: Fundamentals of Accounting I (3)
- MGMT 101L: Fundamentals of Accounting I Lab (1)
- MGMT 113: Management: An Introduction(3)
- CT 102: Introduction to Microcomputers on the PC (4)
- CT 106L: Microsoft WORD (3)
- CT 140: Introduction to PowerPoint (1)
- CT 202: Applications of Spreadsheets: EXCEL (3)

*Choose 3 credit hours from the following:*

- BSTC 113: Project Management (1)
- BSTC 114: Customer Service & Relations (1)
- BSTC 115: Time Management for Professionals (1)
- BSTC 116: Stress Management for the Workplace (1)
- BSTC 117: Organization Skills for the Workplace (1)
- BSTC 118: Conflict Resolution for the Workplace (1)

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**TOTAL CREDIT HOURS****33 CREDIT HOURS**

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## CERTIFICATE

# Pre-Professional Elementary Education

**About the Program**

This Certificate is designed to meet Level III/Paraprofessional licensure for educational assistants. It is the student's responsibility to contact his/her education advisor before registering for courses in the Certificate program:

**WRITING AND SPEAKING (6 CREDIT HOURS)**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)  
*and*
- CJ 220: Communication for Teachers (3)  
*or*
- CJ 130: Public Speaking (3)

**FINE ARTS (3 CREDIT HOURS)**

*Choose 1 course from:*

- ARTE 214: Art in Elementary and Special Classrooms I (3)
- MUSE 298: Music for the Elementary Teacher (3)
- ARTH 101: Introduction to Art (3)
- ARTH 201: History of Art I (3)
- ARTH 202: History of Art II (3)
- ARTH 251: Artistic Traditions of the Southwest (3)
- MUS 139: Music Appreciation (3)
- MUS 172: Jazz History (3)
- THEA 122: Theatre Appreciation (3)
- DANC 105: Dance Appreciation (3)

**HISTORY (3 CREDIT HOURS)**

*Choose 1 course from:*

- HIST 101: Western Civilization to 1648 (3)

- ❑ HIST 102: Western Civilization Post 1648 (3)
- ❑ HIST 161: History of the United States to 1877 (3)
- ❑ HIST 162: History of the United States Post 1877 (3)

**PHYSICAL AND NATURAL SCIENCE (4 CREDIT HOURS)**

- ❑ NTSC 261L: Physical Science (4)  
*or*
- ❑ BIOL 110: Biology for Non-Majors (3) And BIOL 112L: Biology Lab for Non-Majors (1)  
*or*
- ❑ BIOL 123: Biology for Health Related Sciences and Non-Majors (3)  
*and*
- ❑ BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab (1)  
*or*
- ❑ CHEM 111L: Elements of General Chemistry including Lab (4)

**MATH (3 CREDIT HOURS)**

- ❑ MATH 111: Mathematics for Elementary/Middle School Teachers I (3)  
*or*
- ❑ Math 121: College Algebra (3)

**BEHAVIORAL & SOCIAL SCIENCES (3 CREDIT HOURS)**

*Select from:*

- ❑ ANTH 101, ANTH 130, ECON 105, ECON 106, GEOG 102, POLS 110, POLS 200, PSY 105 (highly recommended), SOC 101.

**FOREIGN LANGUAGE (3 CREDIT HOURS)**

- ❑ SPAN 101 highly recommended.

**COMPUTER TECHNOLOGY (4 CREDIT HOURS)**

- ❑ CT102: Introduction to Microcomputers on the PC (4)

**EDUCATION REQUIREMENTS (3 CREDITS)**

- ❑ LLSS 183: Introduction to Education in New Mexico (3)

*Introductory Studies courses do not count toward fulfilling the requirements of this certificate*

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**TOTAL CREDIT HOURS**

**32 CREDIT HOURS**

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## CERTIFICATE

# Solar Technology

The intent of this program is to provide students with a set of skills and knowledge in the area of solar technology. Students will learn basic principles of photovoltaic (PV) systems, mechanical & electrical integration of PV systems, utility interconnection, commissioning, maintenance & troubleshooting PV systems. The curriculum will also include aspects of architectural design and construction to create environmentally sustainable and energy efficient structures. This certificate may be used as a terminal certificate with subsequent entrance into the workforce, or it may form the basis for additional course work leading to an associate degree in this field.

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A minimum grade of “C” (not C-) or better is required in each Technical Course.

**TECHNICAL COURSES:**

- ENGL 110: Accelerated Composition (3)  
*or*
- ENGL 112: Composition II (3)  
*or*
- ENGL 113: Enhanced Composition (3)
- MATH 107: Problems in College Algebra (1)
- MATH 121: College Algebra (3)
- MATH 123: Trigonometry (3)
- PHYC 102: Introduction to Physics (3)
- PHYC 102L: Physics Laboratory (1)
- ELCT 105: Industrial Shop Practice (3)
- DRFT 103: Introduction to Drafting (3)
- DRFT 119: Blueprint Reading (3)
- CT 111: Introduction to Computer Aided Drafting and Design (3)
- SLRT 101: Introduction to Alternative Energy Technologies (3)
- SLRT 162: Photovoltaics I: Analysis (3)
- SLRT 163: Photovoltaics II: Equipment & Installation (3)
- SLRT 250: Green Architectural Design (4)

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**TOTAL CREDIT HOURS****39 CREDIT HOURS**

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## CERTIFICATE

**Studio Art**

The Studio Art Certificate program enables students to concentrate on specific areas of study within this field. Students are required to take both academic and studio art classes to fulfill the certificate requirements. Like the Associate of Arts in Studio Art, courses and course sequences are designed to encourage the student's power of observation and aesthetic awareness. Simultaneously students are taught technique and craft to use these powers creatively.

**REQUIRED COURSES (25 CREDIT HOURS)**

- ARTH 201: History of Art I (3)
- ARTH 202: History of Art II (3)
- ARTH 250: Modern Art (3)
- ARTS 106: Drawing I (3)
- ARTS 121: Two-dimensional Design (3)
- ARTS 122: Three-dimensional Design (3)
- ARTS 298: Topics: Portfolio Preparation and Presentation (1)
- ENGL 110: Accelerated Composition (3)
- or*
- ENGL 112: Composition II (3)
- or*
- ENGL 113: Enhanced Composition (3)
- HIST 101: Western Civilization (3)

**ART STUDIO APPROVED ELECTIVES (11 CREDIT HOURS)**

*Select from:*

- ARTS 123: Shop Foundations (2)
- ARTS 157: Small Scale Metal Construction I (3 to a max of 6)
- ARTS 168: Introduction to Ceramics (3)
- ARTS 187: Introduction to Photography (3)
- ARTS 205: Drawing II (3)
- ARTS 207: Painting I (3)
- ARTS 213: Sculpture I (3)

- ❑ ARTS 216: Raku — A Ceramic Low-firing Reduction Process
- ❑ ARTS 257: Small Scale Metal Construction II (3 to a max of 6)
- ❑ ARTS 268: Ceramics: Materials and Aesthetics (3)
- ❑ ARTS 287: Black and White Photography (3)
- ❑ ARTS 288: Color Techniques in Photography (3)

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**TOTAL CREDIT HOURS**

**36 CREDIT HOURS**

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# Workforce Development

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UNM-LA provides a suite of support options for students heading into the local workforce. These options have been designed with the help and input of local and regional employers. For more information about any of these issues, please see your advisor. The following options are available:

- Employability Certificates
- Cooperative Education
- Internships
- Career/Technical Pathways
- Specialized Training Programs

## Employability Certificates

UNM-LA offers Employability Certificates that provide students the option to gain expertise in a focused, marketable skill set. These skill sets represent areas of employment where the Federal Department of Labor and New Mexico State Labor statistics project growing needs over the coming years.

### Office Administration

*(16 Credit Hours)*

The Office Administration Employability Certificate provides individuals with prior introductory computer use skills the additional skills required to facilitate a busy office. In particular, this individual will become experienced in spreadsheets, desktop publishing, customer service skills, and database management.

#### Core Requirements (13 Hours):

- CT 201: Applications of Relational Databases [ACCESS] (4)
- CT 202: Applications of Spreadsheets [EXCEL] (3)
- CT 203: Introduction to DeskTop Publishing [InDesign] (3)
- BSTC 203: Business Communication (3)

*Select 3 of the following:*

- BSTC 114: Customer Service and Relations (1)
- BSTC 115: Time Management (1)
- BSTC 116: Stress Management for the Workplace (1)
- BSTC 117: Organization Skills for the Workplace (1)
- BSTC 118: Conflict Resolution for the Workplace (1)

### Accounting

*(11 Credit Hours)*

The training program will consist of classes totaling 11 credit hours, which may be completed in two semesters. In the first semester, students would complete the first Fundamentals of Accounting class. In the second semester, they would complete the second Fundamentals of Accounting class as well as taking a course in Microcomputer Accounting that focuses on QuickBooks.

**Core Requirements (11 Hours):**

- ❑ MGMT 101: Fundamentals of Accounting I. (3)
- ❑ MGMT 101L: Fundamentals of Accounting I Lab. (1)
- ❑ MGMT 102: Fundamentals of Accounting II (3)
- ❑ MGMT 102L: Fundamentals of Accounting II Lab. (1)
- ❑ BSTC 202: Microcomputer Accounting (QuickBooks) (3)

**Management**

*(14 Credit Hours)*

The Management Employability Certificate provides individuals with prior business experience the additional skills required to manage a small business, including the finances and personnel. In particular, this individual will be exposed to customer service skills, accounting for small businesses, management skills, conflict resolution, and principals of business ownership.

**Core Requirements (14 Hours):**

- ❑ MGMT 101: Fundamentals of Accounting I (3)
- ❑ MGMT 101L: Fundamentals of Accounting I Lab (1)
- ❑ MGMT 113: Management: An Introduction (3)
- ❑ BSTC 118: Conflict Resolution for the Workplace (1)
- ❑ BSTC 204: Human Relations in Business (3)
- ❑ BSTC 206: Business Ownership and Marketing (3)



## Cooperative Education

Students at UNM-LA have the option of enrolling in Cooperative Education courses. Students in the third or fourth semester of their degree plan may earn academic credit in this capstone course while employed by a local area employer. Students will apply academic skills learned in their degree program to a real-world project in a workforce setting. Students work with two mentors, one from their place of employment and one from UNM-LA. As a team, the student completes a project in the workplace that is directly related to their degree and experiences many phases of project development including project design, timeline design, and product implementation. Cooperative Education courses include: IT 109. Students should visit an advisor for more information about Coop courses.

## Internships

Students at UNM-LA have opportunities to work in Internship positions. In an Internship position, the student is hired by a local area employer to work in an entry-level job in the field in which the student is studying. Students gain real-world experience related to the skills they are learning in the classroom. To learn more about the availability of internships in particular academic areas, students should visit either their advisor or the Department Chair or Program Coordinator in their curriculum area.

## Career/Technical Pathways

UNM-LA partners with selected area high schools (ex. Los Alamos High School) to assist high school students in selecting courses that prepare them for particular career and educational pathways at UNM-LA. Students at the high school will enroll in a course sequence there that allows them to transition directly into a particular technical degree program at UNM-LA. In many instances, courses may be taken at UNM-LA by the high school student for dual enrollment credit. At this time, Career/Technical Pathways are designed in computing, business, and engineering.

## Continuing Education Certificates

### Early Child Care Certificate

Our Early Child Care Certification course is based on the curriculum developed by the State of New Mexico Children, Youth and Families Department (CYFD) and prepares individuals to break into the Child Care Profession at an entry level. It is taught by a certified 45-hour Course Facilitator. It is offered periodically for credit under General Studies, or through Community Education. Visit your academic advisor for more information about this training.



# Course Descriptions

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A schedule of course offerings which includes hours of meeting and instructors will be issued before each semester and session. These classes are not offered every semester or session. Students should check individual semester/session published class schedules. Course descriptions for any new courses to be offered by UNM-Los Alamos that have not been included in this catalog will be provided in class schedules.

An equivalency articulation guide for other state institutions is available at the UNM-Los Alamos Registrar's Office. Please contact UNM-Los Alamos academic advisors for more information.

UNM-Los Alamos reserves the right to cancel any course subject to budgetary requirements, enrollment figures, or availability of instructors.

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## ACADEMICS (ACAD)

*Courses marked with an \* may be repeated for credit because subject matter varies.*

### ACAD 192\*: Topics. (1-3)

Titles will vary. CR/NC.

### ACAD 193\*: Topics. (1-3)

Titles will vary.

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## AFRICANA STUDIES (AFST)

### AFST 251: African-American Literature I. (3)

(Also offered as ENGL 281) The course introduces students to the African American classics of the slavery era. Daily experiences of the characters in these books become the basis for discussing race, class, gender, revolt, freedom, peace and humanity.

### AFST 255: Black and the Diaspora. (3)

(Also offered as WMST 255) This survey course reviews the contributions of Black women to the Black Diasporic story.

### AFST 280: African-American Culture. (3)

An analysis of the political, economic, religious and familial organization of African-American communities in the United States.

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## AMERICAN STUDIES (AMST)

*Courses marked with an \* may be repeated for credit because subject matter varies.*

### AMST 134: Creating a Sustainable Future: Introduction to Environmental, Social, and Economic Health. (3)

(Also offered as ANTH, SUST 134.) An introduction to creating a sustainable future that supports environmental health and restoration, social equity, and economic vitality. Examines challenges and examples of integrated, creative strategies on local, regional, national, and global levels.

### AMST 180: Introduction to American Studies. (3)

Introduces 19th and 20th century American culture. Demonstrates interdisciplinary approaches to American culture studies. Content varies by semester and topics include popular culture, comparative studies of race and ethnicity, nationalism and citizenship, critical regionalism.

**AMST 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. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.*

**AMST 183: Introduction to Gender Studies. (3)**

This course focuses on the interdisciplinary study of the construction of gender as a category. Readings will span cross-cultural and historical materials, including literary, artistic and popular representations of masculinity and femininity in America.

**AMST 184: Introduction to American Popular Culture. (3)**

Survey of basic concepts of popular culture and methods for its study. Source materials are drawn from diverse areas – television, film, fashion, comics, music and sports.

**AMST 185: Introduction to Race, Class & Ethnicity. (3)**

An interdisciplinary introduction to the issues of race, class and ethnicity in American life and society. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.*

**AMST 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. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Hum & Fine Arts.*

**AMST 200\*: Topics in American Studies. (3 to a maximum of 6)**

The content of this course varies by semester. Topics include: America in the 50s; America in the 60s and 70s; the American family power and culture; schooling in America.

**AMST 251: The Chicano Experience in the United States. (3)**

Investigation of the historical and social conditions that have shaped the development of Chicano life.

**AMST 252: The Native American Experience. (3)**

(Also offered as NATV 252) Introductory survey of Native American history, culture, and contemporary issues. Students read literature by and about Native Americans covering a variety of topics including tribal sovereignty, federal policy, activism, economic development, education, and community life.

**AMST 285: American Life and Thought. (3)**

Examination of the development of American cultural values and attitudes from the 17th to the early 20th centuries. Demonstrates the use of interdisciplinary modes of inquiry.

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## ANTHROPOLOGY (ANTH)

**ANTH 101: Introduction to Anthropology. (3)**

Surveys the breadth of anthropology, introducing students to archaeology, biological anthropology, ethnology, human evolutionary ecology and linguistics. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences NMCCN 1113)*

**ANTH 110: Language, Culture, and the Human Animal. (3)**

(Also offered as LING 101, ANTH 110 and LING 101 cannot both be counted for credit) Fundamentals of anthropological linguistics. The biological, structural, psychological, and social nature of language; implications for cross-cultural theory, research, and applications.

**ANTH 120: Archeological Method and Theory. (3)**

Introduction to archeological method and theory. Lectures cover basic concepts and strategy. Labs provide hands-on experience with methods of excavating archeological remains.

*Corequisite:* ANTH. 122L

**ANTH 122L: Archaeological Method and Theory Laboratory (1)**

Introduction to archaeological method and theory. Labs provide hands-on experience with methods of analyzing archaeological remains.

*Corequisite:* ANTH 120.

**ANTH 130: Cultures of the World. (3)**

Basic concepts and methods of cultural anthropology. Selected cultures, ranging from preliterate societies to aspects of urban civilization. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.*

**ANTH 134: Creating a Sustainable Future: Introduction to Environmental, Social, and Economic Health. (3)**

(Also offered as AMST, SUST 134) An introduction to creating a sustainable future that supports environmental health and restoration, social equity, and economic vitality. Examines challenges and examples of integrated, creative strategies on local, regional, national, and global levels.

**ANTH 150: Evolution and Human Emergence. (3)**

Fundamentals of biological anthropology and principles of organic evolution, in relation to the biology, ecology and behavior of primates and fossil humans. Biological anthropology concentrators are required, and others are encouraged, to enroll concurrently in ANTH 151L. *Meets New Mexico Lower-Division General Education Common Core Curriculum.*

**ANTH 151L: Human Evolution Laboratory. (1)**

The factual basis of human evolution, from the comparative study of living and fossil primates to interpretation of recent human fossils. Recommended, but not required, that this be taken concurrently with 150. Two hours lab.

**ANTH 160: Human Life Course. (3)**

Biology and behavior of the human life course, including the evolution of the life history patterns specific to humans and the impact of population growth and of adaptation to local conditions in promoting human diversity. Students are encouraged, but not required, to enroll concurrently in ANTH 161L.

**ANTH 161L: Computer Laboratory in Human Evolutionary Ecology. (1)**

Introduces the computer as a tool in biological and social science research, provides first-hand experience in data collection, analysis and modeling behavior. No prior computer experience required.

*Pre- or Corequisite:* ANTH 160.

**ANTH 220: World Archeology. (3)**

Surveys the archeological evidence for the development of human culture from the first stone tools in Africa to the rise of civilizations in both the Old and New Worlds.

**ANTH 238: Cultures of the Southwest. (3)**

Basic concepts of cultural anthropology, illustrated with overviews of social and cultural patterns of Southwest Indians and Hispanics. Interethnic relations of these with other American populations. {Offered periodically}

**ANTH 251: Forensic Anthropology. (3)**

This course is designed to introduce students to the forensic investigation of death. Emphasis will be on current methods and techniques and include the role of the anthropologist as an integral member of the investigation process.

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**ART HISTORY (ARTH)**

*The following courses, 101, 251, 201, 202 and 250, are strongly recommended to all students in the study of art history and related studio areas.*

**ARTH 101: Introduction to Art. (3)**

A beginning course in the fundamental concepts of the visual arts; the language of form and the media of artistic expression. Readings and slide lectures supplemented by museum exhibition attendance. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities & Fine Arts (NMCCN 1013.)*

**ARTH 201: History of Art I. (3)**

Prehistoric, Near Eastern, Egyptian, Greek, Roman, Early Christian, Byzantine, Romanesque, and Gothic Art. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities & Fine Arts (NMCCN 2113.)*

**ARTH 202: History of Art II. (3)**

Western Art from the Early Renaissance to Impressionism *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities & Fine Arts (NMCCN 2123.)*

**ARTH 250: Modern Art. (3)**

Major stylistic developments of European and American painting and sculpture from Impressionism to approximately World War II.

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**ART STUDIO (ARTS)**

*[\* May be taken twice for credit.]*

*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.*

**ARTS 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.

**ARTS 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.

**ARTS 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.

**ARTS 125: Art Practices I. (3)**

This is an interdisciplinary course, exploring the thematic concepts and diverse media that are central to the nature of art making today. Art Practices I will investigate issues of LIGHT, FRAME and MARK.

**ARTS 126: Art Practices II. (3)**

This is an interdisciplinary course, exploring the thematic concepts and diverse media that are central to the nature of art making today. Art Practices II will investigate issues of MOTIVE and CHANGE.

*Prerequisite: ARTS 125*

**ARTS 130: Introduction to Electronic Art. (3)**

Introduction to the computer as a medium and fine art tool. Course will explore history, theory and contemporary art issues associated with computer-based art practice, as well as introducing students to basic tools and technologies.

**ARTS 157: Small Scale Metal Construction I. (3 to a maximum of 6))**

Introduction to basic fabrication methods as they relate to object-making and small-scale sculpture.

**ARTS 168: Introduction to Ceramics. (3)**

Comprehensive introduction to the terms, concepts, historical, and technical information that support creative development. Includes hand building and throwing, basic clay bodies, slip and glaze, oxidation, reduction, and atmospheric firing.

**ARTS 187: Introduction to Photography. (3)**

This is a hands-on course introducing contemporary techniques, technologies, underlying concepts, and practitioners of fine art photography. ARTS 187 is a foundation course designed to prepare students for ARTS 188.

**ARTS 188: Visualizing Ideas Using Photography. (3)**

This course will help students use photography to develop their ideas conceptually. Students will work in both a traditional and an experimental manner with a variety of photographic process and technologies to advance the visual presentation of their ideas.

*Prerequisite:* ARTS 187.

**ARTS 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.

*Prerequisites:* ARTS 106.

**ARTS 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.

*Prerequisite:* ARTS 106.

**ARTS 208: Painting II. (3 to a maximum of 6)**

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:* ARTS 207.

**ARTS 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.

*Prerequisite:* ARTS 123

**ARTS 216: Raku—A Ceramic Low-Firing Reduction Process. (3)**

Students will be introduced to the principles of Raku Firing including simple glaze formulation, firing techniques, and designing-building the kiln.

*Prerequisite:* ARTS 168

**ARTS 257\*: Small Scale Metal Construction II. (3 to a maximum of 6)**

A continuation of ARTS 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:* ARTS 157.

**ARTS 268\*: Ceramics: Materials and Aesthetics. (3)**

Continuation of ARTS 168 with emphasis placed on the mastery of forming, surfacing, and firing processes, expanded critical awareness, and the development of a personal aesthetic. Open-ended and self-selected projects. Individual and group critiques.

*Prerequisites:* ARTS 168

**ARTS 287: Black & White Photography. (3)**

Concentrates on black and white photographic techniques: film processing and fine black and white printing.

**ARTS 288: Color Techniques in Photography. (3)**

The techniques and aesthetics of color photographic imaging.

*Prerequisites:* ARTS 188

**ARTS 289: Digital Imaging Techniques. (3)**

Techniques and aesthetics of digital imaging using a variety of software programs and hardware.

*Prerequisite:* ARTS 188

**ARTS 298\*: Topics. (1-3)**

Titles will vary. CR/NC

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## ARTS AND SCIENCES (ARSC)

**ARSC 198: Freshman Seminar Topics. (3).**

Variable content in an academic discipline. Through study of topic, develops academic skills including scholarship, research, comprehension, analysis, synthesis, evaluation, application, critical thinking, and communication of ideas. Most sections require co-registration in a specified “linked” course.

*Corequisite:* some sections may require co-registration in another specified course. Restriction: freshman standing.

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## COOPERATIVE EDUCATION PROGRAM (ASCP)

**ASCP 105: Cooperative Work Phase. (0)**

A mechanism for registered work phase students from the College of Arts and Sciences as full time students while working. CR/NC.

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## ASTRONOMY (ASTR)

Listed in the UNM-Albuquerque catalog as the Department of Physics and Astronomy. See also “Physics.”

**ASTR 101: Introduction to Astronomy. (3))**

Conceptual description of our fascinating universe: early astronomy, Newtonian, synthesis, Earth, Moon, planets, asteroids, comets, the Sun, our solar system, stars, black holes, galaxies, dark matter, dark energy and cosmological mysteries. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114).*

**ASTR 101L: Astronomy Laboratory. (1)**

Intended as an adjunct to ASTR 101, this course deals with elementary techniques in astronomical observations. *Meets New Mexico Lower Division General Education Common Core Area III: Science (NMCCN 1114).*

*Pre-or Corequisite:* ASTR 101. Two hours lab.

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## AUTOMOTIVE TECHNOLOGY (AUTT)

**AUTT 193T: Topics. (1-6) Titles will vary.**

**AUTT 293T: Topics. (1-6) Titles will vary**

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## BIOLOGY (BIOL)

Biology 121, 122, 219 and 221 can substitute for Biology 201, 202, 203L and 204L as prerequisites for upper-division courses.

### **BIOL 105: Current Issues in Human Biology. (3)**

Intended for the student with minimum previous exposure to science. The concepts and methodology of biology are developed as a basis for a discussion of current issues in areas such as reproduction, cloning, heredity, human genome, diet, exercise physiology, emerging diseases, human ecology.

### **BIOL 110: Biology for Non-Majors. (3)**

Biological principles important for the non-major in today's world. Ecological, evolutionary, and molecular topics. (Credit not allowed for both BIOL 110 and BIOL 123/124L) *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114).*

### **BIOL 112L: Biology Laboratory for Non-Majors. (1)**

An optional laboratory which may be taken concurrently with or subsequent to BIOL 110. One 3-hour lab per week including plant and animal diversity, techniques and investigation of current issues. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114).*

*Pre- or Corequisite:* BIOL 110.

### **BIOL 123: Biology for Health Related Sciences and Non-Majors. (3)**

Principles of cell biology, genetics and organismic biology. (Credit not allowed for both BIOL 123 and BIOL 110. Not accepted towards a Biology major.)

### **BIOL 124L: Biology for Health Related Sciences and Non-Majors Lab. (1)**

One credit optional laboratory to accompany BIOL 123. *Pre- or Corequisite:* BIOL 123.

### **BIOL 201L: Molecular and Cell Biology. (4)**

The scientific method, the role of water in cell biology, carbon and molecular diversity, macromolecules, introduction to metabolism, tour of cell structures and functions, membrane structure and function, cellular respiration, photosynthesis, cell communication, and the cell cycle.

*Pre- or Corequisite:* (CHEM 121 and CHEM 123L) or (AP CHEM 3-5). (Credit not allowed for both BIOL 201 and 219)

*Note:* Students who completed AP Chemistry in high school should see the instructor of record or Biology Department Advisor. At UNM-LA, this class includes a two hour lab instead of the discussion required at UNM-Albuquerque.

### **BIOL 202L: Genetics. (4)**

Mitosis, meiosis, Mendelian genetics, chromosomes and inheritance, molecular basis of inheritance, genes to proteins, genetic models (viruses and bacteria), eukaryotic genomes, genetic basis of development, and overview of genomes.

*Prerequisites:* BIOL 201 and (CHEM 121 and CHEM 123L or CHEM 131L.)

*Pre- or Corequisite:* CHEM 122 and CHEM 124L or CHEM 132L. (Credit not allowed for both BIOL 202 and 221)

### **BIOL 203: Ecology and Evolution. (3)**

Darwinian principles, origin of the earth, the fossil record and diversification of ancient life, evolution of populations, origin of species, phylogenetics, introduction to ecology and the biosphere, behavioral ecology, population ecology, community ecology, ecosystem ecology and conservation biology. Lab material includes a survey of the diversity of life. Three hours lab.

*Prerequisites:* BIOL 202, and (CHEM 122 and CHEM 124L, or CHEM 132L).

*Pre- or Corequisite:* BIOL 203L and (MATH 162 or MATH 180)

**BIOL 203L Ecology and Evolution Laboratory. (1)**

Material includes a survey of the diversity of Life.

*Pre- or Corequisite:* BIOL 203.

**BIOL 204: Plant and Animal Form and Function. (3)**

Introduction to plant systems including: structure, growth, transport, nutrition, reproduction, development, and control systems. Introduction to animal systems including: nutrition, circulation, reproduction, development; and immune, control and nervous systems. Three hours lab.

*Prerequisites:* BIOL 203 and 203L and ((CHEM 122 and CHEM 124L) or CHEM 132L)

*Pre- or Corequisite:* BIOL 204L and (MATH 180 or MATH 162).

**204L. Plant and Animal Form and Function Laboratory. (1)**

Laboratory for BIOL 204.

*Pre- or Corequisite:* BIOL 204.

**BIOL 227L: Human Anatomy and Physiology Lab I. (1)**

Laboratory work using cats. Anatomy stressed with appropriate physiological work. Topics integrated with BIOL 237.

*Pre- or Corequisite:* BIOL 237. Three hrs. lab.

**BIOL 228L: Human Anatomy and Physiology Lab II. (1)**

Continuation of BIOL 227L. Topics integrated with BIOL 238.

*Pre- or Corequisite:* BIOL 238. Three hrs. lab.

**BIOL 237: Human Anatomy and Physiology I for the Health Sciences. (3)**

An integrated study of human structure and function to include histology, skeletal, muscular, and nervous systems.

*Prerequisites:* BIOL (123 and 124L) or BIOL 201 and (CHEM 111L or CHEM 121 and CHEM 123L.).

**BIOL 238: Human Anatomy and Physiology II for the Health Sciences. (3)**

A continuation of BIOL 237 to include cardiovascular, respiratory, digestive, excretory, reproductive, and endocrine systems.

*Prerequisite:* BIOL 237.

**BIOL 239L: Microbiology for Health Sciences and Non-Majors. (4)**

Introduction to microbiology with emphasis on principles of infection and immunity. Not accepted toward a Biology major or minor. Credit not allowed for both BIOL 239L and BIOL 351L– BIOL 352L.

*Prerequisites:* BIOL (123 and 124L) and (CHEM 111 or (CHEM 121 and CHEM 123L)) or BIOL 201 and (CHEM 111 or (CHEM 121 and CHEM 123L)).

**BIOL 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:* BIOL 237. Three hours lab.

**BIOL 248L Human Anatomy and Physiology Laboratory II (1)**

Continuation of BIOL 247L. Topics integrated with 238.

*Pre- or Corequisite:* BIOL 238. Three hours lab.

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## **BUSINESS TECHNOLOGY (BSTC)**

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

**BSTC 111: Introduction to E-Commerce. (3)**

(Also offered as IT 111) E-commerce concepts ranging from varieties of e-commerce to secure business transactions over the web. How to market a product over the web, basic business concepts of selling, and understanding the evolution of e-commerce.

**BSTC 113: Introduction to Project Management. (1)**

The course introduces and applies the concepts, techniques, and tools of project management.

**BSTC 114: Customer Service and Relations. (1)**

Examines techniques for successful customer service, how to handle difficult and irate customers, customer complaints, and to build relationships with internal and external clients.

**BSTC 115: Time Management. (1)**

Examines methods of managing personal and professional time during the workday.

**BSTC 116: Stress Management for the Workplace. (1)**

Examines techniques and tips for managing stress in the work environment.

**BSTC 117: Organization Skills for the Workplace. (1)**

Examines techniques for organizing workplace space and filing systems.

**BSTC 118: Conflict Resolution for the Workplace. (1)**

Examines techniques for identifying and resolving conflict in the work environment.

**BSTC 192\*: Topics. (1-3)**

Titles will vary. CR/NC.

**BSTC 193\*: Topics. (1-3)**

Titles will vary.

**BSTC 202: Microcomputer Accounting. (3)**

Course uses accounting software applications to record, classify and report business activities.

*Prerequisite:* MGMT 101.

**BSTC 203: Business Communication. (3)**

Course emphasizes theory and application of customer contact skills, questioning and listening techniques, business etiquette, multicultural awareness, letter and memorandum writing, the job application process and interviewing, and conflict resolution.

**BSTC 204: Human Relations in Business. (3)**

Human relations in the work environment will be studied, including the psychological implications of business practices as they apply to individual employees and supervisors.

**BSTC 212: Introduction to Income Tax. (3)**

IRS code and regulations as they pertain to the individual. Includes capital gains and losses, accounting methods, income, deductions, social security, installment sales and alternative tax methods.

**BSTC 213: Auditing. (3)**

Concepts and standards of independent auditing, integrating them with contemporary audit methods and with the judgment and decision processes common to audit procedure.

*Prerequisite:* MGMT 102.

**BSTC 218: Business Law. (3)**

Introduction to the basic principles of business law and their applications to typical business situations. Topics include an introduction to the legal environment, contracts, regulatory agencies, negotiable instruments, and the sale of goods and real property.

*Prerequisite:* MGMT 113

**BSTC 220: Management Accounting. (3)**

Course includes the role of accounting in the management information system, collection and processing of data for management decisions.

*Prerequisites:* MGMT 101 and MGMT 102, or MGMT 202 and MGMT 113.

**BSTC 292L\*: Topics. (1-3)**

Titles will vary. CR/NC.

**BSTC 293L\*: Topics. (1-4)**

Titles will vary.

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## CHEMICAL AND NUCLEAR ENGINEERING (CHNE)

**CHNE 101: Introduction to Chemical 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

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## CHEMISTRY (CHEM)

**CHEM 111: Elements of General Chemistry. (4)**

One-semester course in general Chemistry, especially for non-science majors in the health sciences except premedicine and medical technology. (Credit not allowed for both CHEM 111L and CHEM 121 and CHEM 123L.) *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). 3 Hrs Lecture and 3 Hrs. demo lab/recitation.*

*Prerequisite:* ACT  $\geq$  22 or SAT  $\geq$  510 or MATH 120 or MATH 121 or MATH 150 or MATH 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264.

**CHEM 120: Foundations of Chemistry (3)**

This course is available to students initially enrolled in CHEM 121 who find themselves unprepared. Designed for science majors, it provides foundational chemical concepts and prepares students to return and succeed in CHEM 121.

**CHEM 121: General Chemistry I. (3)**

Introduction to the chemical and physical behavior of matter. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1214).*

*Prerequisite:* ACT  $\geq$  25 or SAT  $\geq$  570 or MATH 121 or MATH 123 or MATH 150 or Math 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264

*Pre or Corequisite:* CHEM 123L.

**CHEM 122: General Chemistry II. (3)**

Continuation of CHEM 121. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1224).*

*Prerequisite:* ACT  $\geq$  25 or SAT  $\geq$  570 or MATH 121 or MATH 123 or MATH 150 or Math 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264 and (CHEM 121 and CHEM 123L) or CHEM 131L.

*Pre or Corequisite:* CHEM 124L

**CHEM 123L: General Chemistry I Laboratory. (1)**

Introduction to basic chemical laboratory principles and techniques. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114).*

*Prerequisite:* MATH 121 or MATH 123 or MATH 150 or Math 162 or MATH 163 or MATH 180 or MATH 181 or MATH 264

*Corequisite:* CHEM 121.

**CHEM 124L: General Chemistry II Laboratory. (1)**

Experiments illustrating the fundamental principles and techniques of chemistry. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1224). 3 Hr. Lab*

*Prerequisite:* CHEM 121 and CHEM 123L or CHEM 131L

*Corequisite:* CHEM 122

**CHEM 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:* CHEM 111 or CHEM 122.

**CHEM 253L: Quantitative Analysis. (4)**

Theory and techniques of chemical analysis. 3 Hrs. lecture and 4 Hrs. lab.

*Prerequisite:* CHEM 121 and CHEM 122 and CHEM 123L and CHEM 124L. (Students should make every effort to complete CHEM 253L within two semesters of completion of CHEM 122 and CHEM 124L.)

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## CHINESE (CHIN)

**CHIN 101: First Year Chinese I [Elementary Chinese I]. (3)**

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## CIVIL ENGINEERING (CE)

**CE 160L: Civil Engineering Design. (3)**

Introduction to engineering graphics (Autocad), computer-aided design; introduction to civil engineering and construction.

**CE 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:* PHYC 160 and MATH 163

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## CLASSICS (CLST)

**CLST 107: Greek Mythology. (3)**

Introduction to mythology: primary readings in stories about the gods and heroes, usually including Homer, Hesiod, Homeric Hymns and Tragedies. All text will be in English.

**CLST 204: Greek Civilization. (3)**

An interdisciplinary introduction to the ancient world as the foundation of modern civilization. Lectures on classical art, history, literature, and philosophy.

**CLST 205: Roman Civilization. (3)**

An interdisciplinary introduction to ancient Rome. Lectures on Roman literature, history, art, and philosophy.

**CLST 214: The Classical Tradition I (3)**

A survey of the classical tradition and its influence on western civilization from the perspective of ancient Greek culture and literature.

**CLST 215: The Classical Tradition II (3)**

A survey of the classical tradition and its influence on western civilization from the perspective of ancient Roman culture and literature.

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## COMMUNICATIONS AND JOURNALISM (CJ)

*Courses marked with an \* may be repeated for credit because subject matter varies.*

**CJ 101L: Introduction to Communication. (3)**

Principles and concepts of various types of human communication, including interpersonal, small group, organizational, public and mass communication.

2 hrs. lecture, 1 hr. Lab.

**CJ 110: Introduction to Mass Communication. (3)**

(Also offered as MA 110) The development of the mass media with emphasis on television in the areas of programming, policy, regulations, economics and technology. Examination of the social, cultural, and political impact of the mass media on contemporary society.

2 hrs. lecture. 1 hr. Lab.

**CJ 115: Communication Across Cultures. (3)**  
(Also offered as AFST 115). An introduction to communication among people from different cultural backgrounds, emphasizing intercultural relations. The class seeks to identify, honor and enhance the strengths of different cultural perspectives.

**CJ 130: Public Speaking. (3)**  
A performance course that deals with analysis, preparation, and presentation of speeches.  
*Meets New Mexico Lower Division General Education Common Core Curriculum Area 1: Communications (NMCCN 1113.)*

**CJ 171L: Introduction to Media Writing. (3) [Writing for Media]**  
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 hours, 2.00 GPA, ENGL 120.

**CJ 220: Communication for Teachers. (3)**  
Concepts and practices of interpersonal, small group and public communication pertinent to classroom teachers at the elementary, middle and secondary levels of education.

**CJ 221: Interpersonal Communication. (3)**  
Analysis of a variety of interpersonal communication concepts with special emphasis on the application of communications skills in different situations. *Meets New Mexico Lower Division General Education Common Core Curriculum Area I: Communications.*

**CJ 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.

**CJ 292: Beginning Internship in Communication and Journalism. (1 to a maximum of 6)**  
Internships and service projects for students at the lower level.  
*Restriction:* permission of instructor.

**CJ 293\*: Topics. (1-3 to a maximum of 6 credit hours)**  
Topics will vary.

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## COMMUNITY AND REGIONAL PLANNING (CRP)

**CRP 203: Society and the Environment. (3)**  
(Also offered as ECON 203) Introduction to environmental and natural resource issues of both global and local scale. Investigates basic causes and consequences of environmental problems, including interrelated physical and social science dimensions.

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## COMPARATIVE LITERATURE (COMP)

*Courses marked with an \* may be repeated for credit because subject matter varies.*

**COMP 222: Fairy and Folk Tales. (3)**  
An exploration of fairy and folk tales from a variety of cultures. The course introduces methods of analysis while exploring historical and contemporary roles and interrelationships of the tales.

**COMP 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 cross-section of Western European, American, Russian, and Classical literatures. Titles will vary as content varies. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Hum & Fine Art*

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## COMPUTER SCIENCE (CS)

### **CS 101: Introduction to Computer Science. (4)**

Survey of fundamental computer science concepts such as data storage/manipulation, networking, and program execution. Includes practice with Linux operating system. Note: Credit may not be earned for both CS 101 and CS 102.

### **CS 102: Introduction to LINUX/UNIX. (1)**

Introduction to Linux environment including: electronic mail, file creation and manipulation, line/screen editors, and program compilation. Note: Credit may not be earned for both CS 101 and CS 102.

CR/NC

### **CS 103: Advanced LINUX/UNIX. (1)**

Focuses on shell scripts and shell programming, processes and job control; user tools; UNIX networking concepts; simple system administration; introduction to Perl scripting

*Prerequisites:* CS 102 or CS 101, (a programming course or previous programming experience is recommended).

CR/NC

### **CS 131L: Introduction to Unix® and the World Wide Web. (2)**

An introduction to Unix®-based computing resources. Topics include: elements of a computer system, elementary Unix® commands and file system structure, e-mail, a visual editor, browsing the World Wide Web and construction of simple Web pages using HTML.

### **CS 132L: Introduction to Unix® and the World Wide Web. (1)**

Continuation of CS 131L.

*Prerequisite:* 131L.

### **CS 150L: Computing for Business Students. (3)**

Students will use personal computers in campus laboratories to learn use of a word processor, a spreadsheet and a database management program. The course will also cover access to the World Wide Web and other topics of current importance to business students. Course cannot apply to major or minor in Computer Science.

*Prerequisite:* MATH 120 or (MATH 101, 102, and 103) or MATH 121 or MATH 123 or MATH 150 or MATH 162 or MATH 163 or MATH 180 or MATH 181.

### **CS 151L: Computer Programming Fundamentals for Non-Majors. (3)**

An introduction to the art of computing. Not intended for Computer Science majors or minors. The objective of the course is an understanding of the relationship between computing and problem solving. (3 hrs lecture; 1 hr recitation)

*Suggested Prerequisites:* MATH 150

### **CS 152L: Computer Programming Fundamentals. (3)**

Introduction to the art of computing. The course objectives are understanding relationships between computation, problem solving, and programming using high-level languages. (3 hrs lecture; 1 hr recitation.)

*Suggested Prerequisites:* MATH 150 and (CS 101 or CS 102)

### **CS 220: Systems Analysis and Design. (3)**

An overview of the system development lifecycle. Emphasis on current system documentation through the use of classical, structured, and object-oriented tools/techniques for describing program specifications.

*Prerequisite:* CS 151L or CS 152L or CS 160 or a full semester of programming.

### **CS 241L: Data Organization. (3)**

Data representation, storage and manipulation. This course covers the memory organization of data storage and its relation to computation and efficiency. Topics include: linked vs. contiguous implementations, memory management, the use of indices and pointers, and an introduction to issues raised by the memory hierarchy. Programming assignments in C provide practice with programming styles that yield efficient code and computational experiments investigate the effect of storage design choices on the running time of programs (3 hrs lecture; 1 hr recitation.)

*Prerequisite:* CS 151L or CS 152L.

### **CS 251L: Intermediate Programming. (3)**

An introduction to the methods underlying modern program development. Specific topics will include object-oriented design and the development of graphical user interfaces. Programming assignments will emphasize the use of objects implemented in standard libraries.) (3 hrs lecture; 1 hr recitation)

*Prerequisite:* CS 151L or CS 152L.

### **CS 261: Mathematical Foundations of Computer Science. (3)**

This course is an introduction to the formal mathematical concepts of computer science for the beginning student. Topics include elementary logic, set theory, relations, deduction, induction, algorithmic processes, graph theory, and models of computation.

*Suggested Prerequisites:* (CS 151L or CS 152L) and MATH 150

### **CS 293: Social and Ethical Issues in Computing. (1)**

Overview of philosophical ethics, privacy and databases, intellectual property, computer security, computer crime, safety and reliability, professional responsibility and codes, electronic communities and the Internet, and social impact of computers. Students make oral presentations and produce written reports.

*Suggested Prerequisite:* ENGL 110

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## **COMPUTER TECHNOLOGY (CT)**

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

### **CT 102: Introduction to Microcomputers on the PC. (4)**

An overview of the use of computers and data processing in today's society. Discusses PC history, terminology, and applications. Introduces the rudiments of a word processor (Word), a PC database (Access), and a PC spreadsheet (Excel).

### **CT 106L: Introduction to WORD. (3)**

Introduces advanced word processing techniques using Microsoft Word. The class content involves document design and formatting as well as file management. A great emphasis will be put on efficiency in applications.

### **CT 111: Introduction to Computer Aided Design and Drafting. (3)**

Entry-level course intended for the technician or draftsman interested in the use of computer aided design in an engineering environment. . (3 hour lecture. 1 hour lab)

*Prerequisite:* CT 101 or CT 102, and a basic knowledge of drafting techniques.

### **CT 125: Introduction to the Macintosh. (1)**

Overview and demonstration of Macintosh and its programs. Topics include the Macintosh operating system (file and folder management, using disks, system preferences settings), and the basics of typical applications such as word processing, spreadsheets, desktop publishing, databases, and web browsing.

### **CT 140: Introduction to PowerPoint. (1)**

Students learn the rudiments of PowerPoint to create slide shows, graphs, and organizational charts; work with text, drawings, clip art, templates, and special effects.



**CT 165: Introduction to Web Authoring. (3)**

(Also offered as IT 165) This course is an introduction to making and designing web pages using HTML generating software. Students learn how to make well-designed web pages from simple to the complex. Site creation with text, graphics, tables, Cascading Style Sheets, and simple animation effects are included. Design principles as they apply to the World Wide Web are also presented. No knowledge of HTML is required.

**CT 192\*: Topics. (1-3)**

Titles will vary. CR/NC.

**CT 193\*: Topics. (1-3)**

Titles will vary.

**CT 202: Applications of Spreadsheets. (3)**

Introduces fundamentals of spreadsheets and spreadsheet software; formatting, formulas and functions, charts and objects, sorting and filtering, data validation, consolidated views and reports, pivot tables and charts, software auditing and collaborative tools, and integrated spreadsheet applications.

*Prerequisite:* CT 102 or CT 103 or CS 150.

**CT 203: Introduction to DeskTop Publishing. (3)**

(Also offered as DMA 203) Introduction to Desktop Publishing software and page design concepts on the personal computer. Topics: importing files, interaction with word processor/text editor, creating/using style sheets, editing/manipulating text, simple graphics, desktop publication.

*Prerequisite:* none

**CT 292\*: Topics. (1-3)**

Titles will vary. CR/NC.

**CT 293\*: Topics. (1-3)**

Titles will vary.

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## COOPERATIVE EDUCATION PROGRAM (E COOP)

**E Coop 105: Cooperative Education Work Phase. (0)**

**E Coop 109: Evaluation of Cooperative Education Work Phase 1. (1)**

CR/NC

**E Coop 110: Evaluation of Cooperative Education Work Phase 2. (1)**

CR/NC.

**E Coop 209: Evaluation of Cooperative Education Work Phase 3. (1)**

CR/NC.

**IT 109: Information Technology Cooperative Education. (1-3)**

A work-study program with local industry to give the student practical experience in an industrial environment doing technology work.

*Prerequisite:* Permission of Information Technology Department Chair required.

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## DANCE (DANC)

*Courses marked with an \* may be repeated for credit because subject matters varies.*

**DANC 105\*: Dance Appreciation. (3 to a maximum of 6)**

A lecture and discussion course introducing the study of dance as technique, spectacle and ritual for today's audience. *Meets New Mexico Lower-Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113)*

**DANC 132\*: Jazz I. (3 to a maximum of 9)**

Fundamental work for the adult beginner in technique and styles of jazz dance.

**DANC 149\*: Ballet I. (3 to a maximum of 9)**

Fundamental work for the adult beginner in vocabulary, technique and styles of ballet.

**DANC 169\*: Flamenco I. (3 to a maximum of 9)**

Fundamental work for the adult beginner in techniques and styles of Flamenco.

**DANC 170\*: Hip Hop I. (3 to a maximum of 12)**

An introduction to Hip Hop, its movement, style and culture.

**DANC 232\*: Jazz II. (3 to a maximum of 12)**

Jazz techniques and styles at the intermediate level.

**DANC 249\*: Ballet II. (3 to a maximum of 12)**

Ballet techniques and styles at the lower intermediate level.

**DANC 269\*: Flamenco II. (3 to a maximum of 12)**

Flamenco techniques and styles at the intermediate level.

**DANCE 295\*: Special Topics in Dance. (1-3 to a maximum of 12)**

Lecture courses and workshops on various topics in dance.

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## **DIGITAL MEDIA ARTS (DMA)**

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

**DMA 101: Introduction to Digital Imaging & Scanning. (1)**

Students learn to make images with a computer and scanner, as well as study basic concepts of digital imaging/digital photography. This leads to an understanding of the requirements for achieving image quality as it applies to screen display (world wide web) or for printed output.

**DMA 165: Introduction to Digital Media Arts I (Photoshop). (3)**

This course serves as an introduction to the computer as an image-making device using raster-imaging software (Adobe Photoshop). It includes the making and manipulating of images derived from photography and other traditional media. Included also is the digital preparation of imagery for printed and display (Web) output.

**DMA 166: Digital Media Arts II (Illustrator). (3)**

This course is an introduction to the computer as an image-making device using vector-imaging software (Adobe Illustrator). It includes the creation and manipulation of digital imagery derived from traditional graphic design, including typography and illustration graphics. Students will design logo art and other projects aimed for printed and screen display.

**DMA 193\*: Topics. (1-3)**

Titles will vary.

**DMA 203: Introduction to Desktop Publishing. (3)**

Introduction to Desktop Publishing software and page design concepts on the personal computer. Topics: importing files, interaction with word processor/text editor, creating/using style sheets, editing/manipulating text, simple graphics, and desktop publication. Also offered as CT 203

*Prerequisite: none*

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## **DRAFTING TECHNOLOGY (DRFT)**

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

**DRFT 103: Introduction to Drafting. (3)**

Intended as a first course for students with no previous exposure to drafting. The class will include hands-on drawing in class and will introduce basic topics in drafting methods.

**DRFT 119: Drafting/Blueprint Reading. (3)**

Fundamentals of technical industrial communication: drafting, sketching, blueprint reading, layout work in specialized areas; visualization and interpretation of blueprints and sketches of parts, assemblies, and processes.

*Prerequisite:* DRFT 103

**DRFT 192\*: Topics. (1-3)**

Titles will vary. CR/NC.

**DRFT 193\*: Topics. (1-3)**

Titles will vary.

**DRFT 220: Fundamentals of Geometric Dimensioning and Tolerancing. (3)**

An introduction to geometric dimensioning and tolerancing (GD & T), according to the American Society of Mechanical Engineers (ASME) Y14.5 standard for engineering drawings. This course will develop an understanding to specify or interpret GD & T per industry blueprints, the effects on part function, and the inspection procedures to verify those specifications.

*Prerequisites:* DRFT 103 and DRFT 119

Other education or job experience may be substituted for prerequisites.

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## **EARLY CHILDHOOD MULTICULTURAL EDUCATION (ECME)**

**ECME 101: Child Growth, Development, and Learning. (3)**

This basic course in the growth, development, and learning of young children, provides foundational knowledge of how young children grow, develop and learn.

**ECME 103: Health, Safety, and Nutrition. (2)**

This course provides information related to standards and practices that promote children's physical and mental well-being, sound nutritional practices, and maintenance of safe learning environments.

**ECME 111: Family and Community Collaboration I. (3)**

This basic course examines the involvement of families from diverse cultural and linguistic backgrounds in early childhood programs. Ways to establish collaborative relationships with parents and others involved with children in early childhood settings are discussed.

**ECME 115: Guiding Young Children. (3)**

This course explores theories of child guidance and practical applications. It provides developmentally appropriate methods for guiding children, effective strategies and suggestions for facilitating positive social interactions.

**ECME 117: Curriculum Development and Implementation I. (3)**

This beginning curriculum course focuses on developmentally appropriate content in early childhood programs and developmentally appropriate curriculum integration into teaching and learning experiences.

*Corequisite:* ECME 117L.

**ECME 117L: Curriculum Development and Implementation Practicum I. (2)**

This course provides opportunities for students to apply knowledge gained from ECME 117 and develop skills in planning developmentally appropriate learning experiences for young children including children with special needs.

*Corequisite:* ECME 117.

**ECME 202: Introduction to Reading and Literacy Development. (3)**

This is a basic course in children's emergent literacy and reading development: Ways to foster phonemic awareness, literacy problem solving skills, fluency, vocabulary, comprehension, and language development are explored.

**ECME 217: Curriculum Development and Implementation—Age 3 (PreK) through Grade 3. (3)**

The curriculum course focuses on developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEPs is included.

*Corequisite:* ECME 217L.

**ECME 217L: Curriculum Development and Implementation Practicum II. (2)**

This course provides opportunities to apply knowledge gained in ECME 217 and develop skills in planning learning environments and implementing curriculum for young children including those with special needs.

*Corequisite:* ECME 217.

**ECME 220: Assessment of Children and Evaluation of Programs I. (3)**

This basic course familiarizes students with a variety of culturally appropriate assessment methods and instruments, and the development and use of formative and summative program evaluation to ensure quality.

**ECME 230: Professionalism. (2)**

This course provides a broad-based orientation to the field of early care and education. Early childhood history, philosophy, ethics and advocacy are introduced.

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## **EARTH AND PLANETARY SCIENCE (EPS)**

**EPS 101: How the Earth Works - An Introduction to Geology. (3)**

A fascinating tour of our active planet. Explore earth materials (rocks and minerals), the continents' motions and related origins of earthquakes, volcanoes, mountain building, oceans, landscapes, natural energy and economic resources, global warming and other topics. Students are encouraged but not required to enroll concurrently in EPS 105L. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science. (NMCCN 1114).*

**EPS 105L: Physical Geology Laboratory. (1)**

Minerals, rocks, and topographic and geological maps; field trips. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science. (NMCCN 1114).*

*Pre- or Corequisite:* EPS 101.

**EPS 110: Topics in Earth Sciences. (1-3 to a maximum of 3)**

Eight to sixteen week course on selected topics relating directly to the human experience, e.g., Volcanoes, Extinctions, Weather, Earthquakes, New Mexico's Water, Soils, Nuclear Hazards, Geomagnetism, Albuquerque's Field Geology and the Geology of Everyday Life.

**EPS 115: Geological Disasters. (3)**

Causes and effects of disastrous geological events, including earthquakes, volcanic eruptions, tsunamis, landslides and floods.

**EPS 201L: Earth History. (4)**

Origin and history of the earth including age of the planet and dating of rocks, changing configurations of oceans and continents as a result of plate tectonics, records of climate change, history of formation and erosion of mountain chains, origin and evolution of life and causes of extinction. Required field trip and lab exercises permit understanding of how Earth history is interpreted from the geologic rock record. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science*

*Prerequisite:* EPS 101 or ENVS 101; *Pre- or Corequisite:* EPS 105L or ENVS 102L.

**EPS 203: Energy and the Environment (3)**

Geologic context for the occurrence of metals, industrial minerals, water, and energy resources on Earth, Environmental ramifications of resource exploration, exploitation and use and local, national and global environmental laws and treaties governing those activities.

*Prerequisite:* (EPS 101 or ENVS 101) and (MATH 120 or (MATH 101, 102 and 103)

**EPS 251: Meteorology. (3)**

(Also offered as GEOG 251) Description of weather phenomena, principles of atmospheric motion, weather map analysis and weather prediction.

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**ECONOMICS (ECON)****ECON 105: Introductory Macroeconomics. (3)**

Economics on a national scale; determination of national income, employment level, inflation, and impact of policies affecting money supply, interest rates and government programs. Current macroeconomic issues and problems. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 2113). Prerequisite for most upper-division courses.*

**ECON 106: Introductory Microeconomics. (3)**

Exploration of individual consumer behavior, production decisions by the firm, and supply and demand relationships in the marketplace. Examination of the international dimension of production and consumption choices. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 2123). Prerequisite for most upper-division courses.*

**ECON 203: Society and the Environment. (3)**

(Also offered as CRP 203) Introduction to environmental and natural resource issues of both global and local scale. Investigates basic causes and consequences of environmental problems, including interrelated physical and social science dimensions.

**ECON 212: Personal Investing. (3)**

Investment options available to the individual will be analyzed in terms of economic theories of capital markets. Risk, value, returns and portfolio analysis.

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**ELECTRICAL AND COMPUTER ENGINEERING (ECE)****ECE 101: Introduction to Electrical and Computer Engineering. (1)**

Insight into electrical engineering is gained through videos, “hands-on” experiments, use of computer software to learn basic problem-solving skills and team-oriented design project.

**ECE 131: Programming Fundamentals. (3)**

Fundamental programming concepts, including consideration of abstract machine models with emphasis on the memory hierarchy, basic programming constructs, functions, parameter passing, pointers and arrays, file I/O, bit-level operations and interfacing to external devices.

### **ECE 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, and complex power. Three-phase circuits.

*Prerequisites:* MATH 163 and ECE 131

*Pre or Corequisite:* MATH 316 and PHYC 161.

*Note:* Please check with advisor to register at UNM-Los Alamos.

### **ECE 206L: Instrumentation. (2)**

Introduction to laboratory practices and the use of test equipment. Measurements on basic electrical components, dc and ac circuits using ohmmeters, voltmeters, ammeters and oscilloscopes. Circuit simulation.

*Prerequisite:* 203 and ENGL 120.

### **ECE 213: Circuit Analysis II. (3)**

General transient analysis of electrical circuits. Laplace transform with application to circuit analysis. State-space equations. Fourier series analysis. The network function; convolution; frequency response.

*Prerequisites:* ECE 203L & MATH 316.

*Corequisite:* MATH 314.

### **ECE 238L: Computer Logic Design. (4)**

Binary number systems. Boolean algebra. Combinational, sequential and register transfer logic. VHDL Arithmetic/logic unit. Memories, computer organization. Input-Output. Microprocessors.

*Prerequisite:* ECE 131

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## **ELECTRO MECHANICAL TECHNOLOGY (ELCT)**

### **ELCT 101L: DC Circuit Analysis. (4)**

Basic elements of DC electrical and electronic circuits, circuit analysis, measurement, and circuit design. Study of circuit network theorems and their applications to design techniques. Study of conductors and insulators.

*Prerequisite:* MATH 120 and MATH 106 or equivalent

### **ELCT 102L: AC Circuit Analysis. (4)**

AC electrical and electronic components, including inductance, capacitance, resonance, filters, RC and LR time constants. Study of reactance, impedance, complex numbers, AC network analysis, magnetism, and simple power supplies. Introduction to rotating electrical machines, both AC and DC.

*Prerequisite:* A grade of C or better in ELCT 101L.

*Pre- or Corequisite:* MATH 123.

### **ELCT 103: Mechanical Systems. (3)**

This course covers vacuum, cryogenic, and hydraulic technologies and systems. Provide basic understanding of the design, assembly, and operations of mechanical systems typically found in industrial applications.

### **ELCT 105L: Industrial Shop Practice. (3)**

Principles of and practice with hand and machine tools used by electromechanical technicians. Includes operation of lathe and milling machines, drilling, welding, sawing, grinding, soldering, brazing, measurements, sheet metal work, benchwork, or other appropriate operations.

### **ELCT 137: Digital Electronics I (Combinational Logic). (3)**

An introduction to the analysis and synthesis of combinational logic circuits. Boolean algebra, logic gates, Karnaugh maps, MSI and LSI integrated circuits. Interpretation of logic diagrams. Techniques of troubleshooting digital circuits.

*Prerequisite:* ELCT 101.

**ELCT 162: Robotics (3)**

This course covers designing, building and programming NXT style robots. It includes autonomous robotics, light sound, touch and ultrasonic sensors, computer programming, problem solving, and remote control robotics.

**ELCT 163: Advanced Robotics (3)**

This course covers more advanced robotics concepts including designing, building, testing, and refining a prototype using engineering design processes. Topics include remote control robotics, robotic electronics, remote video navigation, autonomous robotics, more advanced programming techniques.

*Prerequisite:* ELCT 162

**ELCT 192\*: Topics. (1-3)**

Titles will vary. CR/NC.

**ELCT 193\*: Topics. (1-3)**

Titles will vary.

**ELCT 203: Electronic Devices. (4)**

Study of amplifiers, oscillators, integrated circuits, and operational amplifiers. Computer solutions of electronic circuits.

*Prerequisite:* C or better in ELCT 102.

**ELCT 204L: Electronics Lab. (2)**

Advanced laboratory measurements and design. Measurements using AC and DC meters, ohmmeters, oscilloscopes, signal generators, and pulse generators. Computer circuit stimulation.

*Prerequisite:* C or better in ELCT 203

**ELCT 264: Advanced Robotics II. (3)**

This course covers advanced topics in robotics including: advanced robotic platform design and construction, remote control electronics, servo controlled mechanisms, and remote wireless video applications.

*Prerequisites:* ELCT 163

**ELCT 292\*: Topics. (1-3)**

Titles will vary. CR/NC.

**ELCT 293\*: Topics. (1-3)**

Titles will vary.

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## EMERGENCY MEDICINE (EMS)

**EMS 106: Emergency Medical Responder. (4)**

Emergency Medical Responder is a 60-hour course designed specifically for personnel who are first at the scene of an accident or emergency. This course offers a foundation for advanced EMS courses.

**EMS 110: First Responder. (4)**

A 72-hour course consisting of 40 hours of didactic instruction which includes the minimum standard Department of Transportation curriculum to prepare the student for prehospital field techniques and 32 hours of lab instruction which includes individual instruction in airway management and patient assessment skills. Students must obtain current certification in American Heart Association Basic Life Support for Healthcare Providers CPR before the first class session.

**EMS 113: EMT-Basic. (8)**

*Meets the 1998 EMT-Basic National Standard Curriculum requirements and incorporates New Mexico EMT-B scope of practice.* Includes lecture instruction to prepare the student to sit for New Mexico and National Registry testing.

*Restriction:* Program Permission

*Corequisite:* EMS 142.

**EMS 120: Introduction to EMS System**

Covers the history of emergency medical services and the development of EMS systems and current trends and issues in EMS. Ideal for students considering a career in EMS.

### **EMS 142: EMT-Basic Lab. (2)**

*Meets the 1998 EMT-Basic National Standard Curriculum requirements and incorporates New Mexico EMT-B scope of practice.* Provides lab instruction to prepare the student to sit for New Mexico and National Registry testing.

*Restriction:* Program Permission

*Corequisite:* EMS 113.

### **EMS 143: EMT-Intermediate Lab (1)**

*Meets New Mexico requirements for EMT-Intermediate skills training, including intravenous fluid administration and pharmacology.*

*Prerequisite:* EMS 113 and 142.

*Corequisite:* EMS 180.

*Restriction:* program permission

### **EMS 151: EMT-I Clinical and Field Experience (2)**

*Meets New Mexico requirements for EMT-Intermediate field and clinical training, including emergency department and prehospital experience.*

*Prerequisite:* EMS 113 and 142.

*Corequisite:* EMS 180 and 143.

*Restriction:* program permission.

### **EMS 180: EMT-Intermediate (5)**

*Meets New Mexico requirements for EMT-Intermediate lecture content, including intravenous fluid administration and pharmacology.*

*Prerequisite:* EMS 113 and 142.

*Corequisite:* EMS 143.

*Restriction:* program permission.

### **EMS 193\*: Emergency Medicine Topics. (1-3)**

Titles will vary.

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## **ENGINEERING (ENG)**

### **ENG 116: Introduction to Engineering. (1-3 to a maximum of 6)**

Description of the engineering profession, orientation to engineering education, introduction to the engineering design process. Does not count toward degree credit in the College of Arts and Sciences or in the School of Engineering. Two hours lecture and demonstrations.

See Also:

Chemical and Nuclear Engineering

Civil Engineering

Electrical and Computer Engineering

Mechanical Engineering

### **ENG 120: Mathematics for Engineering Applications. (4)**

Provides an overview of basic engineering math topics necessary for success in second-year engineering courses. Topics are presented in the context of engineering applications, and reinforced through labs and examples from core engineering courses.

*Prerequisite:* MATH 121.

### **ENG 195: Special Topics. (1-6 to a maximum of 6)**

Selected topics in interdisciplinary engineering or computer science at an introductory level.

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## **ENGINEERING (GENERAL) (ENGF)**

### **ENGF 130: Introduction to Environmental Science I. (3)**

This course presents an overview of the earth's ecosystems and various threats to the environment resulting from our way of living. Problems of pollution of our ground and surface water, ozone depletion, gaseous and particulate pollution of our atmosphere, and production of hazardous wastes of all types are discussed; groundwork is laid for study of possible alleviation of the problem.



**ENGF 131: Introduction to Environmental Science II. (3)**

A continuation of ENGF 130. The sources of energy, their use and misuse, are studied. Environmental and human health problems associated with air, water and land pollution are discussed in detail.

**ENGF 193\*: Topics. (1-3)**

Titles will vary.

**ENGF 201: Fundamentals of Hazardous Materials. (3)**

An introductory study of chemical and radiological materials that are potentially threatening to human safety or health, and procedures to use in working around and with them. Topics include identification of such materials and their particular threat. Practices to follow to avoid occurrences in incidents or to mitigate the damage; and an overview of federal and state standards and regulations.

*Prerequisites:* CHEM 121 and CHEM 123L.

**ENGF 202: Introduction to Hazardous Waste Management. (3)**

Environmental legislation and classification and categorization of hazardous waste are presented. Waste minimization and chemical, physical, and biological treatment methods are discussed, making abundant use of case studies.

**ENGF 222: Introduction to Radioactive Materials. (3)**

Elementary concepts of atomic and nuclear structure. Radioactive decay, radiation effects and shielding, radiation detection and measurement techniques, and special problems in waste management presented by radioactive materials are covered.

*Prerequisites:* CHEM 121 and CHEM 123L and MATH 150.

**ENGF 293\*: Topics. (1-3)**

Titles will vary.

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## ENGLISH (ENGL)

*Students placing into English 099 or English 100 must also take UNIV 101, Seminar: On Course as a pre- or corequisite.*

**ENGL 099: Developmental English II. (1-4 credit hours)**

An intensive study of fundamental writing skills, focusing upon paragraph development, fluency, and introducing the essay. .

*Note:* At UNM-LA this course is offered for 4 credit hours with A, B, C, CR , NC grading, has a corequisite of ISE 020, and includes a skills laboratory.

**ISE 020: Reading I. (1)**

Reading for accuracy and understanding in short expository passages. Vocabulary, sequence and discussion skills are emphasized.

ABC/NC or CR/NC.

**ISE 021: Reading II. (1)**

Reading for analysis in short expository/academic passages. Vocabulary, outlining, note-taking, distinguishing among fact, assertion, evidence, and implication are emphasized.

ABC/NC or CR/NC.

**ENG 100: Writing Standard English. (1-4 cr hrs)**

Developmental writing course providing concentrated practice writing and reviewing basic essays, as well as intensive study of grammar, punctuation, and usage.

*Prerequisites:* Successful completion of ISE 010 (A, B, C, CR), or ENGL 099 (A, B, C, CR) or minimum placement test score.

*Note:* At UNM-LA this course is offered for 4 credit hours with ABC/NC, CR/NC grading, has a corequisite of ISE 021, and includes a skills laboratory.

**ENGL 107. Greek Mythology. (3)**

Introduction to mythology; primary readings in stories about the gods and heroes, usually including Homer, Hesiod, Homeric Hymns and Tragedies. All texts will be in English. (LL)

**ENGL 110 [101] (3) Accelerated Composition (Composition I Exposition)**

Covers Composition I and II in one semester, focusing on analyzing rhetorical situations and responding with appropriate genres and technologies. Credit not allowed for both ENGL 110 and ENGL 112 or for both ENGL 110 and 113. *Meets New Mexico Lower-Division General Education Common Core Curriculum Area I: Communications (NMCCN 1113).*

*Prerequisite:* ACT English 19-25 or SAT Verbal 450-600 or Compass English  $\geq 75$ .

**ENGL 111-112 Composition I and II**

First and second semester of Composition I & II sequence. Focuses on analyzing rhetorical situations and responding with appropriate genres and technologies. Credit not allowed for both ENGL 112 and English 110 or for both ENGL 112 and ENGL 113. *Meets New Mexico Lower-Division General Education Common Core Curriculum Area I: Communications (NMCCN 1113).*

*Prerequisite:* For 112, ENGL 111

**ENGL 113 Enhanced Composition**

Covers Composition I and II in one semester with 1 credit hour lab. Focuses on analyzing rhetorical situations and responding with appropriate genres and technologies. Credit not allowed for both 113 and 110 or 112. *Meets (3 CHS) New Mexico Lower-Division General Education Common Core Curriculum Area I: Communications (NMCCN 1113).*

**ENGL 120 [102]. Composition III [Composition II: Analysis and Argument]. (3)**

Focuses on academic writing, research, and argumentation using appropriate genres and technologies. *Meets New Mexico Lower-Division General Education Common Core Curriculum Area I: Communications (NMCCN 1123).*

*Prerequisite:* 110 or 112 or 113 or ACT English  $\geq 26-28$  or SAT Verbal  $\geq 610-640$ .

**ENGL 119: Technical Communications. (3)**

Introductory study of written and verbal communications used in the technical professions for students in technology and degree programs.

*Prerequisite:* ENGL 110

**ENGL 150: The Study of Literature. (3)**

An introduction to the study and appreciation of literature for non-English majors. Shows how understanding writer's techniques increases the enjoyment of their works; relates these techniques to literary conventions; teaches recognition, analysis, and discussion of important themes.

**ENGL 211\*: Topics in Literature. (3 to a maximum of 6)**

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:* ENGL 150 or permission of the instructor.

**ENGL 219: Technical and Professional Writing. (3)**

Practice in the writing and editing of workplace documents, including correspondence, reports and proposals.

*Prerequisite:* ENGL 110 or 112 or 113 with a B or better, or ENGL 120 with C or better, or ACT  $\geq 29$  or SAT  $\geq 650$ .

**ENGL 220: Expository Writing. (3 to a maximum of 6)**

An intermediate course with emphasis on rhetorical types, structure and style. UNM core curriculum for area 1: Writing and Speaking.

*Prerequisite:* ENGL 110 or 112 or 113 with a B or better, or 120 with C or better, or ACT  $\geq 29$  or SAT  $\geq 650$ .

**ENGL 224: Introduction to Creative Writing. (3)**

A beginning course in the writing of fiction, poetry, and creative nonfiction. Emphasis on process over product. Introduces issues of craft, workshop vocabulary, strategies for revision, and the habit of reading as a writer.

*Prerequisite:* ENGL 110

**ENGL 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.

**ENGL 250: Literary Textual Analysis [The Analysis of Literature]. (3)**

First course required of all English majors. Concentrates on methods of literary analysis and critical writing.

*Prerequisite:* ENGL 120 or ACT English  $\geq$  29 or SAT Verbal  $\geq$  650..

**ENGL 264: Survey of Native Literatures and Rhetorics. (3)**

A general overview of the history and diversity of the literatures and rhetorics of Native peoples, oral tradition, film,, autobiography, fiction, poetry, art, drama and ceremony. Focus on American Indian texts.

**ENGL 265: Introduction to Chicana/o Literature. (3)**

A survey of Chicana/o novels, short stories, essays, poetry and drama from the 19th century to the present, with emphasis on major themes such as history, culture, identity, language and region.

**ENGL 281: African-American Literature I. (3)**

(Also offered as AFST 251) The course introduces students to the African American classics of the slavery era. Daily experiences of the characters in these books become the basis for discussing race, class, gender, revolt, freedom, peace and humanity.

**ENGL 287: Topics in Introductory Studies in Genre. (3 to a maximum of 6  $\Delta$ )**

Introductory study in any one genre, including narrative, comedy, satire, tragedy, fiction, poetics, or stylistic analysis of nonfiction.

**ENGL 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:* ENGL 120 or its equivalent.

**ENGL 292: World Literatures: Ancient World through the 16th Century. (3)**

Survey of key texts in world literature from the ancient world through the 16th century. UNM core curriculum for area V: Humanities.

**ENGL 293: World Literature: 17th Century through the present. (3)**

Survey of key texts in world literature from the 17th century through the present. UNM core curriculum for area V: Humanities.

**ENGL 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.

**ENGL 295: Survey of Later English Literature. (3)**

From 1798 to present. Study of principal literary and intellectual movements, and selected writers and literary works.

**ENGL 296: Earlier American Literature. (3)**

A general survey of American Literature to the mid 19th century.

**ENGL 297: Later American Literature. (3).**

A general survey of American Literature from the mid 19th century to the present.

**ENGL 298\*: Workshop in Literature or Writing. (1 - 3 to a maximum of 6)**

Various topics in literature, language, and writing.

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## ENVIRONMENTAL SCIENCE (ENVS)

### ENVS 101: The Blue Planet. (3)

To understand global change and environmental concerns, this course weaves together an understanding of Earth's lithosphere, atmosphere and oceans and how ecosystems are linked to the physical environment. Students are encouraged, but not required, to enroll concurrently in 102L.

### ENVS 102L: The Blue Planet Laboratory. (1)

Introductory environmental earth science laboratory. Includes minerals, rocks, and rock cycle, topographic maps, local geology and groundwater, weather and climate.

*Pre- or Corequisite:* ENVS 101.

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## ENVIRONMENTAL TECHNOLOGY (ENTC)

### ENTC 150: Environmental Policy (2)

This course is designed to provide an intensive introduction to the laws and policies that govern work sites, hazardous waste, remediation, and other aspects of environmental projects. Students will explore policy issues at the local, regional, national and global scales. (Pre-req: ENVS 101)

### ENTC 201L: Field Methods I (4)

This course will introduce students to water and soil sampling with a brief introduction to air sampling. This is a lab class that will include off campus meetings at surrounding businesses to work with professionals in the field and learn how to operate and maintain standard equipment. (Pre-req: BIOL 201L, ENVS 101, ENVS 102L, GEOG 281, Maps and Geospatial Laboratory, STAT 145, and CT 104)

### ENTC 202L: Field Methods II (4)

This course will introduce students to biota sampling and sampling project design and implementation. This is a lab class that will include off campus meetings at surrounding businesses to work with professionals in the field and learn how to operate and maintain standard equipment. (Pre-req: Field Methods I)

### ENTC 203L: Fermentation and Bio-Production (4)

Students will learn the fundamentals of fermentation in the production of bio-fuels and how a bio-production facility operates. This is a lab class that will include off campus meetings at surrounding bio-production facilities. (Pre-req: BIOL 201L, ENVS 101 and ENVS 102L)

### ENTC 204L: HAZWOPER Training (3)

HAZWOPER 40-hour covers protection against hazardous chemicals, elimination of hazardous chemicals, safety of workers and the environment and OSHA regulations.

### ENTC 281L: Maps and Geospatial Laboratory (1)

This is a laboratory class where students will explore the use of GIS, remote sensing, GPS, and other mapping tools that are used in land remediation, investigation, and management. Students will be certified in ArcGIS after successful conclusion of this course. (Pre-req or Co-req: GEOG 281)

### ENTC 290: Topics (1–3)

This is an 8- to 16-week course on selected topics relating directly to environmental technology.

### ENTC 296: Internship (3)

This course provides practical application and experience working in the Environmental Technology field. The student will work under the guidance of a professional in the field and the instructor will set guidelines and reporting requirements throughout the semester. (pre-req: successful completion of Field Methods I, Field Methods II, and HAZWOPR training)

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## FINE ARTS (FA)

*Courses marked with an \* may be repeated for credit because subject matter varies*

### **FA 229\*: Topics. (1-3 to a maximum of 12)**

Interdisciplinary topics in the arts.

### **FA 284: Experiencing the Arts. (3)**

Explores fundamental connections and differences among artistic media through readings, lectures, attendance at artistic exhibits and events, and discussions with creators of collaborative works of art.

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## FIRE SCIENCE (FISC)

### **FISC 101: Principles of Emergency Services (3)**

Fire protection, emergency services overview; careers; culture; history; fire-loss analysis; organization, function of fire protection services; fire departments; laws, regulations; nomenclature; fire protection functions; fire chemistry and physics; protection systems; strategy and tactics; safety initiatives.

### **FISC 102: Fire Prevention (3)**

Fundamental knowledge of fire prevention. Includes: history and philosophy of fire prevention; organization, operation of fire prevention bureau; use, application of codes and standards; plans review; fire inspections; fire and life safety education; fire investigation.

### **FISC 103: Hazardous Materials (3)**

Introduces hazardous materials incidents, recognizing and identifying hazardous materials, planning response, implementing response procedures, decision making, and continued evaluation at the awareness and operation level.

### **FISC 104: Wildland Firefighting (3)**

Covers all aspects of wildland firefighting; introduces new advances in technology for wildland fire suppression, advances in technology for wildland fire suppression, the use of GPS, includes basic skills needed for wildland firefighting.

### **FISC 105: Principles of Fire and Emergency Services Safety & Survival (3)**

Introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

### **FISC 106: Fire Behavior and Combustion (3)**

Explores the theories and fundamentals of how and why fires start, spread, and are controlled.

### **FISC 201: Fire Protection Systems (3)**

Provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers.

### **FISC 202: Fire Administration I (3)**

Introduces student to organization and management of fire and emergency services department and relationship of government agencies to fire service. Emphasis on fire and emergency service, ethics, and leadership from perspective of company officer.

*Prerequisite:* FISC 101

### **FISC 210: Incident Safety Officer (3)**

Critical skills needed to be a proficient safety officer; teaches specific job functions in NFPA 1521: Standard for Fire Department Safety Officer; response to hazardous materials incidents, technical rescue, wildland fire and other disasters.

*Prerequisite:* FISC 202

### **FISC 212: Building Construction for Fire Prevention (3)**

Components of building construction related to firefighter and life safety. Elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.

*Prerequisite:* FISC 101 or Instructor Approval.

### **FISC 220: Fire Protection Hydraulics and Water Supply (3)**

Provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems.

*Prerequisite:* Math 120 or (Math 101, 102, and 103) or higher

### **FISC 225: Strategies and Tactics (3)**

This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents.

*Prerequisite:* FISC 101

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## **FOREIGN LANGUAGES & LITERATURES**

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

*See individual language:*

Chinese

French

German

Greek

Italian

Japanese

Latin

Russian

Signed Language

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## **FRENCH (FREN)**

### **FREN 101: Elementary French. (3)**

Conducted in French.

### **FREN 102: Elementary French. (3)**

Conducted in French

### **FREN 103: Elementary French Conversation. (1)**

Supplementary course to FREN 101-102 for students interested in additional practice in speaking.

### **FREN 108: Elementary French Reading. (1)**

Continuation and enrichment of elementary curriculum, conducted entirely in French.

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## **GENERAL STUDIES (GNST)**

*Courses marked with an \* may be repeated for credit because the subject matter varies*

### **GNST 192\*: Topics. (1-3)**

Titles will vary. CR/NC

### **GNST 193\*: Topics. (1-3)**

Titles will vary.

### **GNST 292\*: Topics. (1-3)**

Titles will vary. CR/NC

### **GNST 293\*: Topics. (1-4)**

Titles will vary.

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## **GEOGRAPHY (GEOG)**

### **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 humans.

**GEOG 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.

**GEOG 105L: Physical Geography Laboratory. (1)**

Exercises designed to complement GEOG 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.

**GEOG 140: World Regional Geography. (3)**

The regional geography of the world. Both physical and human aspects are studied along with current economic and political problems.

**GEOG 195: Humans Role in Changing the Face of the Earth. (3)**

Survey of environmental issues related to the degradation of land, air and water resources.

**GEOG 251: Meteorology. (3)**

(Also offered as EPS 251) Description of weather phenomena, principles of atmospheric motion, weather map analysis and weather prediction.

**GEOG 281: Introduction to Maps and Geospatial Information (3)**

Maps are tools for communication. Will explore scale; projections; symbolization; generalization; alternative or non-tradition map representations provided by GIS, remote sensing, multimedia and animated maps.

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**GERMAN (GRMN)**

**GRMN 101: Elementary German I. (3)**

**GRMN 102: Elementary German II. (3)**

Language course sequence for all beginning students, providing a foundation in reading, writing, listening and speaking skills for all subsequent courses.

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**GREEK (GREK)**

**GREK 101: Elementary Greek I (3)**

Introduction to Classical Greek.

**GREK 102: Elementary Greek II (3)**

Readings from simple prose.

**GREK 104: Beginning New Testament Greek (3)**

(Also offered as RELG 104) Greek Introduction to New Testament Greek. Six hours is the equivalent of one year of

**GREK 106: Intermediate New Testament Greek (3)**

(Also offered as RELG 106) A continuation of the introductory course. Recommended is one semester of Greek or some equivalent instruction. Goal of the course is an independent and self-confident dialogue with the Greek language and the rediscovery of biblical texts.

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**HISTORY (HIST)**

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

**HIST 101: Western Civilization to 1648. (3)**

Ancient times to 1648. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1053).*

**HIST 102: Western Civilization Post 1648. (3)**

1648 to present. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1063).*

**HIST 161: History of the United States to 1877. (3)**  
Survey of the economic, political, intellectual, and social development of the United States, including the place of the U.S. in world affairs from 1607 to 1877. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113).*

**HIST 162: History of the United States Since 1877. (3)**  
Survey of the economic, political, intellectual, and social development of the United States, including the place of the U.S. in world affairs from 1877 to the present. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1123).*

**HIST 220: Studies in History.\* (1-3, no limit)**  
Will vary from instructor to instructor but will offer a review of particular historical issues designed for the nonspecialist. For content of particular courses, see Schedule of Classes and contact Department. Course may be repeated without limit provided the topics vary.

**HIST 260: History of New Mexico. (3)**  
Introduction to New Mexico history from earliest human settlement to the present day.

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## INFORMATION TECHNOLOGY (IT)

**IT 109: Information Technology Cooperative Education. (1-3)**

The student works in an IT-related job for one semester and gains on-the-job insight into a technology field. Student must write projected goals for the semester's work, midterm summaries of work completed thus far, and an end of the term report summarizing work completed during the semester. Students must also get a supervisor evaluation.

*Prerequisite:* Permission of Information Technology Department Chair required.

**IT 111: Introduction to E-Commerce. (3)**  
E-commerce concepts ranging from varieties of e-commerce to secure business transactions over the web. How to market a product over the web, basic business concepts of selling, and understanding the evolution of e-commerce.

**IT 119: Networking Core Concepts. (3)**  
This course serves as a general introduction in current networking technology for local area networks (LANs), wide-area networks (WANs), and the Internet. Leads to CompTIA Network+ Certification.

**IT 130: Microcomputer Operating Systems (3)**  
This class covers the skills necessary to select, install/deploy, integrate platforms or components to support an organization's IT infrastructure.  
*Prerequisites:* CS 101 and IT 119.

**IT 141: Technical Support. (3)**  
The student is enrolled in a 3-credit course which has two parts: a normal weekly lecture plus a mandatory service time manning the Help Desk Service Phone. In this course, students are taught how to assist other students, faculty, and staff with answering computer-related questions. Skills for running the Help Desk are taught, along with technical skills related to commonly asked questions. Working at the Help Desk phone is mandatory for a fixed number of hours per week. Students will be required to log all questions with appropriate answers to those questions.  
*Prerequisites:* CS 101, and IT 119.

**IT 145: Web Design Fundamentals: HTML and Style Sheets. (3)**  
Hands-on course in designing and developing World Wide Web pages using HTML (HyperText Markup Language) and CSS (Cascading Style Sheets). The course will cover HTML tags for text, images, links, lists, simple layouts, complex layouts, tables, frames, style, internal style sheets, and external style sheets. Basic issues in using graphics on the Web will also be covered.  
*Prerequisite:* CT 102



**IT 165: Introduction to Web Authoring. (3)**

(Also offered as CT 165) This course is an introduction to making and designing web pages using HTML generating software. Students learn how to make well-designed web pages from simple to the complex. Site creation with text, graphics, tables, Cascading Style Sheets, and simple animation effects are included. Design principles as they apply to the World Wide Web are also presented. No knowledge of HTML is required.

**IT 193\*: Topics (1-3)**

Titles will vary.

**IT 231: System Administration (3)**

This class covers the essential skills for IT majors to administer a system. Topics may include configuration/organization, file systems, user management, and backup/disaster recovery.

*Prerequisites:* CS 101, CS 152, IT 119, IT 132, IT 262

**IT 250: Web Fundamentals (3)**

Introduction to development, creation, and management of websites intended for IT majors. Topics include HTML, JavaScript, and web server technology.

*Prerequisites:* CS 101 and CS 152

**IT 260: Information Assurance and Security. (3)**

The primary goal of the course is a general introduction to “defense-in-depth” perimeter security on both Windows and LINUX/UNIX networks and an in-depth study of the step-by-step approach used in computer/network attacks. Leads to CompTIA Security+ Certification.

*Prerequisite:* CS 101 and IT 119.

**IT 262: Scripting for Network Defense (3)**

Scripting programming for security purposes. Students build on prior programming, operating systems, and security knowledge to develop, code, use, and debug new and existing scripts.

*Prerequisites:* CS 101, CS 152, IT 130, IT 260

**IT 265: Forensics and Incident Response (3)**

This course exposes the student to the topics of computer forensics and incident response. Topics include: fundamental concepts, history of computing forensics, data recovery techniques, and responses to security incidents.

*Prerequisites:* IT 260 and IT 262

**IT 271: Databases and Information Management (4)**

This course will cover development and administration issues of relational databases. Topics to span areas of efficient collection, organization, retrieval and management of data.

*Prerequisites:* CS 101 and CS 152

*Pre- or Corequisite:* IT 250

**IT 293\*: Topics. (1-3)**

Titles will vary.

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**INTRODUCTORY STUDIES**

*Introductory Studies courses do not count toward UNM-Los Alamos associate degrees or certificates. Students placing into English 099, English 100, Math 099 or Math 100 must also take UNIV 101, Seminar: On Course as a pre- or corequisite.*

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**IS- ENGLISH**

*A student who wishes to enroll in a course requiring a prerequisite must earn a grade of C (not C-) or better in the prerequisite course.*

**ENGL 099: Developmental English II. (1-4)**

An intensive study of fundamental writing skills, focusing upon paragraph development, fluency, and introducing the essay.

*Note:* At UNM-LA this course is offered for 4 credit hours with A, B, C, CR, NC grading, has a corequisite of ISE 020, and includes a skills laboratory.

**ISE 020: Reading I. (1)**

Reading for accuracy and understanding in short expository passages. Vocabulary, sequence and discussion skills are emphasized.

ABC/NC or CR/NC.

**ISE 021: Reading II. (1)**

Reading for analysis in short expository/academic passages. Vocabulary, outlining, note-taking, distinguishing among fact, assertion, evidence, and implication are emphasized.

ABC/NC or CR/NC.

**ENGL 100: Writing Standard English. (1-4)**

Developmental writing course providing concentrated practice writing and reviewing basic essays, as well as intensive study of grammar, punctuation, and usage.

*Prerequisites:* Successful completion of ENGL 099 minimum grade of C (previously 010) or minimum placement test score.

*Note:* At UNM-LA this course is offered for 4 credit hours with ABC/NC, CR/NC grading, has a corequisite of ISE 021, and includes a skills laboratory.

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## IS–MATHEMATICS

*A student who wishes to enroll in a course requiring a prerequisite must earn a grade of C (not C-) or better in the prerequisite course.*

**MATH 099: Pre-Algebra. (1–4)**

A pre-college mathematics course. Emphasis is placed on basic operations, fractions, decimals, percents, ratios, and introductory algebra and includes a skills laboratory.

*Grade options:* A, B, C, CR/NC

*Note:* At UNM-Los Alamos this course is offered for 4 credit hours.

**MATH 100: Introduction to Algebra. (1–4)**

Topics covered include linear equations, polynomials, factoring, formulas, graphing, and application problems and includes a skills laboratory. Grade option: A,B, C, CR/NC.

*Prerequisites:* Successful completion of MATH 099 or minimum placement test score.

*Note:* At UNM-Los Alamos this course is offered for 4 credit hours

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## ITALIAN (ITAL)

**ITAL 101: Elementary Italian I. (3)**

Language course for beginning students, providing a foundation in reading, writing, listening, and speaking skills for all subsequent courses.

**ITAL 102: Elementary Italian II. (3)**

Language course for students who have had Italian 101 or the equivalent, providing continuing work on reading, writing, listening, and speaking skills for all subsequent courses.

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## JAPANESE

**JAPN 101: Elementary Japanese I. (3)**

Foundation course for all beginning students, with instruction in speaking, listening, reading and writing.

**JAPN 102: Elementary Japanese II. (3)**

Second half of foundation course 101.

**JAPN 201: Intermediate Japanese I. (3)**

Continues development of four language skills (speaking, listening, reading and writing) at the third semester level.

**JAPN 202: Intermediate Japanese II. (3)**

Continuation of 201.

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## LATIN (LATN)

### **LATN 101: Elementary Latin I (3)**

Introduction to the Latin language; grammar, syntax and readings in Roman authors.

### **LATN 102: Elementary Latin II (3)**

Continuation of 101. Introduction to the Latin language; grammar, syntax and readings in Roman authors.

*Prerequisite:* LATN 101.

### **LATN 201-202: Intermediate Latin I, II (3, 3)**

Systematic review of Latin grammar and syntax; readings in simple prose authors such as Cicero and Caesar; introduction to Latin poetry and scansion.

*Prerequisite:* LATN 101 and 102.

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## LINGUISTICS (LING)

### **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. Note: LING 101 and ANTH 110 may not both be counted for credit. *Meets New Mexico Lower Division General Education Core Curriculum Area IV: Social and Behavioral Science.*

### **LING 295: Special Topics in Current Language Issues. (3 to maximum of 12)**

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.

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## MANAGEMENT (MGMT)

### **MGMT 101: Fundamentals of Accounting I. (3)**

The development of the accounting cycle, special journals and financial statements.

*Corequisite:* MGMT 101L

*Note:* Completion of MGMT 101 and MGMT 102 is accepted by Anderson Schools of Management in lieu of MGMT 202.

### **MGMT 101L: Fundamentals of Accounting I Lab. (1)**

To provide additional problem solving necessary for the students to master accounting basics.

*Corequisite:* MGMT 101.

### **MGMT 102: Fundamentals of Accounting II. (3)**

Continuation of MGMT 101, including corporation and manufacturing accounting and decision making.

*Prerequisite:* MGMT 101 *Corequisite:* MGMT 102L

*Note:* Completion of MGMT 101 and MGMT 102 is accepted by Anderson Schools of Management in lieu of MGMT 202.

### **MGMT 102L: Fundamentals of Accounting II Lab. (1)**

To provide additional problem solving necessary for students to master accounting basics.

*Corequisite:* MGMT 102

### **MGMT 105: Business Co-op Work Phase. (3)**

Offered on a CR/NC basis only.

### **MGMT 113: Management: An Introduction. (3)**

Modern concepts of organizations and their management in a dynamic world. An overview of managerial activities within business and other organizations.

### **MGMT 158: Ethics in Organizations. (3)**

Introduction to ethical issues in business, government, and nonprofit organizations and how to deal with those issues. Emphasis on ethical reasoning and cases of ethical and unethical behavior in management and the professions.

**MGMT 190: Special Topics in Management. (3)**

Selected offering of management topics not represented in the regular curriculum.

**MGMT 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, and problems of financial reporting.

**MGMT 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.)

**MGMT 290: Introduction to Business Statistics. (3)**

An overview of the use of statistics in business, descriptive statistics and numerical characteristics of data, introduction to probability, statistical inference including t-tests and regression, confidence intervals; application to business problems will be emphasized.

*Prerequisite:* MATH 180.

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## MANUFACTURING TECHNOLOGY

**MFGT 101: Introduction to Technology. (1)**

A general topics course on subjects relevant to electro-mechanical technology, manufacturing technology, and nanotechnology. Students will learn about the differences and similarities of the three technologies.

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## MATHEMATICS (MATH) AND STATISTICS (STAT)

*Note: A student who wishes to enroll in a course requiring a prerequisite must earn a grade of C (not C-) or better in the prerequisite course.*

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

*Students placing into Math 099 or Math 100 must also take UNIV 101, Seminar: On Course as a pre- or corequisite.*

*Restrictions:*

*MATH 099, MATH 100, MATH 118 may not be counted towards graduation.*

*Credit not allowed for both MATH 162 and MATH 180.*

*Credit not allowed for both MATH 163 and MATH 181.*

*Students who have credit for any courses numbered MATH 121 and above may not take MATH 100, or MATH 120 for credit.*

*Students who have credit for any courses numbered MATH 162 and above may not take MATH 120, 121, 123, or 150 for credit. (Students with MATH 180/181 may take MATH 123 for credit.)*

*A student normally may not take an examination to validate credit in mathematics courses.*

*Mathematics or Statistics course work dating back more than five years cannot automatically be counted as fulfillment of a prerequisite. Students with older course work who feel they have retained subject knowledge are encouraged to take the COMPASS placement tests offered through Student Services.*

**MATH 011: Prealgebra Part I (1-2)**

This course includes the first half of a prealgebra course including whole numbers, fractions, decimals, ratio and proportions, and percent

**MATH 012: Prealgebra Part II (1-2)**

This is the second half of a prealgebra course and covers measurement and geometry, real numbers, introduction to algebra and basic equation solving, and applications.

*Prerequisite:* Math 011

**MATH 021: Introduction to Algebra Part I (1-2)**

This course includes the first half of a beginning algebra course including a review of basic arithmetic, real numbers, integer exponents, linear equations and inequalities, and an introduction to application problems.

*Prerequisite:* Math 012 or Math 099

**MATH 022: Introduction to Algebra Part II (1-2)**

This course includes the second half of a beginning algebra course including a review of the Cartesian coordinate system, graphing linear equations in two variables, properties of exponents, polynomials and an introduction to factoring.

*Prerequisite:* Math 021

**MATH 099: Pre-Algebra. (1-4)**

A pre-college mathematics course. Emphasis is placed on basic operations, fractions, decimals, percents, ratios, and introductory algebra and includes a skills laboratory.

*Grade options:* A, B, C, CR/NC

*Note:* At UNM-Los Alamos this course is offered for 4 credit hours.

**MATH 100 : Introduction to Algebra. (1-4)**

Topics covered include linear equations, polynomials, factoring, formulas, graphing, and application problems and includes a skills laboratory. Grade option: A,B, C, CR/NC.

*Prerequisites:* Successful completion of MATH 099 (A,B,C, CR) or minimum placement test score.

*Note:* At UNM-Los Alamos, this course is offered for 4 credit hours.

**MATH 101: Intermediate Algebra Part 1 (1)**

This course includes equations and inequalities, applications and problem solving with linear equations, linear functions and the graph of a line, percent, perimeters, areas of simple geometric shapes

*Prerequisite:* ISM 100 or MATH 100

**MATH 102: Intermediate Algebra Part 2 (1)**

This course includes quadratic equations, properties of exponents and scientific notation, simplifying polynomial expressions, factoring and introduction to functions.

*Pre-or Corequisite:* Math 101

**MATH 103: Intermediate Algebra Part 3 (1)**

This course includes radical expressions and equations, rational expressions and equations, the exponential and logarithmic functions.

*Prerequisite:* Math 102

**MATH 106: Problems in Intermediate Algebra. (1)**

Study session for MATH 120 with an emphasis on problem solving.

Offered on a CR/NC basis only.

**MATH 107: Problems in College Algebra. (1)**

Study session for MATH 121 with an emphasis on problem solving.

*Corequisite:* MATH 121.

Offered on a CR/NC basis only.

**MATH 109: Graphing Calculator Workshop. (1)**

Explores calculator skills needed for algebra, trigonometry, pre-calculus, calculus, and/or science courses. Topics include logic, calculations, scientific notation, tables, scatter plots and regression equations, programs, polar graphing, matrices, use of instruction manual.

Offered on a CR/NC basis only.

**MATH 110: Problems in Elements of Calculus. (1)**

Study session for MATH 180 with an emphasis on problem solving.

Offered on a CR/NC basis only.

**MATH 111: Mathematics for Elementary and Middle School Teachers I. (3)**

Course offers an in-depth look at the representations of rational numbers, including base-ten and decimal numbers, integers, fractions, and arithmetic operations on these sets. Problem solving is emphasized throughout.

*Prerequisite:* (MATH 101 and MATH 102) or 120 or 121 or 123 or 150 or 162 or 180 or STAT 145 or ISM 100 or ACT  $\geq 19$  or SAT  $\geq 450$  or Compass Pre-Algebra  $> 56$  or Algebra  $> 33$

**MATH 112: Mathematics for Elementary and Middle School Teachers II. (3)**

This course develops basic geometric concepts including rigid transformations and congruence; dilations and similarity; length, area and volume; systems of measurement and unit conversions; connections to coordinate geometry. Problem solving is emphasized throughout.

*Prerequisite:* C (not C-) or better in MATH 111.

**MATH 118: Algebra. (3-4)**

This course covers approximately the first half of MATH 120. Topics covered include properties of real numbers, linear equations and inequalities; properties of exponents; solving systems of linear equations and polynomials.

Students must pass MATH 118 before continuing to the second half of the course.

*Prerequisite:* Adequate score on placement test or MATH 100.

**MATH 119: Algebra Stretch II. (4)**

This course covers approximately the last half of Math 120. Topics covered include rational expressions, rational exponents and roots, quadratic expressions and equations, functions and logarithms.

*Prerequisite:* Math 118\*

Both MATH 118 and MATH 119 must be completed to count as the equivalent of MATH 120. Only 4 of the 8 credit hours can count toward an associate degree or certificate at UNM-Los Alamos.

**MATH 120: Intermediate Algebra. (3)**

Preparation for MATH 121, 129, and STAT 145. Covers linear equations and inequalities, polynomials, factoring, exponents, radicals, fractional expressions and equations, quadratic equations, perimeters and areas of simple geometric shapes, and logarithms. Emphasis on problem solving skills. Acceptable as credit toward graduation, but not acceptable to satisfy UNM core or group requirements.

*Prerequisites:* ACT  $\geq 19$  or SAT  $\geq 450$  or ISM 100 or MATH 100 or COMPASS Pre-Algebra  $> 56$  or Algebra  $> 33$ .

*Corequisite:* MATH 106 (UNM-LA Only)

**MATH 121: College Algebra. (3)**

Preparation for MATH 150 and 180. The study of equations, functions and graphs, especially linear and quadratic functions. Introduction to polynomial, rational, exponential and logarithmic functions. Applications involving simple geometric objects. Emphasizes algebraic problem solving skills. *Meets New Mexico Lower Division General Education Common Core Curriculum Area II: Mathematics (NMCCN 1113).*

*Prerequisite:* ACT  $\geq 22$  or SAT  $\geq 510$  or (MATH 118 and Math 119) (MATH 101 and MATH 102 and MATH 103) or MATH 120 or COMPASS Algebra  $> 54$  or College Algebra  $> 33$ .

*Corequisite:* MATH 107 (UNM-LA Only)

**MATH 123: Trigonometry. (3)**

Definition of the trigonometric functions, radian and degree measure, graphs, basic trigonometric identities, inverse trigonometric functions, complex numbers, polar coordinates and graphs, vectors in 2 dimensions. May be taken concurrently with MATH 150.

*Prerequisite:* ACT  $\geq 25$  or SAT  $\geq 570$  or MATH 121 or COMPASS College Algebra  $> 54$ .

**MATH 129: A Survey of Mathematics. (3)**

An introduction to some of the great ideas of mathematics, including logic, systems of numbers, sequences and series, geometry and probability. Emphasizes general problem-solving skills. *Meets New Mexico Lower Division General Education Common Core Curriculum Area II: Mathematics.*

*Prerequisite:* ACT  $\geq 22$  or SAT  $\geq 510$  or (MATH 118 and MATH 119) or (MATH 101 and MATH 102) or MATH 120 or 121 or 123 or 150 or 162 or 180 or 181 or 264 .

**MATH 150: Pre-Calculus Mathematics. (3)**

In-depth study of polynomial, rational, exponential and logarithmic functions and their graphs. Includes the fundamental theorem of algebra, systems of equations, conic sections, parametric equations and applications in geometry. Exploration of the graphing calculator. May be taken concurrently with MATH 123.

*Prerequisite:* ACT  $\geq 25$  or SAT  $\geq 570$  or MATH 121 or COMPASS College Algebra  $> 54$ .

**MATH 162: Calculus I. (4)**

Limits. Continuity. Derivative: definition, rules, geometric and rate-of-change interpretations, applications to graphing, linearization and optimization. Integral: definition, fundamental theorem of calculus, substitution, applications to areas, volumes, work, average.

*Prerequisite:* (ACT  $=28-31$  or SAT  $= 640-700$  or MATH 150 or COMPASS College Algebra  $>66$ ) and (MATH 123 or COMPASS Trig  $> 59$ ) or (ACT  $\geq 32$  or SAT  $\geq 720$ ).

**MATH 163: Calculus II. (4)**

Transcendental functions, techniques of integration, numerical integration, improper integrals, sequences and series, Taylor series with applications, complex variables, differential equations.

*Prerequisite:* MATH 162.

**MATH 180: Elements of Calculus I. (3)**

Limits of functions and continuity, intuitive concepts and basic properties; derivative as a rate of change, basic differentiation techniques; application of differential calculus to graphing and minima-maxima problems; exponential and logarithmic functions with applications.

*Prerequisite:* ACT  $\geq 26$  or SAT  $\geq 600$  or MATH 121 or MATH 150 or COMPASS College Algebra  $> 54$ .

*Corequisite:* MATH 110 (UNM-LA Only)

**MATH 181: Elements of Calculus II. (3)**

Includes the definite integral, multivariate calculus, simple differential equations, basic review of trigonometry and its relation to calculus.

*Prerequisites:* MATH 180 .

**MATH 192\*: Topics. (1-3)**

Titles will vary. CR/NC.

**MATH 215: Mathematics for Elementary and Middle School Teachers III. (3)**

Algebra from the viewpoint of the elementary curriculum with emphasis on proportional and linear relationships. Also included: topics from probability and statistics with connections to other topics in the elementary curriculum. Problem solving is emphasized throughout.

*Prerequisite:* MATH 111.

**MATH 264: Calculus III. (4)**

Vector operations, vector representation of planes and curves, functions of several variables, partial derivatives, gradient, tangent planes, optimization, multiple integrals in Cartesian cylindrical and spherical coordinates, vector fields, line integrals and Green's theorem.

*Prerequisite:* A grade of C (not C-) or better in 163.

**MATH 292\*: Topics. (1-3)**

Titles will vary. CR/NC

**Math 293\*: Topics. (1-3)**

Titles will vary.

### STAT 145: Introduction to Statistics. (3)

Techniques for the visual presentation of numerical data, descriptive statistics, introduction to probability and basic probability models used in statistics, introduction to sampling and statistical inference, illustrated by examples from a variety of fields. *Meets New Mexico Lower Division General Education Common Core Area II: Mathematics.*

*Prerequisite:* ACT  $\geq 22$  or SAT  $\geq 510$  or (MATH 118 and MATH 119) or (MATH 101 and MATH 102) or MATH 120 or 121 or 123 or 150 or 162 or 163 or 180 or 181 or 264.

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## MECHANICAL ENGINEERING (ME)

### ME 160L: Mechanical Engineering Design I. (3)

Introduction to engineering graphics, the design process, computer aided design, engineering ethics, design economics and project management. 2 hrs lecture, 3 hrs. lab.

*Prerequisite:* Math 162.

### ME 260L: Mechanical Engineering Design II. (3)

The design process, project management, shop practice CNC and rapid prototyping, design economics and engineering ethics. 2 hrs. lecture, 3 hrs lab.

*Pre or Corequisite:* CHEM 121 and CHEM 123L

*Restriction:* ME major

\*This course will be occasionally offered through Extended University but will be taught by UNM–Albuquerque and carry UNM main campus tuition rates.

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## MECHANICAL TECHNOLOGY (MCHT)

### MCHT 101L: Basic Welding. (4)

This course focuses on the fundamental techniques employed in the welding field. It is a laboratory approach to understanding and building skills in welding related areas including shop safety, hand and portable power tool usage, and welding—including gas welding, brazing and cutting (oxy-acetylene), stick (SMAW), MIG (GMAW), TIG (GTAW), and plasma arc cutting (PAC). Students may opt to specialize in one or more of the areas after required exercises in all areas are satisfied.

### MCHT 120: GTAW Welding. (3)

Focuses on the advanced techniques employed in the Gas Tungsten Arc Welding (GTAW) field. Provides hands on welding practice and knowledge with the GTAW process in various Positions and Joint Configurations. Students may opt to specialize in one or more of the areas after learning all. Course prepares student to take the GTAW welding tests outside of UNM-Los Alamos.

*Prerequisite:* MCHT 101L

### MCHT 192\*: Topics. (1-3)

Titles will vary. CR/NC

### MCHT 193\*: Topics. (1-3)

Titles will vary.

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## MEDIA ARTS (MA)

### MA 110: Introduction to Mass Communication. (3)

(Also offered as CJ 110) The study of the development of the mass media with emphasis on television in the areas of programming, policy, regulations, economics and technology. Examination of the social, cultural, and political impact of the mass media on contemporary society.



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## MUSIC (MUS)

*\*May be repeated for credit with permission of Fine Arts Department Chair.*

### **MUS 102: Music Theory for the Non Major. (3)**

Students will develop an 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.

### **MUS 104: Group Piano for Non-Majors. (1)**

Keyboard fundamentals, including key and chord relationships. Opportunities exist for the creative exploration of piano sound, with repertoire assigned for the individual student's current ability. Open only to non-music majors.

### **MUS 105: Group Piano II for Non-Majors. (1)**

Continuation of 104. Open only to non-music majors  
*Prerequisite:* MUS 104

### **MUS 109: Group Voice I. (1) \***

Open to beginners in voice except voice performance majors.

### **MUS 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:* MUS 109.

### **MUS 111: Group Piano I. (1, no limit)**

Beginning repertoire, sight-reading, basic major-key scale and chord patterns. Open only to music majors and to music and music education minors; priority given to students with a piano proficiency requirement. Not open to keyboard majors. Instructor permission required. May be repeated for credit with permission of department chairperson (or dean) and instructor.

### **MUS 112: Group Piano II. (1, no limit)**

Late elementary repertoire, sight-reading moving out of the five-finger position, minor scale and chord patterns. Not open to keyboard majors. Primarily for music majors and minors, but open to all students.  
*Prerequisite:* MUS 111.

### **MUS 113: Mexican Guitar. (1)**

Group Instruction.

### **MUS 114: Mexican Guitar. (1)**

Continuation of MUS 113.

### **MUS 116: Group Guitar I. (2)**

Students will learn to read music and play melodies, chords, and simple songs. Emphasis on classical curriculum, supplemented with instruction in other styles, including rock, blues, and jazz. Students must supply instrument (classical, nylon-string guitar).

### **MUS 117: Group Guitar II. (2)**

For students who have completed 116 or have some basic guitar skills. Emphasis on classical curriculum, supplemented with instruction in other styles, including rock, blues, and jazz. Students must supply instrument (classical, nylon-string guitar).

### **MUS 139: Music Appreciation. (3)**

Designed to expand the student's ability to listen actively to Western classical art music: a survey of the various genres including chamber music, symphonic, and vocal repertoire Includes live guest performances. Attendance at several on campus concerts required. No musical background necessary. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113).*

**MUS 142: Rock Music Appreciation. (3)**

An Introduction to the fundamentals of music and the development of listening skills through the examination of rock music, including its history, styles and significance in the realm of popular music. No musical background necessary.

**MUS 150L: Music Theory I Aural Lab. (2)**

Perception through sound of diatonic materials, with special emphasis on melodic, rhythmic and harmonic dictation and the singing of simple melodies, rhythms and intervals.

*Corequisite:* MUS 150.

**MUS 172: Jazz History. (3)**

A study of the evolution of jazz in the United States from its beginnings to the present. *Meets New Mexico Lower Division General Education Core Curriculum Area V: Humanities and Fine Arts.*

**MUS 211: Group Piano III. (1, no limit)**

Intermediate repertoire, reading skill, chord and scale patterns. Not open to keyboard majors. Primarily for music majors and minors, but open to all students.

*Prerequisites:* MUS 112

**MUS 212: Group Piano IV. (1, no limit)**

Later intermediate to early advanced repertoire and sight-reading. Review of scales and chords. Not open to keyboard majors. Primarily for music majors and minors, but open to all students who are music education majors must continue to enroll in this course until the piano proficiency examination is passed.

*Prerequisites:* MUS 211.

**MUS 266: Singing for Actors. (2)**

Vocal technique for the actor who wants to gain confidence in singing, specifically for audition purposes. Students are assigned specific musical theater repertory and perform in an ongoing workshop environment. Open to all levels. (V)

**MUS 271: Music Today. (3)**

A survey of how Western art music and popular music developed during the 20th century especially with regard to the effect that social and economic forces had upon the art. Attendance at several on-campus concerts is required; discussion and live performance by guest musicians is included. *Meets New Mexico Lower Division General Education Core Curriculum Area V: Humanities and Fine Arts.*

**MUS 292\*: Topics. (3)**

Titles will vary. CR/NC.

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## MUSIC EDUCATION (MUSE)

**MUSE 298: Music for the Elementary Teacher. (3)**

Will prepare elementary classroom teachers to teach music education in a self-contained classroom in traditional and open situations.

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## NANOTECHNOLOGY (NANO)

**NANO 101: Introduction to Nanotechnology. (3)**

This course provides an overview of nanotechnology with regard to various principles, applications, industry, ethics, and careers. Other topics will include a survey of various materials and their applications, fabrication, and characterization.

**NANO 105: Microscopy and Microstructures. (3)**

Study the interrelationship between the structural characteristics and the physical and mechanical properties of metals, alloys, and nonmetallic materials such as ceramics, polymers, and composites.

**NANO 130: Introduction to Nanomaterials and Coatings. (3)**

The course will cover the major processes used in coating continuous webs, emphasizing precision application technology for the high performance coatings required by many high-tech products.

*Prerequisites:* CHEM 111 and ELCT 105L and NANO 105.

*Corequisite:* NANO 130L

**NANO 130L: Micro and Nano Fabrication Lab. (1)**

Introduction to the basic concepts of micro and nano fabrication techniques and to the fundamental principles of surface finishing, small part manufacture, part-masking, etching, and safety.

*Corequisite:* NANO 130

*Prerequisite:* ELCT 105L

**NANO 210: Nanomaterials. (3)**

Fabrication, property measurement, and compound formulation of carbon nanotubes. Creation of nanomaterials, particles, and crystals by various processes. Properties and measurement techniques of nanomaterials and interactions between organic and inorganic materials.

*Prerequisite:* NANO 130.

**NANO 250: Manufacturing Measurements and Process Control. (3)**

Investigate measurements using mechanical, electronic, optical, microscopic, and interferometric methods of measuring linearity from 1/64ths to nanometers, statistical process control methods, standard charting, vendor certification, and standards such as ISO 9000 are covered.

*Prerequisites:* ELCT 105L and DRFT 119

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## NATIVE AMERICAN STUDIES (NATV)

**NATV 150: Introduction to Native American Studies. (3)**

This course surveys the significance of Native American Studies through an inter-disciplinary approach to four major areas of academic concentrations; Arts and Literature, Education and Language, Cultural Studies and Environment, and Leadership and Self-determination.

**NATV 247: Politics of Native American Art. (3)**

Native American art and artists within political, social and cultural contexts are introduced through an examination of the history of representations of Native art.

**NATV 252: The Native American Experience. (3)**

(Also offered as AMST 252) Introductory survey of Native American history, culture, and contemporary issues. Students read literature by and about Native Americans covering a variety of topics including tribal sovereignty, federal policy, activism, economic development, education, and community life.

*Note:* NATV 252 and AMST 252 may not both be counted for credit.

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## NATURAL SCIENCE (NTSC)

**NTSC 261L: Physical Science. (4)**

For pre-service K-8 teachers only. A broad, interdisciplinary introduction to the science of geology, Chemistry, physics, and astronomy, with emphasis on the science processes, inquiry and the integration of technology. The course is activity-based, utilizing a problems-and-issues based approach; various teaching methods are modeled, and practiced by students; some field trips may be required.

### **NTSC 262L: Life Science. (4)**

For pre-service K-8 teachers only. An activity-based study of science topics including botany, cell biology, genetics, microbiology, and zoology with emphasis on science processes, inquiry, and the integration of technology. Various teaching methods are modeled and practiced by students; some field trips may be required.

### **NTSC 263L: Environmental Science. (4)**

For pre-service K-8 teachers only. An activity-based interdisciplinary study of major issues in environmental science with emphasis on science process, scientific investigations, and field-based activities and the integration of technology. Course topics include current issues on population, healthy ecosystems, and natural resources. Various teaching methods are modeled and practiced by students.

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## **NUTRITION (NUTR)**

### **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

### **NUTR 244: Human Nutrition. (3)**

This course provides an overview of all the nutrients including function in the body and food sources. Dietary guidelines intended to promote long term health are stressed.

*Prerequisites:* BIOL 123 or BIOL 201 or CHEM 111 or CHEM 121 AND CHEM 123L.

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## **ORGANIZATIONAL LEARNING AND INSTRUCTIONAL TECHNOLOGIES (OLIT)**

### **OLIT 293: Topics. (1-3)**

Titles will vary.

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## **PHILOSOPHY (PHIL)**

### **PHIL 101: Introduction to Philosophy. (3)**

Philosophical issues and methodology illustrated through selected problems concerning values, knowledge, reality; and in social political, and religious philosophy. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113).*

### **PHIL 102: Current Moral Problems. (3)**

Ethical issues arising in contemporary society, e.g., sexual morality, preferential treatment, racism, punishment, war, world food distribution.

### **PHIL 111: Humanities I. (3)**

Comparative introduction to the development of human civilizations emphasizing philosophic thought, religious practice, and artistic expression.

*Note:* This course is no longer transferable to UNM Albuquerque.

### **PHIL 156: Reasoning and Critical Thinking. (3)**

The purpose of this course is to help students learn how to analyze, critique, and construct arguments in context, in other words, how to read and write argumentative essays. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts.*

### **PHIL 201: Greek Thought. (3)**

An introductory survey of early and classical Greek philosophy, literature, and history. Figures: the Presocratics, Socrates, Plato, and Aristotle; Homer and Sophocles; Herodotus and Thucydides. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts.*

**PHIL 202: From Descartes to Kant. (3)**

An historical study of philosophical trends and controversies that characterize the development of early modern philosophy. This survey will cover the philosophies of Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant.

**PHIL 211: Greek Philosophy. (3)**

A survey of classical Greek Philosophy. The Presocratics, Plato, Aristotle, and the Stoics. Concepts of nature and culture, theories of the self, concepts of being; happiness, virtue, and the good life.

**PHIL 244: Introduction to Existentialism. (3)**

An examination of the works of writers such as Kierkegaard, Nietzsche, Kafka and Sartre who emphasize such issues as death, decision, rebellion, and faith.

**PHIL 245: Professional Ethics. (3)**

Examination of social and ethical problems associated with the business, engineering, medical, and legal professions. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts.*

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## **PHYSICAL EDUCATION NON-PROFESSIONAL (PENP)**

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

**PENP 101: Beginning Swimming. (1-2, no limit) \***

Instruction for students who have not been in the water or have a fear of water.

**PENP 102: Intermediate Swimming. (1-2, no limit) \***

Instruction in all basic strokes. For students who can swim.

**PENP 114: Weight Training and Physical Conditioning. (1, no limit)\***

Individual training programs for development of general strength, tone, endurance and weight control. Fitness Test. Fee.

**PENP 115: Intermediate Weight Training. (1, no limit) \***

Instruction in advanced weight-lifting principles and techniques as well as fitness related topics. Fitness Test. Fee.

**PENP 124: Ballroom Dance. (1, no limit)\***

Instruction in the basic movements of social dances such as fox trot, waltz, lindy, rumba, tango and cha-cha.

**PENP 128: Beginning Country Western Dance. (1, no limit)\***

Instruction in the basic movements of the Waltz, Two-Step, Swing, and Polka.

**PENP 130 – 131: T'ai Chi Ch'uan. (1, no limit) \***

Instruction and practice in techniques to enhance body awareness, reduces stress, improve balance and increase strength.

**PENP 132: Beginning Tae Kwon Do. (1, no limit) \***

Instruction in the basic skills, blocks, strikes and kicks of Tae Kwan Do.

**PENP 133: Intermediate Tae Kwon Do. (1, no limit) \***

Advanced instruction in the basic skills, blocks, strikes and kicks of Tae Kwan Do.

**PENP 134: Beginning Kung Fu. (1, no limit) \***

Instruction in basic skills, blocks, strikes, and kicks of Kung Fu.

**PENP 136: Personal Defense. (1, no limit) \***

Instruction in the basic skills needed to defend oneself against assault.

**PENP 138 – 139: Karate. (1, no limit) \***

Instruction in the basic skills, blocks, strikes, and kicks of Japanese karate.

**PENP 143: Beginning Tennis. (1, no limit)\***

Instruction in the basic skills and rules of tennis.

**PENP 144: Intermediate Tennis. (1, no limit) \***

Instruction dependent upon experience and skills of students in basic fundamentals. Perfection of strokes.

**PENP 152: Racquetball. (1, no limit) \***

Instruction and practice in the skills and rules of racquetball.

**PENP 155 – 156: Pilates. (1, no limit) \***

Instruction in movements that increase balance, core fitness and cardio respiratory endurance.

**PENP 158: Aerobic Dance I. (1, no limit) \***

Instruction in continuous movement using basic dance steps for improved cardio respiratory endurance.

**PENP 165: Yoga. (1, no limit)\***

Introduction to the five areas of yoga which are particularly significant to the Western World.

**PENP 166: Intermediate Yoga. (1, no limit) \***

Instruction in more advanced techniques of Yoga emphasizing the physical aspects of Hatha Yoga.

**PENP 167: Basketball. (1, no limit)\***

Instruction and practice of basic skills.

**PENP 177–178: Fundamentals of Stretching and Relaxation Techniques. (1, no limit) \***

Instruction and practice of various techniques to enhance flexibility and reduce stress.

**PENP 193\*: Topics. (1-2)**

Titles will vary.

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## PHYSICS (PHYC)

*Listed in the UNM-Albuquerque catalog as the Department of Physics and Astronomy. See also "Astronomy."*

**PHYC 102: Introduction to Physics. (3)**

Designed to introduce non-science majors to basic concepts, laws and skills in physics, in various applications to ordinary life. Energy, momentum, force, wave phenomena, electric charge and photons are discussed, also basic properties of gravitational, electromagnetic and nuclear forces. Selections from relativity, quantum theory, atoms and molecules will be included. See PHYC 102L for an optional laboratory. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science.*

**PHYC 102L: Physics Laboratory. (1)**

Students involve themselves in experiments and projects showing basic concepts related to the atom, the environment and the universe. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science.*

*Pre- or Corequisite:* PHYC 102. Two hours lab.

**PHYC 105: Physics and Society. (3)**

Designed to introduce non-science majors to basic concepts, laws and skills in classical and quantum physics as a basis to discuss the interrelationships of society and physics. Examples where energy, momentum, special relativity, thermal physics, quantum and nuclear physics have important roles are discussed; these could include meteorology, aviation weather, fission and fusion reactors, science policy and ethics, alternative energy sources.

**PHYC 110: Introduction to Applied Physics. (3)**

Preparatory course to review skills needed for PHYC 151/160. Reviews math skills (vectors, trigonometry, word problems, solving equations, etc.) through applications of physics principles to examples such as cell phones, musical instruments, CD players, driving, tools, projectiles, athletics, and electrical circuits.

*Prerequisite:* MATH 121 or SAT  $\geq$  570 or ACT  $\geq$  25.

**PHYC 151: General Physics. (3)**

Mechanics, sound, heat, fluid, waves.. The sequence (151, 151L, 152, 152L) is required of pre-medical, pre-dental, and pre-optometry students. Only 151 and 152 are required of pharmacy students. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114).*

*Prerequisites:* (MATH 123 or Compass Trig Test  $\geq$  60) and (MATH 150 or MATH 162 or MATH 180 or ACT  $>$  27 or SAT  $>$  630.)

**PHYC 151L: General Physics Laboratory. (1)**

Mechanics, sound, heat. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114).*

*Pre- or Corequisite:* PHYC 151. Three hours lab.

**PHYC 152: General Physics. (3)**

Electricity, magnetism, optics. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1124).*

*Prerequisite:* PHYC 151.

**PHYC 152L: General Physics Laboratory. (1)**

Electricity, magnetism, optics. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1124).*

*Pre- or Corequisite:* PHYC 152. Three hrs. lab.

**PHYC 157: Problems in General Physics. (1)**

Problem solving and demonstrations related to PHYC 151.

*Corequisite:* PHYC 151.

Offered on a CR/NC basis only.

**PHYC 158: Problems in General Physics. (1)**

Problem solving and demonstrations related to PHYC 152.

*Corequisite:* PHYC 152.

Offered on a CR/NC basis only.

**PHYC 160: General Physics. (3)**

Mechanics, sound. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1214).*

*Pre- or Corequisite:* MATH 162.

**PHYC 160L: General Physics Laboratory. (1)**

Mechanics, sound. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1214).*

*Pre- or Corequisite:* PHYC 160. Three hrs. lab.

**PHYC 161: General Physics. (3)**

Heat, electricity, magnetism. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1224).*

*Prerequisite:* PHYC 160; *Pre- or Corequisite:* MATH 163.

**PHYC 161L: General Physics Laboratory. (1)**

Electricity and magnetism. *Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1224).*

*Pre- or Corequisite:* PHYC 161. Three hrs. lab.

**PHYC 167: Problems in General Physics. (1)**

Problem solving and demonstrations related to PHYC 160.

*Corequisite:* PHYC 160.

Offered on a CR/NC basis only

**PHYC 168: Problems in General Physics. (1)**

Problem solving and demonstrations related to 161.

*Corequisite:* PHYC 161.

Offered on a CR/NC basis only.

**PHYC 262: General Physics. (3)**

Optics, modern physics.

*Prerequisite:* PHYC 161; Pre- or Corequisite: MATH 264.

**PHYC 262L: General Physics Laboratory. (1)**

Optics, modern physics.

*Pre- or Corequisite:* PHYC 262. Three hrs. lab.

**PHYC 267: Problems in General Physics. (1)**

Problem solving and demonstrations related to PHYC 262.

*Corequisite:* PHYC 262. Offered on a CR/NC basis only.

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## POLITICAL SCIENCE (POLS)

**POLS 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. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences. Students who have already had courses in political science may not count POLS 110 toward a major.*

**POLS 200: American Politics. (3)**

Survey of American politics, including political behavior of the American electorate, the theory of democracy, the structure and function of American political institutions, and contemporary issues. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.*

**POLS 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, and developing systems.

**POLS 240: International Politics. (3)**

(Also offered as PCST 240) Analyzes significant factors in world politics, including nationalism, “national interest,” ideology, international conflict and collaboration, balance of power, deterrence, international law, and international organization.

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## PROFESSIONAL PHYSICAL EDUCATION (PEP)

**PEP 293: (1-3, no limit  $\Delta$ )**

Topics

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## PSYCHOLOGY (PSY)

**PSY 105: General Psychology. (3)**

Overview of the major content areas in psychology. Topics to be covered include learning, cognition, perception, motivation, biological systems, social and abnormal psychology, development, personality, and approaches to psychotherapy. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.*

**PSY 200: Statistical Principles. (3)**

Presentation of the basic principles of the description and interpretation of data. Provides an acquaintance with statistical principles appropriate to a liberal arts education, as well as a basis for further work in data analysis. Students planning graduate study in any field are advised to take 300 and 302 as well.

*Prerequisite:* PSY 105.

**PSY 220: Developmental Psychology. (3)**

Overview of the physical, perceptual, motor, cognitive, emotional and social development of children from infancy through adolescence.

*Prerequisite:* PSY 105.



**PSY 231: Psychology of Human Sexuality. (3)**  
(Also offered as WMST 231) Exploration of the physiological, cultural, social and individual factors that influence sexual behavior sex roles, and sex identity.  
*Prerequisite:* PSY 105.

**PSY 240: Brain and Behavior. (3)**  
A general survey of the biological foundations of behavior. Emphasis is on the central nervous system.  
*Prerequisite:* PSY 105 or BIOL 110 or BIOL 123

**PSY 250: Special Topics in Psychology. (1-3, no limit) \***  
Study of any psychological topic not otherwise included in the curriculum upon expression of mutual interest by students and faculty. May be repeated for credit provided the subject matter varies.

**PSY 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:* PSY 105.

**PSY 265: Cognitive Psychology. (3)**  
Study of the cognitive processes involved in the encoding, storage, retrieval and use of knowledge including attention, memory, comprehension, categorization, reasoning, problem solving and language.  
*Prerequisite:* PSY 105.

**PSY 271: Social Psychology. (3)**  
Study of social influence: perception of oneself and others, attitudes, conformity, attraction, altruism, aggression, groups.  
*Prerequisite:* PSY 105.

**PSY 280: Health Psychology. (3)**  
This course introduces Health Psychology. The course will cover the role of stress in illness, coping with chronic illness, stress, and pain, and the role of health behavior in health and disease.  
*Prerequisite:* PSY 105.

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## RELIGIOUS STUDIES (RELG)

**RELG 103: Introduction to the Bible. (3)**  
Survey of the Bible in historical context.

**RELG 104: Beginning New Testament Greek (3)**  
(Also offered as GREK 104) Introduction to New Testament Greek.

**RELG 105: Religion and the Arts. (3)**  
Introduction to the relationship between religion and culture as reflected in the arts.

**RELG 106: Intermediate New Testament Greek (3)**  
(Also offered as GREK 106) A continuation of the introductory course. Recommended is one semester of Greek or some equivalent instruction. Goal of the course is an independent and self-confident dialogue with the Greek language and the rediscovery of biblical texts.

**RELG 107: Living World Religions. (3)**  
Introduction to major living world religions, such as Buddhism, Christianity, Hinduism, Islam, and Judaism.

**RELG 247: Studies in Religions. (3)**  
Elementary topics in the study of world religions. Course may be repeated up to three times provided the topics vary.

**RELG 263: Eastern Religions. (3)**  
A study of major Asian traditions, such as Taoism, Hinduism and Buddhism.

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**RELG 264: Western Religions. (3)**

A study of major Western traditions, such as Christianity, Islam, and Judaism.

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**ROBOTICS (ROBO)****ROBO 201: Industrial Robotics Operations (3)**

This course covers basic robotics operations, including robotics system components, peripherals, robot set-up, programming, production, and robotics operation safety practices.

*Prerequisites:* ELCT 163 and CS 151L

**ROBO 202: Advanced Industrial Robotics (3)**

This course covers industrial robotics programming and intelligent visual recognition software. Students will work with robots, peripheral equipment, and workspaces specific to industrial manufacturing robots.

*Prerequisite:* ROBO 201

**ROBO 204: Programmable Logic Controllers (3)**

This course explores the many aspects of Programmable Logic Controllers (PLCs) from basic concepts to system level applications. It covers wiring, programming, and Allen Bradley logic controllers. Students will learn to integrate PLC technology into automated industrial applications and integration with industrial robotics.

*Prerequisites:* ELCT 163.

**ROBO 290 Robotic Synthesis (3)**

This is a capstone course in the robotics program. Students will integrate and demonstrate all previously gained robotics, electronics, manufacturing, CADD, and programming skills to produce a comprehensive robotic project.

*Prerequisite:* ROBO 202.

**ROBO 293: Topics in Robotics (1-3)**

This course is a topics course for robotics.

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**RUSSIAN (RUSS)****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 RUSS 103.

**RUSS 102: Elementary Russian II. (3)**

Elementary Russian for students who have completed RUSS 101 or equivalent. Continued development of all four skills. Can be taken in conjunction with RUSS 104.

**RUSS 103-104: Beginnings: Speaking Russian. (1,1)**

Practice in basic conversation and training in acquiring a good accent. The courses are supplemental to RUSS 101-102 and stress the patterns and forms introduced in the main courses.

**RUSS 201-202: Intermediate Russian I–Intermediate Russian II. (3, 3)**

*Prerequisites:* RUSS 101,-102 or the equivalent.

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**SIGNED LANGUAGE (SIGN)****SIGN 201: Introduction to Signed Language. (3)**

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.

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**SOCIOLOGY (SOC)****SOC 101: Introduction to Sociology. (3)**

Basic concepts, topics, and theories of contemporary sociology. Prerequisite for more advanced courses in sociology. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 1113).*

**SOC 200: Foundations of Social Welfare. (3)**

Overview of social welfare institutions in Western societies related to social change, stratification, economy, politics, dependency, poverty, wealth, and unemployment in U.S. and other countries; examines social work and related human service occupations.

*Prerequisite:* SOC 101.

**SOC 205: Crime, Public Policy and the Criminal Justice System. (3)**

The study of crime, the criminal justice system and crime-related public policy. Discussion of key criminological concepts, measurement of crime and delinquency, its distribution in society, victimization, public opinion, the criminal justice system, crime control strategies and policies.

*Prerequisite:* SOC 101.

**SOC 211: Social Problems. (3)**

Description and analysis of major social problems facing American society. Foci may include: poverty, homelessness, alcohol and drug problems, race and ethnic relations, aging and mental illness.

*Prerequisite:* SOC 101.

**SOC 213: Deviance. (3)**

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:* SOC 101.

**SOC 216: The Dynamics of Prejudice. (3)**

The study of prejudice and discrimination, including their historical and contemporary sources and prospects for their reduction, with applications to American institutions.

**SOC 221: Global Issues. (3)**

(Also offered as PCST 221) The global context of patterns of development in nation states with an emphasis on industrializing countries. Selected topics of social, economic and cultural change. Inequality, war, reform and revolution in global perspective. *Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.*

*Prerequisite:* SOC 101.

**SOC 225: Marriage, Family and Their Alternatives. (3)**

Comparative analysis of contemporary family and household forms such as dual-worker, single-parent and homosexual couple households. Focus on links between large-scale social changes and changing family composition and interaction patterns. *Meets New Mexico Lower Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences (NMCCN 2213).*

*Prerequisite:* SOC 101.

**SOC 230: Society and Personality. (3)**

The social psychology of personalities, relationships, small groups, and organizations.

*Prerequisite:* SOC 101.

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## **SOLAR TECHNOLOGY (SLRT)**

**SLRT 101: Introduction to Alternative Energy Technologies. (3)**

Introduction to alternative and sustainable energy sources. Topics include solar energy, wind, biofuels, tides, hydroelectric, ocean currents, and geothermal energy. The efficiency of each alternative energy source and the limitations that exist in terms of extracting usable energy will be studied.

### **SLRT 162: Photovoltaics I: Analysis . (3)**

This course covers photovoltaic principles and the use of photovoltaics in stand-alone and interconnected (grid-tied) electrical systems. Includes detailed site analysis, system sizing, component and installation recommendations, and economic analyses.

### **SLRT 163: Photovoltaics II: Equipment & Installation. (3)**

This course discusses equipment for and installation of photovoltaic (PV) systems. Topics covered include system components and configurations, cells, modules, arrays, batteries, charge controllers, and inverters. Also discussed are mechanical & electrical integration of PV systems, utility interconnection, commissioning, maintenance & troubleshooting PV systems.

*Prerequisite:* SLRT 162

### **SLRT 210: Solar Thermal Technology. (3)**

Study of various technologies and logistics involved with solar heating. Students will learn to make system size and type recommendations, select equipment, recommend installation, and perform site analyses. Hands-on experience in actual system set-up and plumbing, sweat soldering piping, other piping connections, and electronic control.

*Prerequisite:* MATH 121 and MATH 107 and ELCT 105L

### **SLRT 250: Green Architectural Design. (4)**

This course explores the many aspects of architectural design and construction that create environmentally sustainable and energy efficient structures. Topics include passive vs. active solar thermal, energy efficient infrastructure, retrofitting existing structures, energy auditing, and an introduction to LEED (Leadership in Energy and Environmental Design).

*Prerequisite:* MATH 123

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## **SPANISH (SPAN) AND PORTUGUESE**

*Courses marked with an \* may be repeated for credit because the subject matter varies.*

### **SPAN 101: Elementary Spanish I. (3)**

Beginning Spanish for students with no previous exposure to Spanish. Development of all four language skills, with emphasis on listening and speaking.

### **SPAN 102: Elementary Spanish II. (3)**

Beginning Spanish for students who have completed Span 101 or equivalent. Continued development of four skills with emphasis on listening and speaking.

### **SPAN 103 - 104: Elementary Spanish Conversation I– Elementary Spanish Conversation II. (1, 1)**

Supplementary courses to SPAN 101-102 for students interested in additional practice in speaking.

CR/NC.

*Pre or Corequisite:* SPAN 101 or 102

### **SPAN 111: Elementary SHL I. (3)**

Beginning Spanish for students who grew up in a Spanish-speaking environment. Will build upon the language base which the students already possess. Development of all four language skills: reading, writing, listening and speaking. (L)

### **SPAN 112: Elementary SHL II. (3)**

Beginning Spanish for heritage language students who have completed 111 or equivalent. Continued development of the four skills with an emphasis on reading and writing, vocabulary building and review of grammar. (L)

### **SPAN 201: Intermediate Spanish I. (3)**

Intermediate Spanish for students who have completed 102 or equivalent. Review of grammar and further development of all four skills.

**SPAN 202: Intermediate Spanish II. (3)**

Intermediate Spanish for students who have completed SPAN 201 or equivalent. Continued development of all four skills with emphasis on reading.

**SPAN 203: Spanish Conversation. (3)**

For students who have completed or are currently enrolled in SPAN 201, SPAN 202, or SPAN 276. Small classes designed to increase skills in speaking Spanish. Not for native speakers.

*Pre or Corequisite:* SPAN 201 or 202.

**SPAN 211: Intermediate SHL I. (3)**

Intermediate Spanish for heritage language students who have completed 102 or equivalent. Review of grammar and continued development of the four skills with an emphasis on literacy and speaking. (L)

**SPAN 212: Intermediate SHL II. (3)**

Intermediate Spanish for heritage language students who have completed 201 or equivalent. Further development of all four skills, with an emphasis on reading authentic materials, on practical writing needs and communicating with other native speakers. (L)

**SPAN 275: Accelerated Beginning Spanish. (6)**

Intensive one semester course designed for language enthusiasts who want a review or can devote the time required to cover two semesters in one. Equivalent to 101 and 102.

**SPAN 293\*: Topics. (1-3)**

Titles will vary.

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## STATISTICS (STAT)

**STAT 145: Introduction to Statistics. (3)**

Techniques for the visual presentation of numerical data, descriptive statistics, introduction to probability and basic probability models used in statistics, introduction to sampling and statistical inference, illustrated by examples from a variety of fields. *Meets New Mexico Lower Division General Education Common Core Area II: Mathematics.*

*Prerequisite:* ACT  $\geq 22$  or SAT  $\geq 510$  or (Math 118 and Math 119) (MATH 101 and MATH 102) or MATH 120 or 121 or 123 or 150 or 162 or 163 or 180 or 182 or 264.

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## THEATRE (THEA)

**THEA 105: Theatre Appreciation. (3)**

For majors and non-majors. Study of the various elements of the practice of theatre: acting, directing, design, production, playwriting. Issues of spectatorship and criticism also addressed. Required attendance at a number of performances. *Meets New Mexico Lower Division General Education Common Core Curriculum Area V: Humanities and Fine Arts (NMCCN 1113).*

**THEA 130 (120): Acting I. (3) [Acting Foundations I]**

Exploration of the basic fundamentals of acting through exercises, games and improvisation. Development of the imaginative, physical and emotional skills of the actor.

**THEA 131 (121): Acting II. (3) [Acting Foundations II]**

Continued exploration of the actor's craft. Introductory work with text.

*Prerequisite:* THEA 130.

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## UNIVERSITY (UNIV)

### **UNIV 101: Seminar: Introduction to UNM and Higher Education (1-3)**

Designed to accelerate successful transition to university life. Some sections may require co-registration in specific sections of other courses. Restriction: First semester freshman.

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## UNIVERSITY HONORS (UHON)

### **UHON 121-122: Freshman University Honors Seminar. (3 to maximum of 9)**

Surveys of major ideas basic to the intellectual, historical and artistic traditions of Western Culture.

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## WOMEN STUDIES (WMST)

### **WMST 200: Women: Social & Historical Perspectives. (3)**

Women's status in society: Women's socialization by sex, class, race and culture; the economics of discrimination, and role of education and family. Historical and social perspectives.

### **WMST 233: Native American Women. (3)**

An interdisciplinary course that focuses on the historical, cultural, economic and political issues that affect the changing roles of Native American Women.

### **WMST 250. Black Women. (3)**

A comprehensive survey of the role Black Women has played in the society of the United States. Emphasis will be placed on achievements and contributions.

### **WMST 279: Interdisciplinary Topics. (1-3, repeatable to a maximum of times)**

Can be repeated for credit three times by students earning a major or minor in Women Studies.

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## WOODWORKING (WW)

*Courses marked with an \* may be repeated for credit because subject matters varies.*

### **WW 101: Basic Wood Working. (3)**

This course introduces the joys of working wood. Including: hand and power tool safety, stock preparation, and basic joinery techniques.

### **WW 110: Furniture Design and Construction. (3)**

Creating furniture from conception to completed work! Includes: history of furniture design, drawing furniture, woods, joinery, construction techniques, and shop safety  
*Prerequisite:* WW 101

### **WW 114: Spanish Colonial Carving. (3)**

Instruction is traditional methods of carving using the designs, tools and techniques of Spanish Colonial wood working. (Does not include student materials.)

### **WW 120: Wood Working Shop. (3)**

This course is for students who have completed basic woodworking courses and are prepared to work on individual projects.

*Prerequisite:* WW 101.

### **WW 193\*: Topics**

Titles will vary.

# Governing Bodies, Staff & Core Faculty

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Bradley C. Hosmer, Secretary, Treasury  
Conrad D. James, Vice President  
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The Honorable Susanna Martinez, Governor of New Mexico, Ex-Officio Member  
Hanna Skandera, Secretary-Designate of Public Education, Ex-Officio Member  
Jose Garcia, Secretary of Higher Education, Ex-Officio Member

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David Harris, B.B.A., Executive Vice President for Administration, Chief Operating Officer, and Chief Financial Officer  
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Wynn Goering, Ph.D., Chief Executive Officer, UNM West and Branch Initiatives  
Monica Orozco, Ph.D., Vice Provost for Extended Learning  
Paul Roth, M.D., Chancellor for Health Sciences  
Eliseo Torres, Ed.D., Vice President, Student Affairs  
Jewel Washington, M.B.A., Vice President, Human Resources

## UNM-Los Alamos Advisory Board

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Micheline Devaurs (Member) Term: 2013-2017  
Michelle Hall, Ph.D., (Member) Term 2013-2017  
Linda H. Hull (Secretary) Term 2011-2015  
David Sutton (Member) Term 2013-2017

### Administrative Staff

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Wynn Goering, Ph.D., Chief Executive Officer  
Cynthia J. Rooney, Ph.D., University of Tennessee, Dean of Instruction  
Lisa Wismer, M.Ed., Northern Arizona University, Campus Resource Director

### Business & Finance

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Lisa Wismer, Campus Resource Director  
Gayle Burns, Manager, Business Services  
Vacant, Fiscal Services Tech, Accounts Payable  
Julie Brothers, Fiscal Services Tech, Accounts Receivable  
Oliva Lopez, Human Resources Representative

### Auxiliary Operations

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Betsy Suazo, Manager  
Manuel Lopez, Maintenance  
Alex Zubelewicz, Special Events Coordinator, Campus Safety Coordinator

### Communications & Marketing Services

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Vint Miller, Public Information Representative

### Information Technology Services

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William Gilson, Computing Services Manager  
Debray Bailey, Technical Support Analyst  
Carol Furchner, Instructional Technologist  
Vacant, User Support

## Research and Information

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Valida Akhadov Dushdurova, Manager

## Student Services

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### Enrollment

Kathryn Vigil, Student Enrollment Director  
Irene Martinez, Enrollment Representative  
Jenny Duran, Financial Aid Officer

### Student Success

Elizabeth Rademacher, Manager  
Jeff Dietz, Academic Advisor/Recruitment Specialist  
Emily Robinson, Academic Advisement/  
Recruitment Specialist  
Grace Willerton, Career Technical Advisor  
Hans-Peder Hanson, Academic Support Center Coordinator

### Student Government

Grace Willerton, Advisor  
Julie Brothers, Advisor  
Irene Martinez, Advisor

## Instruction

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Cynthia J Rooney, Dean  
Kay Willerton, Associate Dean  
Janice Childers, Administrative Assistant to the Dean  
Vacant, Administrative Assistant II

## Academic Departments

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### Applied Sciences

Cedric Page, Ph.D., Rutgers University, Chair  
Don Davis, MSE, Long Island University,  
Applied Technology, Program Chair  
Joseph Candelaria, BOE Eastern New Mexico  
University, Fire Science and Emergency Medical  
Services, Program Chair  
Rod Linn, PhD, New Mexico State University,  
Engineering Program Chair

### Business

Sharon Harley-Johns, Ph.D., Texas A & M, Chair  
Cynthia J. Rooney, Ph.D., University of Tennessee,  
Associate Professor, Business

### Communications

Mickey Marsee, Ph.D., University of New Mexico,  
Chair and Associate Professor, English  
Zandree Stidham, Ph.D., University of California-  
Santa Barbara, Chair, Assistant Professor of  
English  
Maryjane Giesler, MA, Michigan State University,  
English Faculty

### Computer Science and Information Technology

Sharon Harley-Johns, Ph.D., Texas A & M, Chair  
Monique Morin, Ph.D., University of  
New Mexico, Assistant Professor of Computer  
Science  
Thomas Beach, Ph.D., Iowa State University,  
Faculty

### Fine & Performing Arts

Patrick Harris, MFA, University of Wisconsin,  
Chair  
Barbara Yarnell, MA, Fort Hays State College,  
Faculty

### General Studies

Barbara Yarnell, MA, Fort Hays State College,  
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Psychology Faculty  
Melanie Shirk, Ph.D., University of Kansas,  
History Faculty  
Cedric Page, Ph.D., Rutgers University,  
Professor of Geography

### Mathematics & Engineering

Kay Willerton, MSE, Midwestern State University,  
Chair  
Irina Alvestad, Ph.D., University of New Mexico,  
Assistant Professor  
Anna Durakiewicz, MS, University of  
New Mexico, Assistant Professor



## **Science**

Dawn Venhaus, MS, College of William and  
Mary, Chair, Assistant Professor

Leslie Dendy, Ph.D., Rice University,  
Biology Faculty

Michael McNaughton, Ph.D., University of  
London, Physics Faculty

Susan Schauer, MS, University of Colorado,  
Biology Faculty

## **First Year Experience Program**

Mickey Marsee, Ph.D., University of  
New Mexico, Program Chair

## **Library**

Dennis Davies-Wilson, Director

Joe Matthews, Library Information Specialist III

## **Community and Continuing Education**

Eileen Gallegos, Program Coordinator

## **Grant Activity**

Eva Artschwager, Program Manager

## **Adult Learning Services**

Michelle Worley, Manager

Marlene Gray, Program Coordinator

## **Small Business Development Center**

Los Alamos

Ted Lopez, Director

Sandoval County

Ted Trujillo, Director

## **Bachelor and Graduate Programs through Extended**

### **University at UNM-Los Alamos**

Cindy Leyba, Operations Manager

Lisa Caldwell, Educational Site Coordinator

Nataliya Mozyrsky, Instructional Television  
Assistant

Gayle Burns, Instructional Assistant

Jeanne Adkins, Instructional Assistant



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